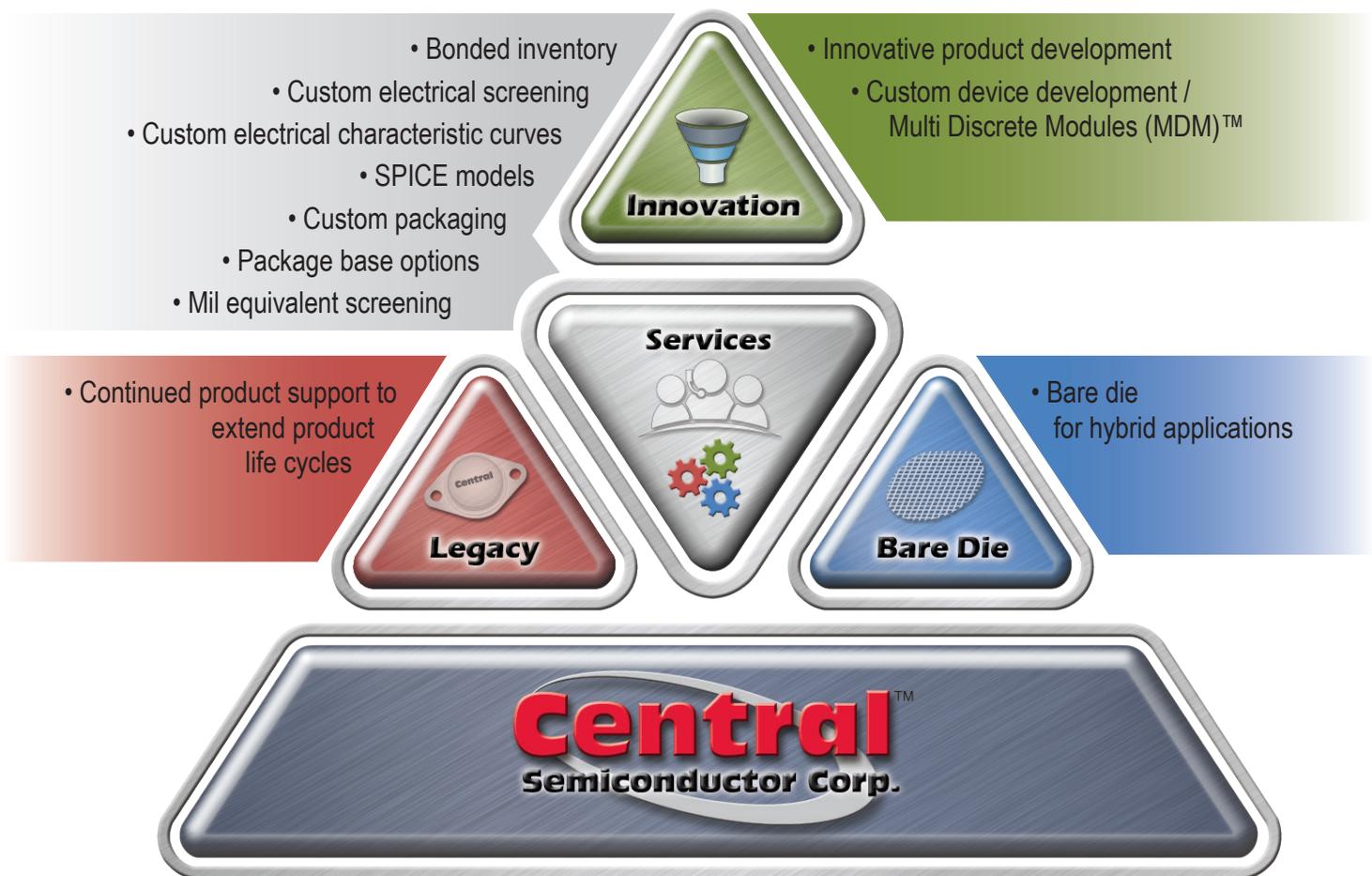




surface mount selection guide



**Rethink the Possibilities
Discretes do Matter™**



Over 40 years of outstanding products and support

Surface Mount Selection Guide

This selection guide provides designers with the key electrical characteristics for each of the surface mount discrete semiconductors manufactured by Central Semiconductor. The guide is organized by device type and includes small signal transistors, MOSFETs, bipolar power transistors, diodes, protection devices, rectifiers, thyristors, and Multi Discrete Modules. Each section is divided by sub classifications within each type, such as low $V_{CE(SAT)}$ transistors and low leakage diodes. An alpha-numeric index is provided for easy reference.

An online parametric search is also available at www.centalsemi.com/parasearch. For further information please contact Central's Sales Support Team directly at 631-435-1110.

Index

Alpha-numeric listing of all devices included in this selection guide.

Page 2

Small Signal Transistors

Central's popular standard and enhanced devices provide a diverse offering ranging from high current transistors in the SOT-223 package to the ultra miniature low $V_{CE(SAT)}$ transistors in the SOT-923.

Page 5

MOSFETs

Central's latest MOSFETs offer distinct advantages in both size and performance. The new ultra low $r_{DS(ON)}$ UltraMOS™ MOSFETs devices are ideal for today's power management requirements.

Page 15

Bipolar Power Transistors

Central manufactures standard legacy devices in the DPAK, SOT-223 and SOT-89 packages and in the newest TLM833S leadless package.

Page 21

Diodes

One of Central's strengths is its diode portfolio. From fast switching diodes to energy efficient Schottky devices to Zener and Current Limiting diodes, Central has the discrete technology to meet designers' ever-changing requirements.

Page 25

Protection Devices

The latest transient voltage suppressors are designed to meet the challenges of ESD protection in power user ports, interface and high speed data I/Os.

Page 39

Rectifiers

Central's rectifiers provide the perfect solution for current requirements greater than 1.0 amp. New to the family are Hyper Fast rectifiers and high temperature Silicon Carbide Schottky rectifiers; both are ideal for the latest PFC applications.

Page 47

Thyristors

Central's SCRs and TRIACs are well suited for high current switching of DC and AC motor control applications. Central manufactures some of the smallest SCRs in the industry including the low profile CMPS5064 in the SOT-23 package.

Page 65

Multi Discrete Modules

Integrating different device types into a single package often facilitates assembly cost reductions. MOSFETs and diodes, MOSFETs and rectifiers, transistors and rectifiers, and other custom combinations are available.

Page 71

Package Mechanical Specifications

Mechanical dimensions are provided for each surface mount package Central manufactures.

Page 75

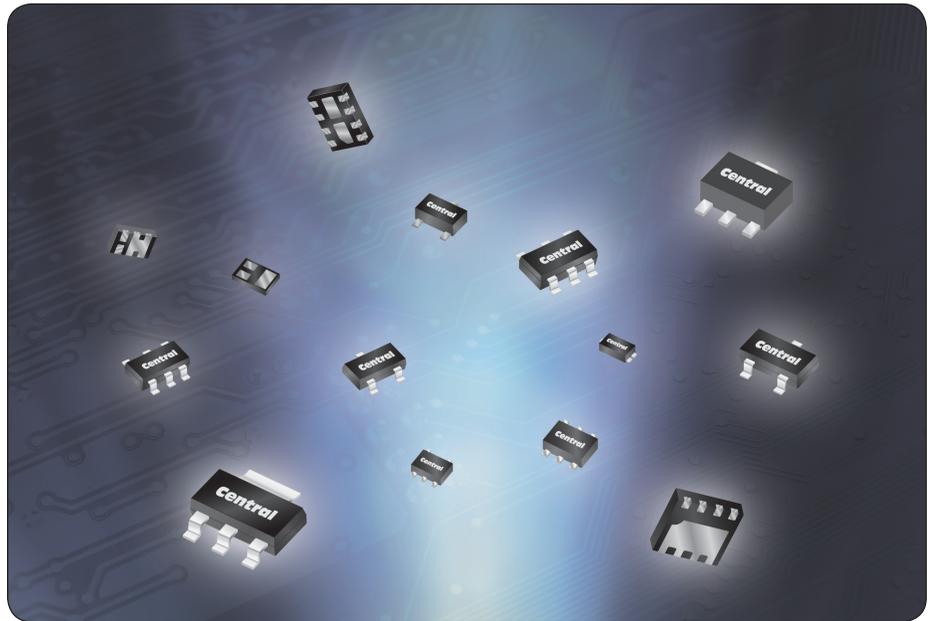
Index

Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number
1.5SMC6.8A thru 1.5SMC220A	42	CFD4448	27	CMKBR-6F	62	CMLM1034-M832D	73
1.5SMC6.8CA thru 1.5SMC220CA	42	CFSH-4	29	CMKD2836	27	CMLM1074-M832D	73
1SMB5.0A thru 1SMB170A	40	CFSH01-30	29	CMKD2838	27	CMLM2205	73
1SMB5.0CA thru 1SMB170CA	40	CFSH01-30L	29	CMKD3003DO	31	CMLM3405	73
1SMC5.0A thru 1SMC170A	41	CFSH05-20L	29	CMKD4448	27	CMLM7405	73
1SMC5.0CA thru 1SMC170CA	41	CFSH2-3L	29	CMKD6000	31	CMLM8205	72
2N7002	17	CFSH2-4L	29	CMKD6001	31	CMLSH-4	29
3SMC5.0A thru 3SMC170A	41	CFTVS3V3B	43	CMKD6263	29	CMLSH-4DO	29
3SMC5.0CA thru 3SMC170CA	41	CFTVS5V0LC	43	CMKD6263DO	29	CMLSH05-10DA	29
5SMC33A thru 5SMC170A	41	CFTVS5V0BULC	43	CMKD7000	27	CMLSH05-4	29
BAS28	27	CHD8-06	53	CMKD7000E	27	CMLSH05-4DO	29
BAS56	27	CJD112	23	CMKDM8005	19	CMLSH1-40	29
BAW100	27	CJD117	23	CMKSH-3DO	29	CMLSH1-40	54
BZV55C2V4 thru BZV55C75	36	CJD122	23	CMKSH-3T	29	CMLSH2-4LA	29
BZX84C2V4 thru BZX84C51	34	CJD127	23	CMKSH2-4LR	29	CMLSH2-4LC	29
C4SMAFL8.5A thru C4SMAFL170A	40	CJD13003	23	CMKT2207	7	CMLSH2-4LS	29
CBAS17	31	CJD200	23	CMKT2222A	7	CMLSH2-4T	29
CBCP68	9	CJD210	23	CMKT2907A	7	CMLT2207	7
CBCP69	9	CJD2955	23	CMKT3904	7	CMLT2222A	7
CBCX68	9	CJD3055	23	CMKT3906	7	CMLT2907A	7
CBCX69	9	CJD31C	23	CMKT3920	7	CMLT3410	9
CBR1-D020S	62	CJD32C	23	CMKT3946	7	CMLT3410	13
CBR1-D040S	62	CJD340	23	CMKT5078	9	CMLT3474	9
CBR1-D060S	62	CJD350	23	CMKT5087	9	CMLT3474	13
CBR1-D100S	62	CJD41C	23	CMKT5087E	9	CMLT3820G	13
CBR1F-D020S	62	CJD42C	23	CMKT5088	9	CMLT3904E	7
CBR1F-D040S	62	CJD44H11	23	CMKT5089M10	9	CMLT3906E	7
CBR1F-D060S	62	CJD45H11	23	CMKT825A	32	CMLT3946E	7
CBR1F-D100S	62	CJD47	23	CMKTVS5-4	44	CMLT4413	7
CBR1U-D010S	62	CJD50	23	CMKZ5221B thru CMKZ5261B	33	CMLT491E	9
CBR1U-D020S	62	CLL3595	31	CMLD2004	27	CMLT491E	23
CBR2-D020S	63	CLL457A	31	CMLD2004A	27	CMLT5078E	9
CBR2-D040S	63	CLL459A	31	CMLD2004C	27	CMLT5087E	9
CBR2-D060S	63	CLL4728A thru CLL4761A	37	CMLD2004DO	27	CMLT5087EM	9
CBR2-D080S	63	CLL5221B thru CLL5267B	36	CMLD2004S	27	CMLT5088E	9
CBR2-D100S	63	CMAD4448	26	CMLD2838	27	CMLT5088EM	9
CBRHD-01	62	CMAD6001	31	CMLD3003DO	31	CMLT5551	11
CBRHD-02	62	CMAD6263	28	CMLD4448	27	CMLT5551HC	11
CBRHD-04	62	CMASH-4	28	CMLD4448DO	27	CMLT5554	11
CBRHD-06	62	CMATVS3V3	43	CMLD6001	31	CMLT591E	9
CBRHD-10	62	CMATVS5V0	43	CMLD6001DO	31	CMLT591E	23
CBRHDSH1-100	62	CMBT3904E	7	CMLD6263	29	CMLT6427E	13
CBRHDSH1-100	62	CMBT3906E	7	CMLD6263A	29	CMLT7410	9
CBRHDSH1-200	62	CMDD2004	27	CMLD6263C	29	CMLT7410	13
CBRHDSH1-40L	62	CMDD3003	31	CMLD6263DO	29	CMLT7820G	13
CBRHDSH1-60	62	CMDD4448	27	CMLD6263S	29	CMLT8099	7
CBRHDSH2-100	63	CMDD6001	31	CMLDM3737	17	CMLT8099M	7
CBRHDSH2-40	63	CMDD6263	29	CMLDM3757	19	CMLTA44	11
CBRLD1-02	63	CMDSH-3	29	CMLDM5757	19	CMLTA94	11
CBRLD1-04	63	CMDSH-4E	29	CMLDM7002A	17	CMLZDA2V4 thru CMLZDA47V	34
CBRLD1-06	63	CMDSH05-4	29	CMLDM7002AJ	17	CMMR1-02	48
CBRLD1-08	63	CMDSH05-45	29	CMLDM7003	17	CMMR1-04	48
CBRLD1-10	63	CMDSH2-3	29	CMLDM7003E	17	CMMR1-06	48
CBRLDSH1-40	63	CMDSH2-4L	29	CMLDM7003J	17	CMMR1-10	48
CBRLDSH2-100	63	CMDZ1L8 thru CMDZ47L	33	CMLDM7003JE	17	CMMR1F-02	49
CBRLDSH2-40	63	CMDZ2V4 thru CMDZ47V	33	CMLDM7003TG	17	CMMR1F-04	49
CBRLDSH2-60	63	CMDZ5221B thru CMDZ5261B	33	CMLDM7005	17	CMMR1F-06	49
CBRSDSH2-100	63	CMEDA-6i	27	CMLDM7005R	17	CMMR1F-08	49
CBRSDSH2-40	63	CMF5.0A thru CMF170A	40	CMLDM7120G	17	CMMR1S-02	52
CBRSDSH2-60	63	CMFBR-6F	62	CMLDM7120TG	17	CMMR1U-02	50
CDM3-800	17	CMFD2004i	27	CMLDM7484	19	CMMR1U-04	50
CDM4-600LR	17	CMFSH-3i	29	CMLDM7585	19	CMMR1U-06	50
CDM4-650	17	CMGSH1-3	29	CMLDM8002A	19	CMMR1U-08	50
CDM7-600LR	17	CMHD2003	27	CMLDM8002AJ	19	CMMSH1-100	54
CDM7-650	17	CMHD3595	31	CMLDM8005	19	CMMSH1-20	54
CDM7-700LR	17	CMHD4150	27	CMLDM8120	19	CMMSH1-40	54
CED2838E	27	CMHD4448	27	CMLDM8120TG	19	CMMSH1-40L	54
CEDM7001	17	CMHD457A	31	CMLM0205	72	CMMSH1-60	54
CEDM7001VL	17	CMHD459A	31	CMLM0305	72	CMMSH2-40	56
CEDM7002AE	17	CMHSH-3	29	CMLM0305T	72	CMNDM7001	17
CEDM7004	17	CMHZ4614 thru CMHZ4125	36	CMLM0405	73	CMNDM8001	19
CEDM7004VL	17	CMHZ4678 thru CMHZ4717	36	CMLM0574	72	CMNT3904E	7
CEDM8001	19	CMHZ5221B thru CMHZ5267B	36	CMLM0575	72	CMNT3906E	7
CEDM8001VL	19	CMIDSH1-3	54	CMLM0584	72	CMNTVS5V0	45
CEDM8004	19	CMIDSH1-4	54	CMLM0585	72	CMNTVS12V	45
CEDM8004VL	19	CMIDSH1-6	54	CMLM0605	73	CMOSV0LC	43
CET3904E	7	CMJ0130 thru CMJ5750	30	CMLM0705	73	CMOD2004	27
CET3906E	7	CMJH080 thru CMJH180	31	CMLM0708A	19	CMOD2005	27

Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number
CMOD3003	31	CMPT2907AE	7	CMR1F-04M	49	CMSH1-100M	55
CMOD4448	27	CMPT3019	9	CMR1F-06M	49	CMSH1-150HE	55
CMOD6001	31	CMPT3410	9	CMR1F-10M	49	CMSH1-20	55
CMOD6263	29	CMPT3410	13	CMR1H-04MFL	53	CMSH1-200HE	55
CMOSH-3	29	CMPT3640	11	CMR1S-01	52	CMSH1-20M	55
CMOSH-4E	29	CMPT3646	11	CMR1S-02	52	CMSH1-20ML	55
CMOSH2-4L	29	CMPT3820	13	CMR1U-01	50	CMSH1-40	55
CMOTV55V7	43	CMPT3904	7	CMR1U-01M	50	CMSH1-40HE	55
CMOZ1L8 thru CMOZ47L	33	CMPT3904E	7	CMR1U-02	50	CMSH1-40M	55
CMOZ2V4 thru CMOZ43V	33	CMPT3906	7	CMR1U-02FL	50	CMSH1-40ML	55
CMPD1001	27	CMPT3906E	7	CMR1U-02M	50	CMSH1-60	55
CMPD1001A	27	CMPT4033	9	CMR1U-04	50	CMSH1-60HE	55
CMPD1001S	27	CMPT404A	13	CMR1U-04FL	50	CMSH1-60M	55
CMPD2003	27	CMPT4401	7	CMR1U-04M	50	CMSH1-80HE	55
CMPD2003A	27	CMPT4403	7	CMR1U-06	50	CMSH2-100	55
CMPD2003C	27	CMPT491E	9	CMR1U-06FL	50	CMSH2-100M	55
CMPD2003S	27	CMPT491E	23	CMR1U-06M	50	CMSH2-20	56
CMPD2004	27	CMPT5086	9	CMR1U-10	50	CMSH2-20L	56
CMPD2004A	27	CMPT5087	9	CMR1U-10M	50	CMSH2-20M	56
CMPD2004C	27	CMPT5087E	9	CMR1U-13M	50	CMSH2-40	56
CMPD2004S	27	CMPT5088	9	CMR2-02	48	CMSH2-40FL	56
CMPD2005S	27	CMPT5088E	9	CMR2-04	48	CMSH2-40L	56
CMPD2836	27	CMPT5089	9	CMR2-06	48	CMSH2-40M	56
CMPD2836E	27	CMPT5179	11	CMR2-10	48	CMSH2-60	56
CMPD2838	27	CMPT5401	11	CMR2-04MFL	48	CMSH2-60M	56
CMPD2838E	27	CMPT5401E	11	CMR2-06MFL	48	CMSH3-100	57
CMPD3003	31	CMPT5551	11	CMR2-08MFL	48	CMSH3-100M	57
CMPD3003A	31	CMPT5551E	11	CMR2-10MFL	48	CMSH3-100MA	57
CMPD3003C	31	CMPT5551HC	11	CMR2S-02	52	CMSH3-100MFL	57
CMPD3003S	31	CMPT591E	9	CMR2S-04	52	CMSH3-100MHV	57
CMPD4150	27	CMPT591E	23	CMR2S-06	52	CMSH3-150MFL	57
CMPD5001	27	CMPT6427	13	CMR2U-01	50	CMSH3-150MHV	57
CMPD5001S	27	CMPT6428	9	CMR2U-02	50	CMSH3-20	57
CMPD6001	31	CMPT6429	9	CMR2U-04	50	CMSH3-200MFL	57
CMPD6001A	31	CMPT6517	11	CMR2U-06	50	CMSH3-200MHV	57
CMPD6001C	31	CMPT6520	11	CMR3-02	48	CMSH3-20L	58
CMPD6001S	31	CMPT7410	9	CMR3-04	48	CMSH3-20M	57
CMPD6263	29	CMPT7410	13	CMR3-06	48	CMSH3-20MA	57
CMPD6263A	29	CMPT7820	13	CMR3-10	48	CMSH3-40	57
CMPD6263C	29	CMPT8099	7	CMR3S-01	52	CMSH3-40FL	57
CMPD6263S	29	CMPT8599	7	CMR3S-02	52	CMSH3-40L	58
CMPD7000	27	CMPT918	11	CMR3S-04	52	CMSH3-40M	57
CMPD7000E	27	CMPT930	9	CMR3S-06	52	CMSH3-40MA	57
CMPD914	27	CMPT992	9	CMR3U-01	50	CMSH3-60	57
CMPD914E	27	CMPTA06	9	CMR3U-01M	50	CMSH3-60M	57
CMPDM202PH	19	CMPTA13	13	CMR3U-02	50	CMSH3-60MA	57
CMPDM203NH	17	CMPTA14	13	CMR3U-02M	50	CMSH5-100	58
CMPDM302PH	19	CMPTA14E	13	CMR3U-04	50	CMSH5-100HV	59
CMPDM303NH	17	CMPTA27	13	CMR3U-04M	50	CMSH5-150HV	59
CMPDM7002A	17	CMPTA29	13	CMR3U-06	50	CMSH5-20	58
CMPDM7002AE	17	CMPTA42	11	CMR3U-06M	50	CMSH5-200HV	59
CMPDM7002AHC	17	CMPTA42E	11	CMR3U-10	50	CMSH5-40	58
CMPDM7003	17	CMPTA44	11	CMR3U-10M	50	CMSH5-40FL	58
CMPDM7120G	17	CMPTA46	11	CMR5H-06	53	CMSH5-60	58
CMPDM8002A	19	CMPTA56	9	CMR5U-02	51	CMSH8-40	59
CMPDM8120	19	CMPTA63	13	CMR5U-04	51	CMSSH-3	29
CMPESD24CA	43	CMPTA64	13	CMR5U-08	51	CMSSH-3A	29
CMPLC1V5	43	CMPTA77	13	CMRD6263DO	29	CMSSH-3AE	29
CMPLC1V5D	43	CMPTA92	11	CMRDM3575	19	CMSSH-3C	29
CMPS5064	66	CMPTA92E	11	CMRDM3590	17	CMSSH-3CE	29
CMPSH-3	29	CMPTA94	11	CMRDM7590	19	CMSSH-3E	29
CMPSH-3A	29	CMPTA96	11	CMRSH-4DO	29	CMSSH-3S	29
CMPSH-3AE	29	CMPTH10	11	CMSD2004S	27	CMSSH-3SE	29
CMPSH-3C	29	CMPTH81	11	CMSD2005S	27	CMST2222A	7
CMPSH-3CE	29	CMPZ4614 thru CMPZ4124	34	CMSD2836	27	CMST2907A	7
CMPSH-3E	29	CMPZ4678 thru CMPZ4717	34	CMSD2838	27	CMST3410	9
CMPSH-3S	29	CMPZ5221B thru CMPZ5267B	34	CMSD4448	27	CMST3410	13
CMPSH-3SE	29	CMPZDA2V4 thru CMPZDA47V	35	CMSD6001	31	CMST3904	7
CMPSH05-4	29	CMPZDC2V4 thru CMPZDC47V	35	CMSD6001A	31	CMST3906	7
CMPSH05-4C	29	CMR1-02	48	CMSD6001C	31	CMST6427E	13
CMPSH1-4	55	CMR1-02M	48	CMSD6001S	31	CMST7410	9
CMPSH1-4L	55	CMR1-04	48	CMSD6263	29	CMST7410	13
CMPSH1-4LE	55	CMR1-04M	48	CMSD6263A	29	CMSZ5221B thru CMSZ5261B	34
CMPT2222A	7	CMR1-06	48	CMSD6263C	29	CMSZDA2V4 thru CMSZDA47V	34
CMPT2222AE	7	CMR1-06M	48	CMSD6263S	29	CMUD2836	27
CMPT2369	11	CMR1-10	48	CMSD7000	27	CMUD2838	27
CMPT2484	9	CMR1-10M	48	CMSH1-100	55	CMUD4448	27
CMPT2907A	7	CMR1F-02M	49	CMSH1-100HE	55	CMUD6263AE	29

Index (continued)

Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number	Central Part Number	Page Number
CMUD6263CE	29	CQDD-25M	69	CTLSH10-45M364	60	CXTA44	11
CMUD6263E	29	CQDD-25N	69	CTLSH10-60M856	60	CXTA64	13
CMUD6263SE	29	CQDD-8M	69	CTLSH15-30M364	61	CXTA92	11
CMUD7000	27	CQDD-8N	69	CTLSH15-60M364	61	CZDM1003N	17
CMUDM7001	17	CS223-2M	66	CTLSH2-40M832	56	CZR1-04	48
CMUDM7004	17	CS223-2N	66	CTLSH3-30M833	57	CZR1-04C	48
CMUDM7005	17	CS223-4M	66	CTLSH3-30M833S	57	CZS5064	66
CMUDM8001	19	CS223-4N	66	CTLSH4-200M364	58	CZSH-4	56
CMUDM8004	19	CS223M	66	CTLSH5-100M364	59	CZSH10-40CN	60
CMUDM8005	19	CS89M	66	CTLSH5-40M833S	58	CZSH5-40	58
CMUDW6001	31	CS89N	66	CTLSH8-60M364	59	CZSH5-40C	58
CMUSH05-4	29	CSD-4M	67	CTLT3410-M621	9	CZSH6-100C	59
CMUSH2-4	29	CSD-4N	67	CTLT3410-M621	13	CZT122	23
CMUSH2-4A	29	CSD-8M	67	CTLT5551-M832D	11	CZT127	23
CMUSH2-4C	29	CSD-8N	67	CTLT7410-M621	9	CZT2000	13
CMUSH2-4L	29	CSDD-12M	67	CTLT7410-M621	13	CZT2222A	7
CMUSH2-4S	29	CSDD-12N	67	CTLT8099-M322S	7	CZT250K	13
CMUSHW2-4L	29	CSDD-16M	67	CTLT853-M833S	9	CZT2680	23
CMUT2222A	7	CSDD-16N	67	CTLT853-M833S	23	CZT2907A	7
CMUT2907A	7	CSDD-25M	67	CTLT953-M833S	9	CZT2955	23
CMUT3410	9	CSDD-25N	67	CTLT953-M833S	23	CZT3019	9
CMUT3410	13	CSDD-8M	67	CTLTVS5-4	44	CZT3055	23
CMUT3904	7	CSDD-8N	67	CTLTVS5V0B	43	CZT3090L	23
CMUT3906	7	CSHD10-100C	60	CTLTVS6V2	43	CZT3090LE	23
CMUT4401	7	CSHD10-45L	60	CTLTVS12	43	CZT3120	23
CMUT4403	7	CSHD3-100	57	CTLZ3V9 thru CTLZ8V2	33	CZT3150	23
CMUT5087E	9	CSHD3-40	57	CUD10-02	51	CZT3150	23
CMUT5088E	9	CSHD3-60	57	CUD10-04	51	CZT31C	23
CMUT5179	11	CSHD5-100	58	CUD10-06	51	CZT32C	23
CMUT5401	11	CSHD5-25L	58	CUD3-02	51	CZT3904	7
CMUT5401E	11	CSHD5-40	58	CUD6-02C	51	CZT3906	7
CMUT5551	11	CSHD5-60	58	CUDD16-02C	51	CZT4033	9
CMUT5551E	11	CSHD6-100C	59	CUDD16-04C	51	CZT5338	23
CMUT7410	9	CSHD6-40C	59	CUDD16-08C	51	CZT5401	11
CMUT7410	13	CSHD6-60C	59	CUDD8-02	51	CZT5401E	11
CMXD2004	27	CSHD8-100	59	CUDD8-04	51	CZT5551	11
CMXD2004S	27	CSHD8-200	59	CUDD8-08	51	CZT5551E	11
CMXD2004SR	27	CSHD8-60	59	CWDM305N	17	CZT5551HC	11
CMXD2004TO	27	CSHD12-60C	61	CWDM305ND	17	CZT651	9
CMXD3003TO	31	CSHDD16-100C	61	CWDM305P	19	CZT7090L	23
CMXD3004SR	27	CSHDD16-200C	61	CWDM305PD	19	CZT7090LE	23
CMXD4448	27	CSHDD16-40C	61	CWDM3011N	17	CZT7120	23
CMXD6001	31	CSHDD16-60C	61	CWDM3011P	19	CZT751	9
CMXDM7002A	17	CSHDD8-100	59	CXDM1002N	17	CZT853	9
CMXESD70-4	44	CSHDD8-40	59	CXDM3069N	17	CZT853	23
CMXSH-3	29	CSHDD8-60	59	CXDM4060N	17	CZT900K	13
CMXSH2-4LS	29	CSICD10-650	61	CXDM4060P	19	CZT953	9
CMXSTB200	31	CSL05	43	CXDM6053N	17	CZT953	23
CMXSTB300	31	CSL05D	43	CXR1-04	48	CZT955	23
CMXSTB400	31	CTLDM303N-M832DS	17	CXSH-4	55	CZTA14	13
CMXT2207	7	CTLDM304P-M832DS	19	CXT2222A	7	CZTA27	13
CMXT2222A	7	CTLDM7002A-M621	17	CXT2907A	7	CZTA28	13
CMXT2907A	7	CTLDM7002A-M621H	17	CXT3019	9	CZTA42	11
CMXT3090L	23	CTLDM7003-M621	17	CXT3090L	23	CZTA44	11
CMXT3904	7	CTLDM7120-M621H	17	CXT3150	23	CZTA44HC	23
CMXT3906	7	CTLDM7120-M832DS	17	CXT3410	9	CZTA46	11
CMXT3946	7	CTLDM7181-M832D	19	CXT3410	13	CZTA64	13
CMXT7090L	23	CTLDM8002A-M621	19	CXT3820	13	CZTA77	13
CMXTC935A	32	CTLDM8002A-M621H	19	CXT3904	7	CZTA92	11
CMXTVS5-4	44	CTLDM8120-M621H	19	CXT3906	7	CZTA94	11
CMXTVS5V6	45	CTLDM8120-M832DS	19	CXT4033	9	CZTA96	11
CMXTVS6V2	45	CTLHR10-06	53	CXT491E	9	CZTUX87	23
CMXZ2V4TO thru CMXZ4V7TO	35	CTLM3410-M832D	9	CXT491E	23	MCR703A	66
CMYTVS5-2	45	CTLM3474-M832D	13	CXT5401	11	MCR704A	66
CMZ5334B thru CMZ5388B	37	CTLM3474-M832D	9	CXT5401E	11	MCR706A	66
CMZ5913B thru CMZ5956B	37	CTLM7110-M832D	72	CXT5551	11	MCR708A	66
CMZ5913BP thru CMZ5956BP	37	CTLM7410-M832D	9	CXT5551E	11	MCR716	67
CQ223-2M	68	CTLM8110-M832D	72	CXT5551HC	11	MCR718	67
CQ223-2N	68	CTLR5-06	48	CXT591E	9	P4SMA5.0A thru P4SMA220A	40
CQ223-4M	68	CTLS5064-M532	66	CXT591E	23	P6SMB6.8A thru P6SMB250A	42
CQ223-4N	68	CTLS5064R-M532	66	CXT7090L	23	P6SMB6.8CA thru P6SMB250CA	42
CQ89-2M	68	CTLSH01-30	29	CXT7410	9		
CQ89-2N	68	CTLSH01-30L	28	CXT7410	13		
CQD-4M	69	CTLSH05-40M621	28	CXT7820	13		
CQD-4N	69	CTLSH1-40M322S	54	CXT853	9		
CQD-8M3	69	CTLSH1-40M621H	28	CXT853	23		
CQDD-12M	69	CTLSH1-40M621H	54	CXT953	9		
CQDD-12M3	69	CTLSH1-40M832DS	54	CXT953	23		
CQDD-12N	69	CTLSH1-50M832DS	54	CXTA14	13		
CQDD-16M	69	CTLSH10-45L	60	CXTA27	13		
CQDD-16N	69	CTLSH10-100L	60	CXTA42	11		



Small Signal Transistors

	<u>Page</u>
General Purpose Amplifiers/Switches	6-7
Low Noise Amplifiers	8-9
High Current	8-9
RF Oscillator	10-11
High Voltage	10-11
Saturated Switches	10-11
Darlington	12-13
Low $V_{CE(SAT)}$	12-13
Chopper	12-13

General Purpose Amplifiers/Switches

FAMILY	I _C	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO}	@ V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE(SAT)}	@ I _C	C _{Ob}	f _T	NF	t _{off}			
	(A) MAX	(V) MIN	(V) MIN	(V) MIN	* I _{CEV} (nA) MAX	@ V _{CE} (V)	MIN	MAX	(V)	(mA)	(V) MAX	(mA)	(pF) MAX	(MHz) MIN	(dB) MAX	(ns) MAX			
 Devices are listed in order of descending breakdown voltage.																			
E>	NPN	2222AE	0.6		6.0	10	60	100	300	10	150		500	8.0	300	4.0	285		
		8099	0.5	80	80	6.0	100	80	100	300	5.0	1.0	0.4	100	6.0	150	-	-	
		2222A	0.6	75	40	6.0	10	60	100	300	10	150	1.0	500	8.0	300	4.0	285	
		3904E	0.2	60	40	6.0	50*	30	100	300	1.0	10		50	4.0	300		250	
		3904	0.2	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250	
		3920	0.2	60	50	7.0	100	60	120	560	6.0	1.0	0.4	50	3.5	300	-	-	
4401	0.6	60	40	6.0	100*	35	100	300	1.0	150	0.75	500	6.5	250	-	255			
E>	PNP	2907AE	0.6	90	60	5.0	10	50	100	300	10	150	0.7	500	8.0	200	-	100	
		8599	0.5	80	80	5.0	100	80	100	300	5.0	1.0	0.4	100	4.5	150	-	-	
		2907A	0.6	60	60	5.0	10	50	100	300	10	150	1.6	500	8.0	200	-	100	
		3906E	0.2	60	40	6.0	50*	30	100	300	1.0	10	0.2	50	4.0	300	4.0	250	
		3906	0.2	40	40	5.0	50*	30	100	300	1.0	10	0.4	50	4.5	250	4.0	300	
		4403	0.6	40	40	5.0	100*	35	100	300	2.0	150	0.75	500	8.5	200	-	255	
E>	NPN & PNP	2222A (NPN)	0.6	75	40	6.0	10	60	100	300	10	150	1.0	500	8.0	300	4.0	285	
		+	2907A (PNP)	0.6	60	60	5.0	10	50	100	300	10	150	1.6	500	8.0	200	-	100
		3904E (NPN)	0.2	60	40	6.0	50*	30	100	300	1.0	10		50	4.0	300		250	
		+	3906E (PNP)	0.2		40		50*	30	100	300	1.0	10		50	4.0	300	4.0	250
		3904 (NPN)	0.2	60	40	6.0	50*	30	100	300	1.0	10	0.3	50	4.0	300	5.0	250	
		+	3906 (PNP)	0.2	40	40	5.0	50*	30	100	300	1.0	10	0.4	50	4.5	250	4.0	300
		4401 (NPN)	0.6	60	40	6.0	100*	35	100	300	1.0	150	0.75	500	6.5	250	-	255	
		+	4403 (PNP)	0.6	40	40	5.0	100*	35	100	300	2.0	150	0.75	500	8.5	200	-	255

 Indicates Enhanced Specification Device. Enhanced Spec in Red and  Indicates Sorted Columns.



Package dimensions shown are maximum values in mm.

FAMILY	TLM322S  2.05 x 2.05 x 0.6	SOT-923  1.10 x 0.65 x 0.41	SOT-953  1.05 x 1.05 x 0.5	SOT-883L  1.05 x 0.65 x 0.4	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-363  2.2 x 2.3 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
--------	---	--	---	--	--	---	---	--	---	--	--	---

2222AE									CMPT2222AE			
8099	CTLT8099-M322S					CMLT8099 (2x) CMLT8099M (2x Matched)			CMPT8099			
2222A					CMUT2222A	CMLT2222A (2x)	CMST2222A	CMKT2222A (2x)	CMPT2222A	CMXT2222A (2x)	CXT2222A	CZT2222A
3904E		CMBT3904E	CMNT3904E	CET3904E		CMLT3904E (2x)			CMPT3904E			
3904					CMUT3904		CMST3904	CMKT3904 (2x)	CMPT3904	CMXT3904 (2x)	CXT3904	CZT3904
3920								CMKT3920 (2x)				
4401					CMUT4401				CMPT4401			
2907AE									CMPT2907AE			
8599									CMPT8599			
2907A					CMUT2907A	CMLT2907A (2x)	CMST2907A	CMKT2907A (2x)	CMPT2907A	CMXT2907A (2x)	CXT2907A	CZT2907A
3906E		CMBT3906E	CMNT3906E	CET3906E		CMLT3906E (2x)			CMPT3906E			
3906					CMUT3906		CMST3906	CMKT3906 (2x)	CMPT3906	CMXT3906 (2x)	CXT3906	CZT3906
4403					CMUT4403				CMPT4403			
2222A (NPN)												
2907A (PNP)	+					CMLT2207 (2x)		CMKT2207 (2x)		CMXT2207 (2x)		
3904E (NPN)												
3906E (PNP)	+					CMLT3946E (2x)						
3904 (NPN)												
3906 (PNP)	+							CMKT3946 (2x)		CMXT3946 (2x)		
4401 (NPN)												
4403 (PNP)	+					CMLT4413 (2x)						

(2x) under part number indicates two devices in one package.
 (4x) under part number indicates four devices in one package.



Low Noise Amplifiers

	FAMILY	I _C	BV _{CBO}	BV _{CEO}	BV _{EBO}	I _{CBO}	@ V _{CB}	h _{FE}		@ V _{CE}	@ I _C	V _{CE(SAT)}	@ I _C	C _{ob}	f _T	NF	t _{off}	
		(A) MAX	(V) MIN	(V) MIN	(V) MIN	(nA) MAX	(V)	MIN	MAX	(V)	(mA)	(V) MAX	(mA)	†TYP (pF) MAX	†TYP (MHz) MIN	(dB) MAX	(ns) MAX	
Devices are listed in order of ascending NF.																		
E	NPN	5089	0.05	30	25	4.5	50	15	400	1,200	5.0	0.1	0.5	10	4.0	50	2.0	-
		930	0.03	45	45	5.0	10	45	100	300	5.0	0.01	1.0	10	8.0	30	3.0	-
		2484	0.05	60	60	6.0	10	45	250	-	5.0	1.0	0.35	1.0	6.0	-	3.0	-
		5088	0.05	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	-
		5088E	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	-
		6428	0.2	60	50	6.0	10	30	250	650	5.0	0.1	0.6	100	3.0	100	-	-
		6429	0.2	55	45	6.0	10	30	500	1,250	5.0	0.1	0.6	100	3.0	100	-	-
E	PNP	5087	0.05	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	-
		5087E	0.1				50	20	300	900	5.0	0.1	0.1	10	4.0		3.0	-
		5086	0.05	50	50	3.0	50	35	150	500	5.0	0.1	0.3	10	4.0	40	3.0	-
		992	0.05	110	110	5.0	-	-	200	800	6.0	1.0	0.3	10	3.0	50	3.0	-
E	NPN & PNP	5088E (NPN) +	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	-
		5087E (PNP)	0.1	50	50	5.0	50	20	300	900	5.0	0.1	0.1	10	4.0	100	3.0	-
		5088 (NPN) +	0.05	35	30	4.5	50	20	300	900	5.0	0.1	0.5	10	4.0	50	3.0	-
		5087 (PNP)	0.05	50	50	3.0	50	35	250	800	5.0	0.1	0.3	10	4.0	40	2.0	-

High Current

Devices are listed in order of descending breakdown voltage.

E	NPN	853	6.0	200	100	6.0	10	150	100	300	2.0	2,000	0.05	100	38†	190†	-	-
		3019	0.5	120	80	7.0	10	90	100	300	10	150	0.5	500	12	100	4.0	-
		A06	0.5	80	80	4.0	100	80	100	-	1.0	100	0.25	100	-	100	-	-
		491E	1.0	80	60	5.0	100	60			5.0	500		500	10	150	-	-
		651	2.0	80	60	5.0	100	80	75	-	2.0	500	0.5	2,000	-	75	-	-
		3410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	-	-
		68	0.8	25	20	5.0	100	25	85	375	1.0	500	0.5	1,000	-	65	-	-
E	PNP	953	5.0	140	100	6.0	50	100	100	300	1.0	1,000	0.05	100	45†	150†	-	-
		4033	0.5	80	80	5.0	50	60	100	300	5.0	100	0.5	500	20	100	-	-
		A56	0.5	80	80	4.0	100	80	100	-	1.0	100	0.25	100	-	50	-	-
		591E	1.0	80	60	5.0	100	60			5.0	500		500	10	150	-	-
		751	2.0	80	60	5.0	100	80	75	-	2.0	500	0.5	2,000	-	75	-	-
		7410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	-	-
NPN & PNP	3410 (NPN) +	7410 (PNP)	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	-	-
		7410 (PNP)	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	-	-

Indicates Enhanced Specification Device. Enhanced Spec in Red and

Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

FAMILY	TLM621  2.15 x 1.15 x 0.8	TLM832D  3.1 x 2.1 x 1.0	TLM833S  3.15 x 3.15 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-363  2.2 x 2.3 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
--------	--	---	---	--	---	---	---	---	--	---

5089								CMKT5089M10 (2x Matched)	CMPT5089		
930									CMPT930		
2484									CMPT2484		
5088								CMKT5088 (2x)	CMPT5088		
5088E				CMUT5088E	CMLT5088E (2x) CMLT5088EM (2x Matched)				CMPT5088E		
6428									CMPT6428		
6429									CMPT6429		
5087								CMKT5087 (2x)	CMPT5087		
5087E				CMUT5087E	CMLT5087E (2x) CMLT5087EM (2x Matched)			CMKT5087E (2x)	CMPT5087E		
5086									CMPT5086		
992									CMPT992		
5088E (NPN) + 5087E (PNP)					CMLT5078E (2x)						
5088 (NPN) + 5087 (PNP)								CMKT5078 (2x)			

853			CTLT853-M833S						CXT853	CZT853	
3019									CMPT3019	CXT3019	CZT3019
A06									CMPTA06		
491E					CMLT491E				CMPT491E	CXT491E	
651											CZT651
3410	CTLT3410-M621	CTLM3410-M832D (2x)		CMUT3410	CMLT3410 (2x)	CMST3410			CMPT3410	CXT3410	
68										CBCX68	CBCP68
953			CTLT953-M833S							CXT953	CZT953
4033									CMPT4033	CXT4033	CZT4033
A56									CMPTA56		
591E					CMLT591E				CMPT591E	CXT591E	
751											CZT751
7410	CTLT7410-M621	CTLM7410-M832D (2x)		CMUT7410	CMLT7410 (2x)	CMST7410			CMPT7410	CXT7410	
69										CBCX69	CBCP69
3410 (NPN) + 7410 (PNP)		CTLM3474-M832D (2x)			CMLT3474 (2x)						

(2x) under part number indicates two devices in one package.
(4x) under part number indicates four devices in one package.

RF Oscillator

	FAMILY	I_C	BV_{CBO}	BV_{CEO}	BV_{EBO}	I_{CBO}	@ V_{CB}	h_{FE}		@ V_{CE}	@ I_C	$V_{CE(SAT)}$	@ I_C	C_{ob}	f_T	NF	t_{off}
		(A) MAX	(V) MIN	(V) MIN	(V) MIN			(nA) MAX	(V)								
Devices are listed in order of descending f_T .																	
NPN	5179	0.05	20	12	2.5	20	15	25	-	1.0	3.0	0.4	10	1.0	900	4.5	-
	H10	0.05	30	25	3.0	100	25	60	-	10	4.0	0.5	4.0	0.7	650	-	-
	918	0.05	30	15	3.0	10	15	20	-	1.0	3.0	0.4	10	1.7	600	6.0	-
PNP	H81	0.05	20	20	3.0	100	10	60	-	10	5.0	0.5	5.0	0.85	600	-	-

High Voltage

Devices are listed in order of descending breakdown voltage.

E>	NPN	A46	0.5	450	450	6.0	100	400	50	200	10	10	0.5	50	7.0	20	-	-
		A44	0.3	450	400	6.0	100	400	50	200	10	10	0.75	50	7.0	20	-	-
		6517	0.5	350	350	5.0	50	250	30	200	10	30	1.0	50	-	40	-	-
		A42E	0.5	350	350	6.0	250	200	50	-	10	30	0.35	50	6.0	50	-	-
		A42	0.5	300	300	6.0	100	200	40	-	10	30	0.5	20	3.0	50	-	-
		5551E	0.6	250	220	6.0	50	120	120	300	5.0	10	0.1	50	6.0	100	8.0	-
		5551	0.6	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	-
		5551HC	1.0	180	160	6.0	50	120	80	250	5.0	10	0.2	50	15	100	-	-
E>	PNP	A96	0.5	450	450	6.0	100	400	50	200	10	10	0.5	50	7.0	20	-	-
		A94	0.3	400	400	6.0	100	350	50	200	10	10	0.75	50	7.0	20	-	-
		6520	0.5	350	350	5.0	50	250	30	200	10	30	1.0	50	-	40	-	-
		A92E	0.5				250	200		-	10	30		50	6.0	50	-	-
		A92	0.5	300	300	5.0	250	200	25	-	10	30	0.5	20	6.0	50	-	-
		5401E	0.6				50	120			5.0	10		50	6.0	100	8.0	-
		5401	0.6	160	150	5.0	50	100	60	240	5.0	10	0.5	50	6.0	100	8.0	-
NPN & PNP	5551 (NPN) +	0.6	180	160	6.0	50	120	80	250	5.0	10	0.2	50	6.0	100	8.0	-	
	5401 (PNP)	0.6	160	150	5.0	50	120	60	240	5.0	10	0.5	50	6.0	100	8.0	-	

Saturated Switches

Devices are listed in order of descending f_T .

NPN	2369	0.5	40	15	4.5	400	20	40	120	1.0	10	0.25	10	4.0	500	-	18
	3646	0.2	40	15	5.0	500*	20	15	-	1.0	300	0.5	300	5.0	350	-	28
PNP	3640	0.08	12	12	4.0	10*	6.0	30	120	0.3	10	0.6	50	3.5	500	-	35

E> Indicates Enhanced Specification Device. Enhanced Spec in Red and

S Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

FAMILY	TLM832D  3.1 x 2.1 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
5179		CMUT5179		CMPT5179		
H10				CMPTH10		
918				CMPT918		
H81				CMPTH81		

A46				CMPTA46		CZTA46
A44			CMLTA44	CMPTA44	CXTA44	CZTA44
6517				CMPT6517		
A42E				CMPTA42E		
A42				CMPTA42	CXTA42	CZTA42
5551E		CMUT5551E		CMPT5551E	CXT5551E	CZT5551E
5551	CTLT5551-M832D (2x)	CMUT5551	CMLT5551 (2x)	CMPT5551	CXT5551	CZT5551
5551HC			CMLT5551HC	CMPT5551HC	CXT5551HC	CZT5551HC
A96				CMPTA96		CZTA96
A94			CMLTA94	CMPTA94		CZTA94
6520				CMPT6520		
A92E				CMPTA92E		
A92				CMPTA92	CXTA92	CZTA92
5401E		CMUT5401E		CMPT5401E	CXT5401E	CZT5401E
5401		CMUT5401		CMPT5401	CXT5401	CZT5401
5551 (NPN)			CMLT5554 (2x)			
5401 (PNP)						

2369				CMPT2369		
3646				CMPT3646		
3640				CMPT3640		

(2x) under part number indicates two devices in one package.

Darlington

FAMILY	I _C (A) MAX	BV _{CB0} (V) MIN	BV _{CEO} *BV _{CES} (V) MIN	BV _{EBO} (V) MIN	I _{CB0} (nA) MAX	@ V _{CB} (V)	h _{FE}		@ V _{CE} (V)	@ I _C (mA)	V _{CE(SAT)} (V) MAX	@ I _C (mA)	C _{Ob} (pF) MAX	f _T (MHz) MIN	NF (dB) MAX	t _{off} (ns) MAX
							MIN	MAX								

Devices are listed in order of descending h_{FE}.



E> E> NPN	900K	1.0	50	25	10	100	30	900,000	–	5.0	100	1.5	100	–	125	–	–
	250K	1.0	50	25	10	100	30	250,000	–	5.0	100	1.5	100	–	125	–	–
	A14E	0.5	40	40*	10	100	40	40,000	–	5.0	100	1.0	100	–	125	–	–
	6427E	0.5	60	60*	14	100	30	25,000	200,000	5.0	100	1.0	500	7.0	200†	10	–
	A14	0.5	30	30*	10	100	30	20,000	–	5.0	100	1.5	100	–	125	–	–
	6427	0.5	40	40	12	50	30	20,000	200,000	5.0	100	1.5	500	7.0	130	10	–
	A13	0.5	30	30*	10	100	30	10,000	–	5.0	100	1.5	100	–	125	–	–
	A27	0.5	60	60*	10	100	50	10,000	–	5.0	100	1.5	100	–	125	–	–
	A28	0.5	80	80*	12	100	60	10,000	–	5.0	100	1.5	100	8.0	125	–	–
	A29	0.5	100	100*	12	100	80	10,000	–	5.0	100	1.5	100	8.0	125	–	–
	2000	0.6	200	200*	10	500	180	3,000	–	5.0	160	1.1	80	–	–	–	–
PNP	A64	0.5	30	30*	10	100	30	20,000	–	5.0	100	1.5	100	–	125	–	–
	A63	0.5	30	30*	10	100	30	10,000	–	5.0	100	1.5	100	–	125	–	–
	A77	0.5	60	60*	10	100	50	10,000	–	5.0	100	1.5	100	–	125	–	–

Low V_{CE(SAT)}

NPN	3410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	–	–
	3820	1.0	80	60	5.0	100	60	100	–	5.0	1,000	0.28	1,000	10	150	–	–
PNP	7410	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	–	–
	7820	1.0	80	60	5.0	100	60	100	–	5.0	1,000	0.34	1,000	15	150	–	–
NPN & PNP	3410 (NPN) +	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	10	100	–	–
	7410 (PNP)	1.0	40	25	6.0	100	40	100	300	1.0	100	0.45	1,000	15	100	–	–

Chopper

PNP	404A	0.15	40	35	25	100	10	100	400	0.15	12	0.20	24	40	–	–	–
-----	------	------	----	----	----	-----	----	-----	-----	------	----	------	----	----	---	---	---

E> Indicates Enhanced Specification Device. Enhanced Spec in Red and

Indicates Sorted Columns.



Tiny Leadless Module™

Package dimensions shown are maximum values in mm.

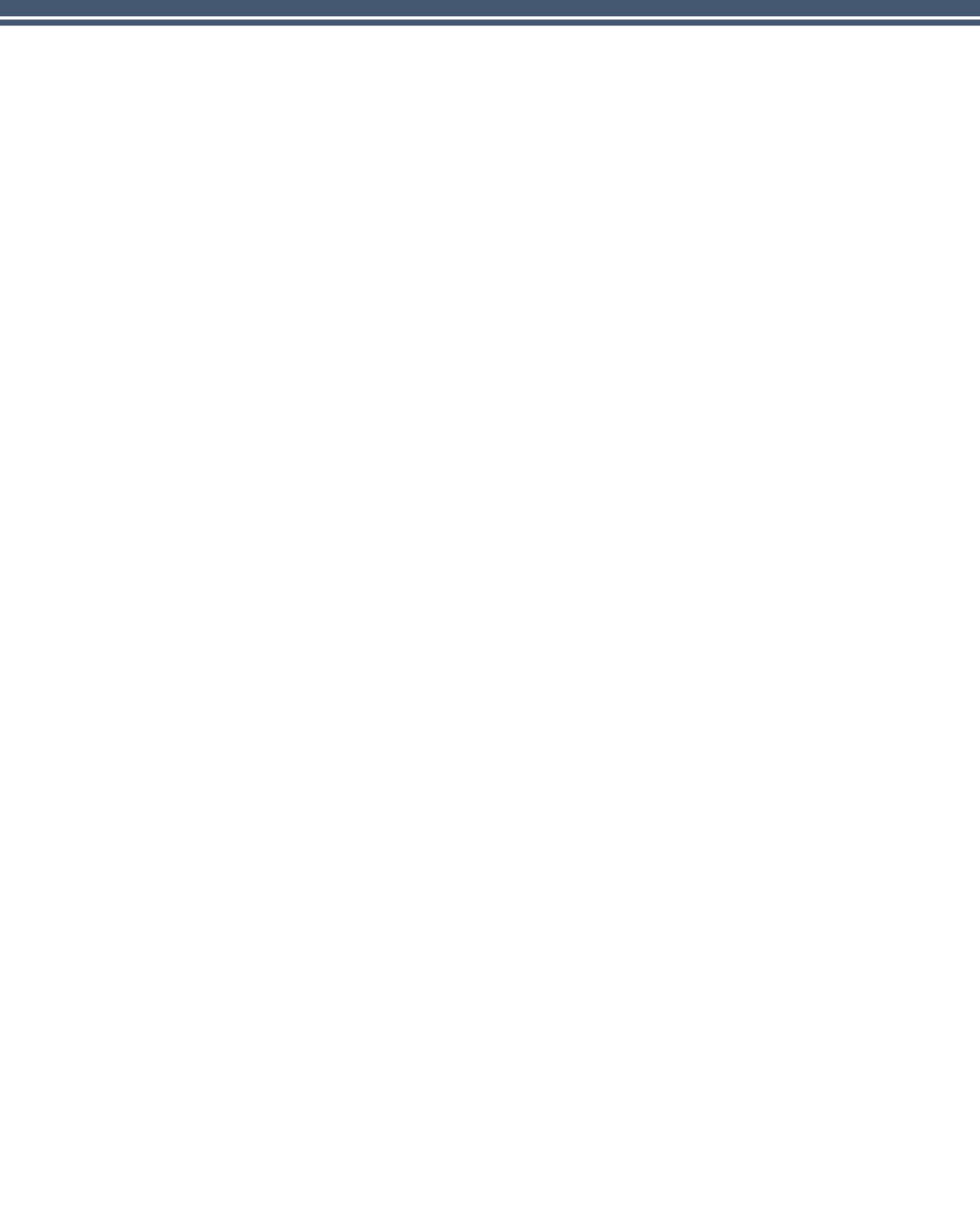
FAMILY	TLM621  2.15 x 1.15 x 0.8	TLM832D  3.1 x 2.1 x 1.0	SOT-523  1.7 x 1.7 x 0.78	SOT-563  1.7 x 1.7 x 0.6	SOT-323  2.2 x 2.2 x 1.1	SOT-23  3.05 x 2.49 x 1.09	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8
--------	--	---	--	---	---	---	--	---

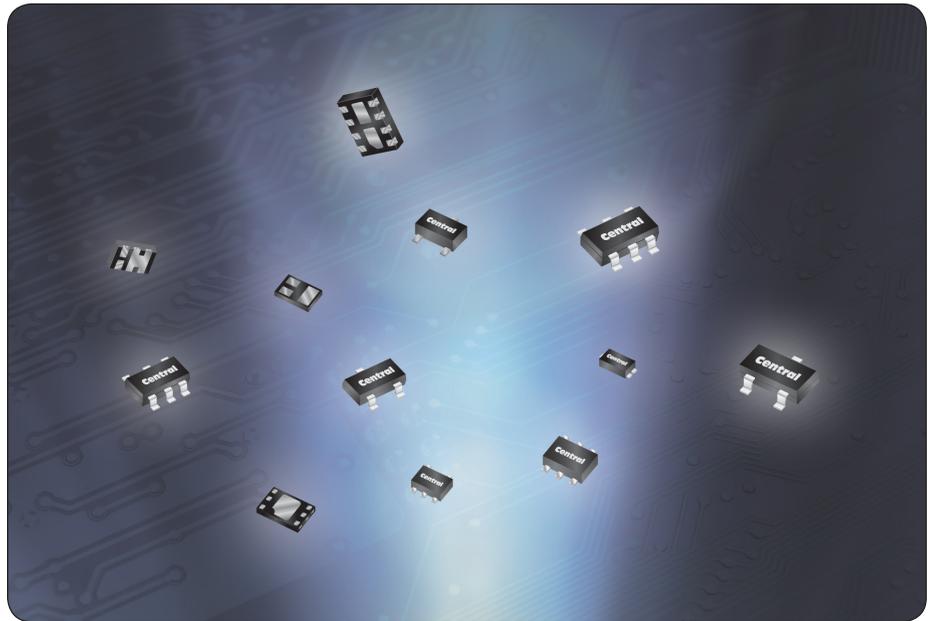
900K								CZT900K
250K								CZT250K
A14E						CMPTA14E		
6427E				CMLT6427E	CMST6427E			
A14						CMPTA14	CXTA14	CZTA14
6427						CMPT6427		
A13						CMPTA13		
A27						CMPTA27	CXTA27	CZTA27
A28								CZTA28
A29						CMPTA29		
2000								CZT2000
A64						CMPTA64	CXTA64	CZTA64
A63						CMPTA63		
A77						CMPTA77		CZTA77

3410	CTLT3410-M621		CMUT3410	CMLT3410 (2x)	CMST3410	CMPT3410	CXT3410	
3820				CMLT3820G		CMPT3820	CXT3820	
7410	CTLT7410-M621		CMUT7410	CMLT7410 (2x)	CMST7410	CMPT7410	CXT7410	
7820				CMLT7820G		CMPT7820	CXT7820	
3410 (NPN) +		CTLM3474-M832D (2x)		CMLT3474 (2x)				
7410 (PNP)								

404A						CMPT404A		
------	--	--	--	--	--	----------	--	--

(2x) under part number indicates two devices in one package.





MOSFETs

	<u>Page</u>
N-Channel MOSFETs	16-17
P-Channel MOSFETs	18-19
N-Channel & P-Channel MOSFETs	18-19

MOSFETs



FAMILY	I _D *T _L =25°C (A)	BV _{DSS} (V) MIN	r _{DS(ON)} @ V _{GS}		V _{GS(th)} (V) MIN MAX		C _{iss} (pF) †TYP MAX	C _{rss} (pF) †TYP MAX	C _{oss} (pF) †TYP MAX	Q _{g(tot)} (nC) †TYP MAX	t _{on} (ns) †TYP MAX	t _{off} (ns) †TYP MAX	Tiny Leadless Module™		
			(Ω) MAX	(V)	(V)	(V)							TLM621  2.15 x 1.15 x 0.8	TLM621H  2.15 x 1.65 x 0.4	TLM832DS  3.05 x 2.05 x 1.05

Devices are listed in order of ascending I_D.

	7001	0.1	20	3.0	4.0	0.6	0.9	†9.0	†4.0	†9.5	†0.566	†50	†75			
	7002	0.115	60	7.5	10	1.0	2.5	50	5.0	25	†0.592	20	20			
	3590	0.16	20	3.0	4.5	0.4	1.0	†9.0	†2.2	3.0	†0.458	†25	†85			
	7002A	0.28	60	2.0	10	1.0	2.5	50	5.0	25	†0.592	20	20	CTLDM7002A-M621	CTLDM7002A-M621H (2x)	
E	7002AE	0.3	60	1.4	10	1.2	2.0	50	5.0	25	†0.5	20	45			
E	7003E	0.28	50	2.3	1.8	0.49	1.2	50	5.0	25	†0.764	-	-			
	7003TG	0.28	50	2.3	1.8	0.7	1.2	50	5.0	25	†0.764	-	-			
	7003	0.28	50	3.0	1.8	0.49	1.0	50	5.0	25	†0.764	-	-	CTLDM7003-M621 (2x)		
	3737	0.54	20	0.55	4.5	0.45	1.0	150	20	25	†1.58	†10	†25			
	7005	0.65	20	0.23	4.5	0.5	1.1	†100	†18	†18	†1.58	†10	†25			
	7120	1.0	20	0.14	2.5	0.5	1.2	†220	†45	†120	†2.4	†25	†140		CTLDM7120-M621H	CTLDM7120-M832DS (2x)
	7120TG	1.0	20	0.25	1.5	0.5	0.85	†220	†45	†120	†2.4	†25	†140			
	7002AHC	1.0	63	0.22	10	1.2	2.3	240	25	50	†2.3	35	50			
	7004	*1.78	30	0.56	2.5	0.5	1.0	†43	†5.0	†8.0	†0.792	†20	†75			
	1002N	2.0	100	0.30	10	1.5	2.5	†550	†48	†45	†6.0	†32	†50			
	1003N	3.0	100	0.15	10	2.0	4.0	†705	†55	80	†15	†40	†60			
	3-800	3.0	800	4.8	10	2.0	4.0	†415	†1.5	†44	†11.3	†33	†50			
	203NH	3.2	20	0.05	4.5	0.6	1.2	†395	†44	†97	10	†6.0	†22.8			
	303N	3.6	30	0.04	4.5	0.6	1.2	†590	†55	†50	13	†15	†29			CTLDM303N-M832DS (2x)
	303NH	3.6	30	0.04	4.5	0.6	1.2	†590	†55	†50	13	†15	†29			
	4-600LR	4.0	600	0.95	10	2.0	4.0	†328	†1.31	†26	†11.59	†32	†57			
	4-650	4.0	650	2.7	10	2.0	4.0	†463	†1.0	†60	†11.4	†32	†44			
	6053N	5.3	60	0.041	10	1.0	3.0	†920	†53	†49	†8.8	†33	†42			
	305N	5.8	30	0.03	10	1.0	3.0	560	54	†52	†4.2	†6.5	†8.5			
	4060N	6.0	40	0.031	10	1.0	3.0	†730	†64	†58	†12	†27	†33			
	3069N	6.9	30	0.03	10	0.7	1.4	†580	†47	†42	†11	†20	†28			
	7-600LR	7.0	600	0.58	10	2.0	4.0	†440	†1.94	†33	†14.5	†35	†70			
	7-650	7.0	650	1.5	10	2.88	4.0	†754	†0.8	†97	†16.8	†42	†66			
	7-700LR	7.0	700	0.60	10	2.0	4.0	†561	†2.45	†26.9	†18.8	†44	†87			
	3011N	11	30	0.02	10	1.0	3.0	†860	†100	†120	†6.3	†20	†30			

E Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

SOT-953	SOT-963	SOT-883VL	SOT-883L	SOT-523	SOT-563	SOT-23	SOT-23F	SOT-26	SOT-89	SOIC-8	SOT-223	DPAK
 1.05 x 1.05 x 0.5	 1.05 x 1.05 x 0.5	 1.05 x 0.65 x 0.32	 1.05 x 0.65 x 0.4	 1.7 x 1.7 x 0.78	 1.7 x 1.7 x 0.6	 3.05 x 2.49 x 1.09	 3.0 x 2.5 x 1.0	 3.0 x 3.0 x 1.2	 4.7 x 4.5 x 1.7	 5.01 x 6.18 x 1.71	 6.7 x 7.3 x 1.8	 10.73 x 6.81 x 2.75

CMNDM7001		CEDM7001VL	CEDM7001	CMUDM7001								
						2N7002						
	CMRDM3590 (2x)											
					CMLDM7002A CMLDM7002AJ (2x)	CMPDM7002A		CMXDM7002A (2x)				
			CEDM7002AE			CMPDM7002AE						
					CMLDM7003E CMLDM7003JE (2x)							
					CMLDM7003TG (2x)							
					CMLDM7003 CMLDM7003J (2x)	CMPDM7003						
					CMLDM3737 (2x)							
				CMUDM7005	CMLDM7005 CMLDM7005R (2x)							
					CMLDM7120G	CMPDM7120G						
					CMLDM7120TG							
						CMPDM 7002AHC						
		CEDM7004VL	CEDM7004	CMUDM7004								
									CXDM1002N			
											CZDM1003N	
												CDM3-800
							CMPDM203NH					
												CDM4-600LR
												CDM4-650
										CXDM6053N		
											CWDM305N CWDM305ND (2x)	
									CXDM4060N			
									CXDM3069N			
												CDM7-600LR
												CDM7-650
												CDM7-700LR
											CWDM3011N	

MOSFETs



FAMILY	I _D *T _L =25°C (A)	BV _{DSS} (V) MIN	r _{DS(ON)} (Ω) MAX	@ V _{GS} (V)	V _{GS(th)} (V)		C _{iss} (pF) †TYP MAX	C _{rss} (pF) †TYP MAX	C _{oss} (pF) †TYP MAX	Q _{g(tot)} (nC) †TYP MAX	t _{on} (ns) †TYP MAX	t _{off} (ns) †TYP MAX	TLM621	TLM621H
					MIN	MAX								

Devices are listed in order of ascending I_D.

P-Channel	8001	0.1	20	8.0	4.0	0.6	1.1	†45	†15	†15	†0.658	†35	†80		
	7590	0.14	20	5.0	4.5	0.4	1.0	†10	†4.0	†3.7	†0.50	†35	†100		
	8002A	0.28	50	3.0	5.0	1.0	2.5	70	7.0	15	†0.72	20	20	CTLDM8002A-M621	CTLDM8002A-M621H (2x)
	5757	0.43	20	0.9	4.5	0.45	1.0	175	20	30	†1.2	†38	†48		
	8004	0.45	30	2.0	2.5	0.5	1.0	55	10	15	†0.88	-	-		
	8005	0.65	20	0.36	4.5	0.5	1.0	†100	†25	†21	†1.2	†38	†48		
	8120	0.86	20	0.2	2.5	0.45	1.0	†200	†80	†60	†3.56	†20	†25		CTLDM8120-M621H
	8120TG	0.86	20	0.24	1.8	0.45	0.85	†200	†80	†60	†3.56	†20	†25		
	202PH	2.3	20	0.088	5.0	0.6	1.4	†800	†85	†75	12	†25	†48		
	302PH	2.4	30	0.091	4.5	0.7	1.4	†800	†69	†62	9.6	†12	†17		
	304P	4.2	30	0.070	10	0.7	1.3	†760	†53	†50	†64	†40	†75		
	305P	5.3	30	0.072	10	1.0	3.0	†500	†50	150	†7.0	†7.0	†8.0		
	4060P	6.0	40	0.065	10	1.0	3.0	†750	†61	†56	†6.5	†18	†64		
3011P	11	30	0.020	10	1.0	3.0	†3100	†450	†320	†80	†49	†330			
N-Channel & P-Channel	3590 (N-Channel)	0.16	20	3.0	4.5	0.4	1.0	†9.0	†2.2	†3.0	†0.458	†25	†85		
	+ 7590 (P-Channel)	0.14	20	5.0	4.5	0.4	1.0	†10	†4.0	†3.7	†0.50	†35	†100		
	7002A (N-Channel)	0.28	60	2.0	10	1.0	2.5	50	5.0	25	†0.592	20	20		
	+ 8002A (P-Channel)	0.28	50	3.0	5.0	1.0	2.5	70	7.0	15	†0.72	20	20		
	7120 (N-Channel)	1.0	20	0.14	2.5	0.5	1.2	†220	†45	†120	†2.4	†25	†140		
	+ 8120 (P-Channel)	0.86	20	0.2	2.5	0.45	1.0	†200	†80	†60	†3.56	†20	†25		
	3737 (N-Channel)	0.54	20	0.55	4.5	0.45	1.0	150	20	25	†1.58	†10	†25		
	+ 5757 (P-Channel)	0.43	20	0.9	4.5	0.45	1.0	175	20	30	†1.2	†38	†48		
	7004 (N-Channel)	*1.78	30	0.56	2.5	0.5	1.0	†43	†5.0	15	†0.792	†20	†75		
	+ 8004 (P-Channel)	0.45	30	2.0	2.5	0.5	1.0	55	10	15	†0.88	-	-		
7005 (N-Channel)	0.65	20	0.23	4.5	0.5	1.1	†100	†18	16	†1.58	†10	†25			
+ 8005 (P-Channel)	0.65	20	0.36	4.5	0.5	1.0	†100	†25	21	†1.2	†38	†48			

Indicates Sorted Columns.



客户支持资源



Application Resources

More information on page 24



www.centrasemi.com/applications

Parametric

Search

More information on page 38

www.centrasemi.com/parasearch

my.Centralsemi .com

More information on page 70

www.centrasemi.com/mycentrasemi

工程技术资源

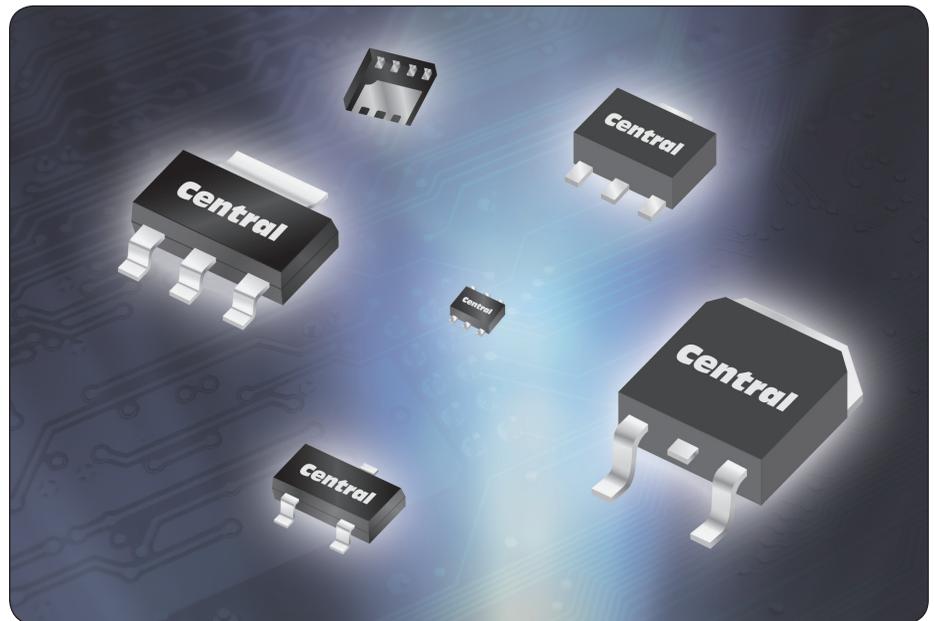


www.centrasemi.com/engineering

品保质量资源



www.centrasemi.com/quality



Bipolar Power Transistors

	<u>Page</u>
General Purpose Amplifiers/Switches	22-23
High Voltage	22-23
Extremely High Voltage.....	22-23
Darlington	22-23
Low $V_{CE(SAT)}$	22-23

General Purpose Amplifiers/Switches

	FAMILY	I_C	BV_{CBO}	BV_{CEO}	h_{FE}		$@ I_C$	$V_{CE(SAT)}$	$@ I_C$	f_T
		(A) MAX	* BV_{CEV} (V) MIN	(V) MIN	MIN	MAX	(A)	(V) MAX	(A)	†TYP. (MHZ) MIN
S Devices are listed in order of descending I_C .										
NPN	3055	10	70	60	20	100	4.0	1.1	4.0	–
	44H11	8.0	80	80	40	–	4.0	1.0	8.0	60†
	853	6.0	200	100	100	300	2.0	0.17	2.0	190†
	41C	6.0	100	100	15	75	3.0	1.5	6.0	3.0
	3150	5.0	50	25	150	–	2.0	0.5	4.0	150†
	5338	5.0	100	100	30	120	2.0	1.2	5.0	30
	200	5.0	40	25	45	180	2.0	1.8	5.0	65
	31C	3.0	100	100	10	50	3.0	1.2	3.0	3.0
	3120	3.0	120	70	100	300	0.5	0.5	2.0	8.0
	A44HC	2.0	450	400	30	–	1.0	0.5	1.0	10
2680	1.5	250	200	40	–	0.5	0.5	1.0	50	
491E	1.0	80	60	200	600	0.5	0.4	1.0	150	
PNP	2955	10	70	60	20	100	4.0	1.1	4.0	2.0
	45H11	8.0	80	80	40	–	4.0	1.0	8.0	50†
	42C	6.0	100	100	15	75	3.0	1.5	6.0	3.0
	953	5.0	140	100	100	300	1.0	0.22	2.0	150†
	210	5.0	40	25	45	180	2.0	1.8	5.0	5.0
	955	4.0	180	140	100	300	1.0	0.36	3.0	200†
	32C	3.0	100	100	10	50	3.0	1.2	3.0	3.0
	7120	3.0	120	70	100	300	0.5	0.5	2.0	8.0
	591E	1.0	80	60	200	600	0.5	0.4	1.0	150

High Voltage

S Devices are listed in order of descending breakdown voltage.										
NPN	13003	1.5	700*	400	5.0	25	1.0	3.0	1.5	4.0
	50	1.0	500	400	30	150	0.3	1.0	1.0	10
	47	1.0	350	250	30	150	0.3	1.0	1.0	10
	340	0.5	300	300	30	240	0.05	–	–	–
PNP	350	0.5	300	300	30	240	0.05	–	–	–

Extremely High Voltage

NPN	UX87	0.5	900*	450	12	–	0.04	1.0	0.2	20†
-----	------	-----	------	-----	----	---	------	-----	-----	-----

Darlington

NPN	112	2.0	100	100	1,000	12,000	2.0	2.0	2.0	25
	122	8.0	100	100	1,000	12,000	4.0	4.0	8.0	4.0
PNP	117	2.0	100	100	1,000	12,000	2.0	2.0	2.0	25
	127	8.0	100	100	1,000	12,000	4.0	4.0	8.0	4.0

Low $V_{CE(SAT)}$

Devices are listed in order of descending $V_{CE(SAT)}$ S										
NPN	3150	5.0	50	25	150	–	2.0	0.6	4.0	150†
	3090L	3.0	45	15	200	–	1.0	0.3	3.0	100
	3090LE	3.0				–	1.0		3.0	100
PNP	7090L	3.0	50	40	200	–	1.0	0.75	2.0	100
	7090LE	3.0				–	1.0		2.0	100

E Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold **S** Indicates Sorted Columns.



Package dimensions shown are maximum values in mm.

FAMILY	TLM833S  3.15 x 3.15 x 1.0	SOT-563  1.7 x 1.7 x 0.6	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2	SOT-89  4.7 x 4.5 x 1.7	SOT-223  6.7 x 7.3 x 1.8	DPAK  10.73 x 6.81 x 2.75
3055						CZT3055	CJD3055
44H11							CJD44H11
853	CTLT853-M833S				CXT853	CZT853	
41C							CJD41C
3150						CZT3150	
5338						CZT5338	
200							CJD200
31C						CZT31C	CJD31C
3120						CZT3120	
A44HC						CZTA44HC	
2680						CZT2680	
491E		CMLT491E	CMPT491E		CXT491E		
2955						CZT2955	CJD2955
45H11							CJD45H11
42C							CJD42C
953	CTLT953-M833S				CXT953	CZT953	
210							CJD210
955						CZT955	
32C						CZT32C	CJD32C
7120						CZT7120	
591E		CMLT591E	CMPT591E		CXT591E		
13003							CJD13003
50							CJD50
47							CJD47
340							CJD340
350							CJD350
UX87						CZTUX87	
112							CJD112
122						CZT122	CJD122
117							CJD117
127						CZT127	CJD127
3150					CXT3150	CZT3150	
3090L				CMXT3090L	CXT3090L	CZT3090L	
3090LE						CZT3090LE	
7090L				CMXT7090L	CXT7090L	CZT7090L	
7090LE						CZT7090LE	



Application Resources

Central Semiconductor's online Application Resources provide designers with an insightful overview of devices designed to meet the requirements of specific end product applications.

www.centrasemi.com/applications



Alternative Energy



Lighting



Consumer



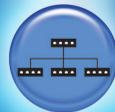
Medical



Industrial

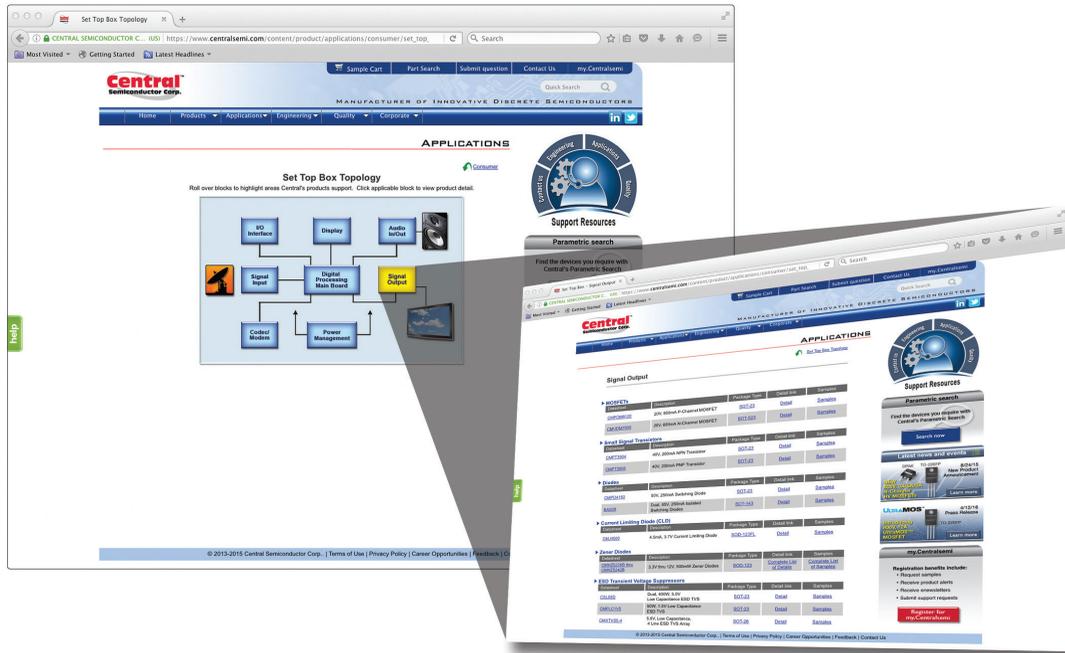


Networking



Block diagrams include:

- Detailed device information
- Package specifications
- Technical datasheets
- Links to request samples



For more information:

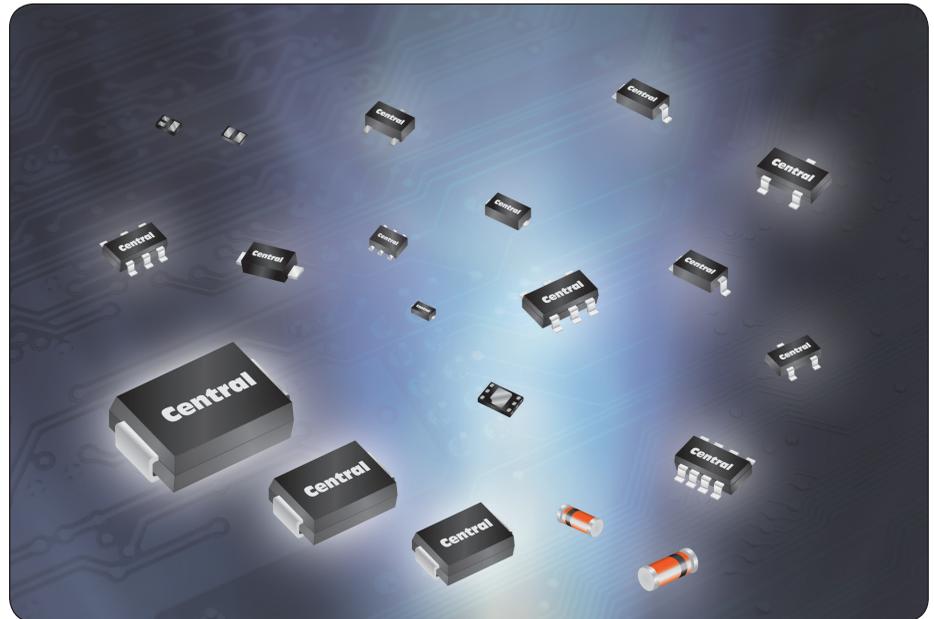


Challenges welcome

www.centrasemi.com/justask



www.centrasemi.com



Diodes

	<u>Page</u>
Switching Diodes	26-27
Schottky Diodes	28-29
Low Leakage Diodes	30-31
Ultra Low Leakage Diodes	30-31
Stabistor Diodes	30-31
Current Limiting Diodes	30
High Current, Current Limiting Diodes	31
Temperature Compensated Zener Diodes	32
Zener Diodes	33-37

Switching Diodes

FAMILY	DESCRIPTION	V _{RRM} (V) MAX	I _F (mA) MAX	V _F (V) MAX	@ I _F (mA)	t _{rr} (ns) MAX	FAMILY	SOD-923  1.10 x 0.65 x 0.41	
		 Devices are listed in order of ascending V _{RRM} .							
	4150	50	250	0.86 0.92 1.0	50 100 200	4.0	4150		
	6i	60	250	1.0	10	100	6i		
	56	60	200	0.75 1.0	10 200	6.0	56		
	2836	75	200	1.0	50	4.0	2836		
	2838	75	200	1.0	50	4.0	2838		
	28	85	200	0.715 1.0	1.0 50	6.0	28		
	100	85	250	0.715 1.0	1.0 50	6.0	100		
	1001	90	250	0.75 0.9 1.0	10 100 200	50	1001		
	914	100	250	1.0	10	4.0	914		
	4448	100	250	1.0	100	4.0	4448	CMAD4448 (1x)	
	7000	100	200	0.7 0.82 1.1	1.0 10 100	4.0	7000		
	2836E		200		10 50	4.0	2836E		
	2838E		200		10 50	4.0	2838E		
	914E		250		10	4.0	914E		
	7000E		200		1.0 10 100	4.0	7000E		
	5001	120	400	0.75 0.9 1.0	10 100 200	50	5001		
	2003	250	250	1.0	100	50	2003		
	2004	300	225	1.0	100	50	2004		
	2005	350	225	0.87 1.0	20 100	50	2005		
	3004	375	225	1.0	100	50	3004		

 Indicates Enhanced Specification Device. Enhanced Spec in Red and

 Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

 SOD-882L 1.05 x 0.65 x 0.4	 SOT-883L 1.05 x 0.65 x 0.4	 SOD-523 1.80 x 0.9 x 0.8	 SOT-523 1.7 x 1.7 x 0.78	 SOT-563 1.7 x 1.7 x 0.6	 SOD-323 2.6 x 1.35 x 1.0	 SOT-323 2.2 x 2.2 x 1.1	 SOT-363 2.2 x 2.3 x 1.1	 SOD-123 3.9 x 1.8 x 1.35	 SOT-23 3.05 x 2.49 x 1.09	 SOT-143 3.04 x 2.50 x 1.14	 SOT-26 3.0 x 3.0 x 1.2	 SOT-28 3.0 x 3.0 x 1.45
---	--	--	--	---	--	---	---	--	---	--	--	---

									CMHD4150 (1x)	CMPD4150 (1x)			
													CMEDA-6i (4x)
											BAS56 (2x)		
				CMUD2836 (2x)				CMSD2836 (2x)	CMKD2836 (4x)		CMPD2836 (2x)		
				CMUD2838 (2x)	CMLD2838 (4x)			CMSD2838 (2x)	CMKD2838 (4x)		CMPD2838 (2x)		
											BAS28 (2x)		
											BAW100 (2x)		
										CMPD1001 (1x)			
										CMPD1001A CMPD1001S (2x)			
										CMPD914 (1x)			
CFD4448 (1x)		CMOD4448 (1x)	CMUD4448 (1x)	CMLD4448 CMLD4448DO (2x)	CMDD4448 (1x)	CMSD4448 (1x)	CMKD4448 (3x)	CMHD4448 (1x)				CMXD4448 (3x)	
			CMUD7000 (2x)			CMSD7000 (2x)	CMKD7000 (4x)				CMPD7000 (2x)		
											CMPD2836E (2x)		
		CED2838E (2x)									CMPD2838E (2x)		
											CMPD914E (1x)		
							CMKD7000E (4x)				CMPD7000E (2x)		
											CMPD5001 (1x)		
											CMPD5001S (2x)		
									CMHD2003 (1x)		CMPD2003 (1x)		
											CMPD2003A CMPD2003C CMPD2003S (2x)		
			CMOD2004 (1x)		CMLD2004 CMLD2004A CMLD2004C CMLD2004S CMLD2004DO (2x)	CMDD2004 (1x)	CMSD2004S (2x)				CMPD2004 (1x)	CMFD2004i (2x)	CMXD2004 (3x)
											CMPD2004A CMPD2004C CMPD2004S (2x)		CMXD2004S CMXD2004SR (4x)
			CMOD2005 (1x)								CMPD2005S (2x)		CMXD2004TO (3x)
							CMSD2005S (2x)						CMXD3004SR (2x)

Suffix Codes:

A = Common Anode
C = Common Cathode
S = In Series
E = Enhanced Specification
i = Isolated Chips (CMEDA-6i has four Monolithic isolated diodes.)
DO = Dual, Opposing
TO = Triple, Opposing
SR = Opposing Dual Pair, In Series

(2x) under part number indicates two devices in one package.
(3x) under part number indicates three devices in one package.
(4x) under part number indicates four devices in one package.

Schottky Diodes



Tiny Leadless Module™

	FAMILY	DESCRIPTION	V _{RRM} (V) MAX	I _F *I _O (mA) MAX	V _F (V) MAX	@	I _F (mA)	t _{rr} (ns) MAX	C _T †TYP (pF) MAX	FAMILY	Tiny Leadless Module™			
											TLM2D3D6  0.65 x 0.35 x 0.32	TLM621  2.15 x 1.15 x 0.8	TLM621H  2.15 x 1.65 x 0.4	SOD-923  1.10 x 0.65 x 0.41
E	High Voltage / Low Current	6263E	70					5.0	2.0	6263E				
		6263	70	15	0.395 (TYP) 0.41		1.0 1.0	5.0	2.0	6263				CMAD6263 (1x)
S Devices are listed in order of ascending I _F														
Low Current • 30V	SH01-30	Single	30	*100	0.46		10	–	7.0†	SH01-30	CTLSH01-30 (1x)			
	SH-3	CMOSH-3, CMDSH-3, CMSSH-3, CMHSH-3, and CMPSH-3: Single CMFSH-3: Dual, Isolated CMSSH-3A, and CMPSH-3A: Dual, Common Anode CMSSH-3C, and CMPSH-3C: Dual, Common Cathode CMSSH-3S, and CMPSH-3S: Dual, In Series CMKSH-3DO: Dual, Opposing Polarity CMKSH-3T, and CMXSH-3: Triple, Isolated	30	100	0.33 0.45		2.0 15	5.0	7.0	SH-3				
	SH1-3	Single	30	*100	0.18		1.0	–	15†	SH1-3				
	SH2-3	Single	30	*200	0.42 (TYP) 0.55		100 200	–	15†	SH2-3				
Low V _F 30V	SH01-30L	Single	30	*100	0.095 0.37		5.0µA 10	–	4.0†	SH01-30L	CTLSH01-30L (1x)			
	SH2-3L	Single	30	*200	0.40 0.48		100 200	–	25	SH2-30L				
Low Current • 40V	SH-3E	CMSSH-3E, and CMPSH-3E: Single CMSSH-3AE, and CMPSH-3AE: Dual, Common Anode CMSSH-3CE, and CMPSH-3CE: Dual, Common Cathode CMSSH-3SE, and CMPSH-3SE: Dual, In Series	40	200	0.33 0.42		2.0 15	5.0	7.0	SH-3E				
	SH-4	CMASH-4, CFSH-4, and CMDSH-4E: Single CMLSH-4: Dual, Isolated CMRSH-4DO, CMLSH-4DO: Dual, Opposing, Isolated	40	*200	0.38 0.65		1.0 15	5.0	7.0	SH-4				CMASH-4 (1x)
Medium Current	SH2-4	CMOSH2-4L, CMUSH2-4L, CMUSHW2-4L and CMDSH2-4L: Single CMKSH2-4LR: Triple, Isolated CMXSH2-4LS: Dual Pair, In Series	40	200	0.4		100	5.0	10	SH2-4				
		CFSH2-4L: Single	40	*200	0.52		100	5.0	10					
	SH2-4	CMUSH2-4: Single CMUSH2-4A: Dual, Common Anode CMUSH2-4C: Dual, Common Cathode CMUSH2-4S: Dual, In Series CMLSH2-4LA: Dual Pair, Common Anode CMLSH2-4LC: Dual Pair, Common Cathode CMLSH2-4LS: Dual Pair, In Series CMLSH2-4T: Triple, Isolated	40	200	0.6 0.75		50 100	5.0	10					
		SH05-20L	Single	20	500	0.29 0.38 0.50		10 100 500	–	–	SH05-20L			
High Current	SH05-4	CMUSH05-4, CMLSH05-4, CMDSH05-4, and CMPSH05-4: Single CMPSH05-4C: Dual, Common Cathode CMLSH05-4DO: Dual, Opposing, Isolated	40	500	0.27 0.35 0.47		10 100 500	5.0	50	SH05-4	CTLSH05-40M621 (1x)			
	SH05-45	Single	45	500	0.27 0.35 0.47		10 100 500	–	50	SH05-45				
	SH05-10	CMLSH05-10DA: Dual, Opposing, Isolated	100	500	0.85		500	–	–	SH05-10				
1.0 Amp	SH1-40	Single	40	*1000	0.29 0.36		10 100	15	–	SH1-40			CTLSH1-40M621H (1x)	

E Indicates Enhanced Specification Device. Enhanced Spec in Red and Bold

S Indicates Sorted Columns.

Package dimensions shown are maximum values in mm.

SOT-963	SOD-882L	SOD-723	SOD-523	SOT-523	SOT-523W	SOT-563	SOD-323	SOT-323	SOT-363	SOD-123	SOT-23	SOT-143	SOT-26
													
1.05 x 1.05 x 0.5	1.05 x 0.65 x 0.4	1.45 x 0.65 x 0.55	1.80 x 0.9 x 0.8	1.7 x 1.7 x 0.78	1.7 x 1.68 x 0.8	1.7 x 1.7 x 0.6	2.6 x 1.35 x 1.0	2.2 x 2.2 x 1.1	2.2 x 2.3 x 1.1	3.9 x 1.8 x 1.35	3.05 x 2.49 x 1.09	3.04 x 2.50 x 1.14	3.0 x 3.0 x 1.2
				CMUD6263E (1x) CMUD6263AE CMUD6263CE CMUD6263SE (2x)									
CMRD6263DO (2x)			CMOD6263 (1x)			CMLD6263 (2x) CMLD6263A CMLD6263C CMLD6263S (4x) CMLD6263DO (2x)	CMDD6263 (1x)	CMSD6263 (1x) CMSD6263A CMSD6263C CMSD6263S (2x)	CMKD6263 (3x) CMKD6263DO (2x)		CMPD6263 (1x) CMPD6263A CMPD6263C CMPD6263S (2x)		
	CFSH01-30 (1x)												
			CMOSH-3 (1x)				CMDSH-3 (1x)	CMSSH-3 (1x) CMSSH-3A CMSSH-3C CMSSH-3S (2x)	CMKSH-3DO (2x) CMKSH-3T (3x)	CMHSH-3 (1x)	CMPSH-3 (1x) CMPSH-3A CMPSH-3C CMPSH-3S (2x)	CMFSh-3i (2x)	CMXSH-3 (3x)
		CMGSH1-3 (1x)					CMDSH2-3 (1x)						
	CFSH01-30L (1x)												
	CFSH2-3L (1x)												
								CMSSH-3E (1x) CMSSH-3AE CMSSH-3CE CMSSH-3SE (2x)			CMPSH-3E (1x) CMPSH-3AE CMPSH-3CE CMPSH-3SE (2x)		
CMRSH-4DO (2x)	CFSH-4 (1x)		CMOSH-4E (1x)			CMLSH-4 CMLSH-4DO (2x)	CMDSH-4E (1x)						
			CMOSH2-4L (1x)	CMUSH2-4L (1x)	CMUSHW2-4L (1x)		CMDSH2-4L (1x)		CMKSH2-4LR (3x)				CMXSH2-4LS (4x)
	CFSH2-4L (1x)												
				CMUSH2-4 (1x) CMUSH2-4A CMUSH2-4C CMUSH2-4S (2x)		CMLSH2-4LA CMLSH2-4LC CMLSH2-4LS CMLSH2-4T (2x)							
	CFSH05-20L (1x)												
				CMUSH05-4 (1x)		CMLSH05-4 (1x) CMLSH05-4DO (2x)	CMDSH05-4 (1x)				CMPSH05-4 (1x) CMPSH05-4C (2x)		
							CMDSH05-45 (1x)						
						CMLSH05-10DA (2x)							
						CMLSH1-40 (1x)							

Suffix Codes:

A = Common Anode T = Triple SE = In Series with Enhanced Specification LS = Low V_F, Dual Pair, In Series
 C = Common Cathode E = Enhanced Specification DO = Dual, Opposing i = Isolated Chips
 S = In Series AE = Common Anode with Enhanced Specification L = Low V_F
 DO = Dual, Opposing CE = Common Cathode with Enhanced Specification LR = Low V_F, Triple, Isolated

(2x) under part number indicates two devices in one package.
 (3x) under part number indicates three devices in one package.
 (4x) under part number indicates four devices in one package.



Low Leakage Diodes

FAMILY	DESCRIPTION	V_{RRM}	I_O	I_R	@	V_R	V_F	@	I_F	C_T
		(V) MAX	(mA) MAX	(nA) MAX		(V)	(V) MAX		(mA)	(pF) MAX
Low Leakage Diodes	3003	200	200	1.0		125	1.1		200	4.0
	3595	150	150	1.0		125	1.0		200	8.0
	457A	70	200	25		60	1.0		100	6.0
	459A	200	200	25		175	1.0		100	6.0

S Devices are listed in order of ascending I_R

Ultra Low Leakage Diodes

FAMILY	DESCRIPTION	V_{RRM}	I_O	I_R	@	V_R	V_F	@	I_F	C_T
Ultra Low Leakage Diodes	6001	100	250	0.5		75	1.1		100	2.0

Stabistor Diodes

FAMILY	V_F @ I_F															
	(V) MIN	(V) MAX	(mA)													
Stabistor Diodes	S17	0.58	0.68	0.1	0.665	0.76	1.0	0.725	0.82	5.0	0.75	0.84	10	0.87	0.96	100
	STB200	-	-	-	1.11	1.31	1.0	-	-	-	1.38	1.58	10	1.64	1.94	100
	STB300	-	-	-	1.71	1.91	1.0	-	-	-	2.08	2.28	10	2.61	2.91	100
	STB400	-	-	-	2.20	2.80	1.0	-	-	-	2.60	3.20	10	3.40	4.10	100

S Devices are listed in order of ascending V_F

S Indicates Sorted Columns.

Current Limiting Diodes

SOD-123FL



3.7 x 1.7 x 0.8

Package dimensions shown are maximum values in mm.

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Peak Operating Voltage (CMJ0130 THRU CMJ5750)

Power Dissipation

Operating and Storage Junction Temperature

Thermal Resistance

SYMBOL

P_{OV}

P_D

T_J, T_{stg}

θ_{JA}

100

500

-65 to +150

250

UNITS

V

mW

$^\circ\text{C}$

$^\circ\text{C/W}$

Type	Regulator Current (Note 1)			Minimum Dynamic Impedance	Minimum Knee Impedance	Maximum Limiting Voltage	Temperature Coefficient (Note 2)	Marking Code
	I_P @ $V_T=25\text{V}$			Z_T @ $V_T=25\text{V}$	Z_K @ $V_K=6.0\text{V}$	V_L @ $I_L=0.8 \times I_P$ MIN	TC	
	MIN mA	NOM mA	MAX mA	M Ω	k Ω	V	%/ $^\circ\text{C}$	
CMJ0130	0.05	0.13	0.21	6.0	2,000	0.6	+2.10 to +0.10	101
CMJ0300	0.20	0.31	0.42	4.0	1,000	0.8	+0.40 to -0.20	301
CMJ0500	0.40	0.515	0.63	2.0	500	1.1	+0.15 to -0.25	501
CMJ0750	0.60	0.76	0.92	1.0	200	1.4	0.0 to -0.32	701
CMJ1000	0.88	1.1	1.32	0.65	100	1.7	-0.10 to -0.37	102
CMJ1500	1.28	1.5	1.72	0.45	70	2.0	-0.13 to -0.40	152
CMJ2000	1.68	2.0	2.32	0.35	50	2.3	-0.15 to -0.42	202
CMJ2700	2.28	2.69	3.1	0.30	30	2.7	-0.18 to -0.45	272
CMJ3500	3.0	3.55	4.1	0.25	20	3.2	-0.20 to -0.47	352
CMJ4500	3.9	4.5	5.1	0.20	10	3.7	-0.22 to -0.50	452
CMJ5750	5.0	5.75	6.5	0.05	5.0	4.5	-0.25 to -0.53	562

Package dimensions shown are maximum values in mm.

FAMILY	SOD-923  1.10 x 0.65 x 0.41	SOD-523  1.80 x 0.9 x 0.8	SOT-523  1.7 x 1.7 x 0.78	SOT-523W  1.7 x 1.68 x 0.8	SOT-563  1.7 x 1.7 x 0.6	SOD-323  2.6 x 1.35 x 1.0	SOT-363  2.2 x 2.3 x 1.1	SOD-123  3.9 x 1.8 x 1.35	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2	SOD-80  3.71 x 1.7
3003		CMOD3003 (1x)			CMLD3003DO (2x)	CMDD3003 (1x)	CMKD3003DO (2x)		CMPD3003 (1x) CMPD3003A CMPD3003C CMPD3003S (2x)	CMXD3003TO (3x)	
3595								CMHD3595 (1x)			CLL3595 (1x)
457A								CMHD457A (1x)			CLL457A (1x)
459A								CMHD459A (1x)			CLL459A (1x)

6001	CMAD6001 (1x)	CMOD6001 (1x)	CMMSD6001 (1x) CMMSD6001A CMMSD6001C CMMSD6001S (2x)	CMUDW6001 (1x)	CMLD6001 CMLD6001DO (2x)	CMDD6001 (1x)	CMKD6001 (3x) CMKD6000 (4x)		CMPD6001 (1x) CMPD6001A CMPD6001C CMPD6001S (2x)	CMXD6001 (3x)	
------	---------------	---------------	---	----------------	-----------------------------	---------------	--------------------------------	--	---	---------------	--

Package dimensions shown are maximum values in mm.

FAMILY	SOT-23  3.05 x 2.49 x 1.09	SOT-26  3.0 x 3.0 x 1.2
S17	CBAS17 (1x)	
STB200		CMXSTB200 (2x)
STB300		CMXSTB300 (3x)
STB400		CMXSTB400 (4x)

Suffix Codes:

A = Common Anode (except CMHD457A & CMHD459A)
C = Common Cathode

S = In Series
DO = Dual, Opposing

(2x) under part number indicates two devices in one package.
(3x) under part number indicates three devices in one package.
(4x) under part number indicates four devices in one package.

High Current, Current Limiting Diodes

SOD-123FL



3.7 x 1.7 x 0.8

Package dimensions shown are maximum values in mm.

MAXIMUM RATINGS: (T_A=25°C)

Peak Operating Voltage (CMJH080 THRU CMJH180)

Power Dissipation

Operating and Storage Junction Temperature

Thermal Resistance

SYMBOL

SYMBOL	UNITS
P _{OV}	50 V
P _D	500 mW
T _J , T _{stg}	-65 to +150 °C
θ _{JA}	250 °C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

Type	Regulator Current (Note 1) I _P @ V _T =25V			Minimum Dynamic Impedance Z _T @ V _T =25V	Minimum Knee Impedance Z _K @ V _K =6.0V	Maximum Limiting Voltage V _L @ I _L =0.8 x I _P MIN	Temperature Coefficient (Note 2) TC	Marking Code
	MIN mA	NOM mA	MAX mA	MΩ	kΩ	V	%/°C	
CMJH080	6.56	8.2	9.84	0.32	15	3.1	-0.25 to -0.45	822
CMJH100	8.0	10	12	0.17	6.0	3.5	-0.25 to -0.45	103
CMJH120	9.6	12	14.4	0.08	3.0	3.8	-0.25 to -0.45	123
CMJH150	12	15	18	0.03	2.0	4.3	-0.25 to -0.45	153
CMJH180	16	18	20	0.02	1.8	4.6	-0.25 to -0.45	183

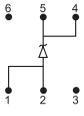
Notes: 1) Pulsed Method: Pulse Width (ms) = 27.5 divided by I_P NOM (mA)

2) The Temperature Coefficient is measured between +25°C and +50°C.

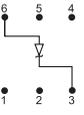
Temperature Compensated Zener Diodes

325mW
6.2 to 9.0V

Package dimensions shown are maximum values in mm.

POWER	325mW			
CASE	 2.2 x 2.3 x 1.1 SOT-363 			
	ZENER VOLTAGE ± 5% TOL $V_Z @ I_{ZT}$	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$	VOLTAGE TEMPERATURE STABILITY* $\Delta V_Z \text{ MAX}$
	VOLTS	mA	Ω	mV
CMKTC825A	6.2	7.5	20	44

Package dimensions shown are maximum values in mm.

POWER	325mW			
CASE	 3.0 x 3.0 x 1.2 SOT-26 			
	ZENER VOLTAGE ± 5% TOL $V_Z @ I_{ZT}$	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$	VOLTAGE TEMPERATURE STABILITY* $\Delta V_Z \text{ MAX}$
	VOLTS	mA	Ω	mV
CMXTC935A	9.0	7.5	—	95

* The Maximum allowable voltage change observed at the specified temperatures of -55°C, 0°C, 25°C, 75°C, and 100°C

Package dimensions shown are maximum values in mm.

Zener Diodes

100 to 250mW
1.8 to 47V

Package dimensions shown are maximum values in mm.

POWER	100mW		200mW		250mW										
CASE	 0.65 x 0.35 x 0.32 TLM2D3D6		 2.2 x 2.3 x 1.1 SOT-363		 1.80 x 0.9 x 0.8 SOD-523					 2.6 x 1.35 x 1.0 SOD-323					
ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} (mA)	TRIPLE ZENER	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} (µA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL SHARP KNEE	@ I _{ZT} (µA)	
															
1.8	-	-	-	-	-	-	CMOZ1L8	250	-	-	-	-	CMDZ1L8	500	
2.0	-	-	-	-	-	-	CMOZ2L0	250	-	-	-	-	CMDZ2L0	500	
2.2	-	-	-	-	-	-	CMOZ2L2	250	-	-	-	-	CMDZ2L2	500	
2.4	-	-	CMKZ5221B*	20	CMOZ2V4	5.0	CMOZ2L4	250	CMDZ5221B	20	CMOZ2V4	5.0	CMDZ2L4	500	
2.5	-	-	CMKZ5222B*	20	-	-	CMOZ2L5	250	CMDZ5222B	20	-	-	CMDZ2L5	500	
2.6	-	-	-	-	CMOZ2V6	5.0	-	-	-	-	CMDZ2V6	5.0	-	-	
2.7	-	-	CMKZ5223B*	20	CMOZ2V7	5.0	CMOZ2L7	250	CMDZ5223B	20	CMOZ2V7	5.0	CMOZ2L7	500	
2.8	-	-	CMKZ5224B*	20	-	-	-	-	CMDZ5224B	20	-	-	CMOZ2L8	500	
3.0	-	-	CMKZ5225B*	20	CMOZ3V0	5.0	CMOZ3L0	250	CMDZ5225B	20	CMOZ3V0	5.0	CMOZ3L0	500	
3.3	-	-	CMKZ5226B*	20	CMOZ3V3	5.0	CMOZ3L3	250	CMDZ5226B	20	CMOZ3V3	5.0	CMOZ3L3	500	
3.6	-	-	CMKZ5227B*	20	CMOZ3V6	5.0	CMOZ3L6	250	CMDZ5227B	20	CMOZ3V6	5.0	CMOZ3L6	500	
3.9	CTLZ3V9	5.0	CMKZ5228B*	20	CMOZ3V9	5.0	CMOZ3L9	250	CMDZ5228B	20	CMOZ3V9	5.0	CMOZ3L9	500	
4.3	-	-	CMKZ5229B*	20	CMOZ4V3	5.0	CMOZ4L3	250	CMDZ5229B	20	CMOZ4V3	5.0	CMOZ4L3	500	
4.7	CTLZ4V7	5.0	CMKZ5230B*	20	CMOZ4V7	5.0	CMOZ4L7	250	CMDZ5230B	20	CMOZ4V7	5.0	CMOZ4L7	500	
5.1	CTLZ5V1	5.0	CMKZ5231B*	20	CMOZ5V1	5.0	CMOZ5L1	250	CMDZ5231B	20	CMOZ5V1	5.0	CMOZ5L1	500	
5.6	CTLZ5V6	5.0	CMKZ5232B*	20	CMOZ5V6	5.0	CMOZ5L6	250	CMDZ5232B	20	CMOZ5V6	5.0	CMOZ5L6	500	
6.0	-	-	CMKZ5233B*	20	-	-	-	-	CMDZ5233B	20	-	-	-	-	
6.2	CTLZ6V2	5.0	CMKZ5234B*	20	CMOZ6V2	5.0	CMOZ6L2	250	CMDZ5234B	20	CMOZ6V2	5.0	CMOZ6L2	500	
6.8	CTLZ6V8	5.0	CMKZ5235B*	20	CMOZ6V8	5.0	CMOZ6L8	250	CMDZ5235B	20	CMOZ6V8	5.0	CMOZ6L8	500	
7.5	CTLZ7V5	5.0	CMKZ5236B*	20	CMOZ7V5	5.0	CMOZ7L5	250	CMDZ5236B	20	CMOZ7V5	5.0	CMOZ7L5	500	
8.2	CTLZ8V2	5.0	CMKZ5237B*	20	CMOZ8V2	5.0	CMOZ8L2	250	CMDZ5237B	20	CMOZ8V2	5.0	CMOZ8L2	500	
8.7	-	-	CMKZ5238B*	20	-	-	-	-	CMDZ5238B	20	-	-	-	-	
9.1	-	-	CMKZ5239B*	20	CMOZ9V1	5.0	CMOZ9L1	250	CMDZ5239B	20	CMOZ9V1	5.0	CMOZ9L1	500	
10	-	-	CMKZ5240B*	20	CMOZ10V	5.0	CMOZ10L	250	CMDZ5240B	20	CMOZ10V	5.0	CMOZ10L	500	
11	-	-	CMKZ5241B*	20	CMOZ11V	5.0	CMOZ11L	250	CMDZ5241B	20	CMOZ11V	5.0	CMOZ11L	500	
12	-	-	CMKZ5242B*	20	CMOZ12V	5.0	CMOZ12L	250	CMDZ5242B	20	CMOZ12V	5.0	CMOZ12L	500	
13	-	-	CMKZ5243B*	9.5	CMOZ13V	5.0	CMOZ13L	250	CMDZ5243B	9.5	CMOZ13V	5.0	CMOZ13L	500	
14	-	-	CMKZ5244B*	9.0	-	-	-	-	CMDZ5244B	9.0	-	-	-	-	
15	-	-	CMKZ5245B*	8.5	CMOZ15V	5.0	CMOZ15L	250	CMDZ5245B	8.5	CMOZ15V	5.0	CMOZ15L	500	
16	-	-	CMKZ5246B*	7.8	CMOZ16V	5.0	CMOZ16L	250	CMDZ5246B	7.8	CMOZ16V	5.0	CMOZ16L	500	
17	-	-	CMKZ5247B*	7.4	-	-	-	-	CMDZ5247B	7.4	-	-	-	500	
18	-	-	CMKZ5248B*	7.0	CMOZ18V	5.0	CMOZ18L	250	CMDZ5248B	7.0	CMOZ18V	5.0	CMOZ18L	500	
19	-	-	CMKZ5249B*	6.6	-	-	-	-	CMDZ5249B	6.6	-	-	-	-	
20	-	-	CMKZ5250B*	6.2	CMOZ20V	5.0	CMOZ20L	250	CMDZ5250B	6.2	CMOZ20V	5.0	CMOZ20L	500	
22	-	-	CMKZ5251B*	5.6	CMOZ22V	5.0	CMOZ22L	250	CMDZ5251B	5.6	CMOZ22V	5.0	CMOZ22L	500	
24	-	-	CMKZ5252B*	5.2	CMOZ24V	5.0	CMOZ24L	250	CMDZ5252B	5.2	CMOZ24V	5.0	CMOZ24L	500	
25	-	-	CMKZ5253B*	5.0	-	-	-	-	CMDZ5253B	5.0	-	-	-	-	
27	-	-	CMKZ5254B*	4.6	CMOZ27V	5.0	CMOZ27L	250	CMDZ5254B	4.6	CMOZ27V	5.0	CMOZ27L	500	
28	-	-	CMKZ5255B*	4.5	-	-	-	-	CMDZ5255B	4.5	-	-	-	-	
30	-	-	CMKZ5256B*	4.2	CMOZ30V	5.0	CMOZ30L	250	CMDZ5256B	4.2	CMOZ30V	5.0	CMOZ30L	500	
33	-	-	CMKZ5257B*	3.8	CMOZ33V	5.0	CMOZ33L	250	CMDZ5257B	3.8	CMOZ33V	5.0	CMOZ33L	500	
36	-	-	CMKZ5258B*	3.4	CMOZ36V	5.0	CMOZ36L	250	CMDZ5258B	3.4	CMOZ36V	5.0	CMOZ36L	500	
39	-	-	CMKZ5259B*	3.2	CMOZ39V	5.0	CMOZ39L	250	CMDZ5259B	3.2	CMOZ39V	5.0	CMOZ39L	500	
43	-	-	CMKZ5260B*	3.0	CMOZ43V	5.0	CMOZ43L	250	CMDZ5260B	3.0	CMOZ43V	5.0	CMOZ43L	500	
47	-	-	CMKZ5261B*	2.7	-	-	-	-	CMDZ5261B	2.7	CMOZ47V	5.0	CMOZ47L	500	

* Available on special order; please consult factory.

Zener Diodes (continued)

250 to 350mW
1.8 to 75V

Package dimensions shown are maximum values in mm.

POWER	250mW						350mW							
	 2.2 x 2.2 x 1.1 SOT-323			 1.7 x 1.7 x 0.6 SOT-563			 3.05 x 2.49 x 1.09 SOT-23							
ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW NOISE LOW LEVEL	@ I _{ZT} (μA)	LOW LEVEL	@ I _{ZT} (μA)	PROELECTRON SPECIFICATION	@ I _{ZT} (μA)
														
1.8	-	-	-	-	-	-	-	-	CMPZ4614*	250	CMPZ4678	50	-	-
2.0	-	-	-	-	-	-	-	-	CMPZ4615*	250	CMPZ4679*	50	-	-
2.2	-	-	-	-	-	-	-	-	CMPZ4616*	250	CMPZ4680*	50	-	-
2.4	CMSZ5221B	20	CMSZDA2V4	5.0	CMLZDA2V4	5.0	CMPZ5221B	20	CMPZ4617*	250	CMPZ4681*	50	BZX84C2V4	5.0
2.5	CMSZ5222B	20	-	-	-	-	CMPZ5222B	20	-	-	-	-	-	-
2.7	CMSZ5223B	20	CMSZDA2V7	5.0	CMLZDA2V7	5.0	CMPZ5223B	20	CMPZ4618*	250	CMPZ4682	50	BZX84C2V7	5.0
2.8	CMSZ5224B	20	-	-	-	-	CMPZ5224B	20	-	-	-	-	-	-
3.0	CMSZ5225B	20	CMSZDA3V0	5.0	CMLZDA3V0	5.0	CMPZ5225B	20	CMPZ4619	250	CMPZ4683	50	BZX84C3V0	5.0
3.3	CMSZ5226B	20	CMSZDA3V3	5.0	CMLZDA3V3	5.0	CMPZ5226B	20	CMPZ4620	250	CMPZ4684	50	BZX84C3V3	5.0
3.6	CMSZ5227B	20	CMSZDA3V6	5.0	CMLZDA3V6	5.0	CMPZ5227B	20	CMPZ4621	250	CMPZ4685	50	BZX84C3V6	5.0
3.9	CMSZ5228B	20	CMSZDA3V9	5.0	CMLZDA3V9	5.0	CMPZ5228B	20	CMPZ4622*	250	CMPZ4686	50	BZX84C3V9	5.0
4.3	CMSZ5229B	20	CMSZDA4V3	5.0	CMLZDA4V3	5.0	CMPZ5229B	20	CMPZ4623	250	CMPZ4687	50	BZX84C4V3	5.0
4.7	CMSZ5230B	20	CMSZDA4V7	5.0	CMLZDA4V7	5.0	CMPZ5230B	20	CMPZ4624*	250	CMPZ4688	50	BZX84C4V7	5.0
5.1	CMSZ5231B	20	CMSZDA5V1	5.0	CMLZDA5V1	5.0	CMPZ5231B	20	CMPZ4625	250	CMPZ4689	50	BZX84C5V1	5.0
5.6	CMSZ5232B	20	CMSZDA5V6	5.0	CMLZDA5V6	5.0	CMPZ5232B	20	CMPZ4626	250	CMPZ4690	50	BZX84C5V6	5.0
6.0	CMSZ5233B	20	-	-	-	-	CMPZ5233B	20	-	-	-	-	-	-
6.2	CMSZ5234B	20	CMSZDA6V2	5.0	CMLZDA6V2	5.0	CMPZ5234B	20	CMPZ4627	250	CMPZ4691	50	BZX84C6V2	5.0
6.8	CMSZ5235B	20	CMSZDA6V8	5.0	CMLZDA6V8	5.0	CMPZ5235B	20	CMPZ4099*	250	CMPZ4692	50	BZX84C6V8	5.0
7.5	CMSZ5236B	20	CMSZDA7V5	5.0	CMLZDA7V5	5.0	CMPZ5236B	20	CMPZ4100*	250	CMPZ4693	50	BZX84C7V5	5.0
8.2	CMSZ5237B	20	CMSZDA8V2	5.0	CMLZDA8V2	5.0	CMPZ5237B	20	CMPZ4101	250	CMPZ4694	50	BZX84C8V2	5.0
8.7	CMSZ5238B	20	-	-	-	-	CMPZ5238B	20	CMPZ4102*	250	CMPZ4695	50	-	-
9.1	CMSZ5239B	20	CMSZDA9V1	5.0	CMLZDA9V1	5.0	CMPZ5239B	20	CMPZ4103*	250	CMPZ4696	50	BZX84C9V1	5.0
10	CMSZ5240B	20	CMSZDA10V	5.0	CMLZDA10V	5.0	CMPZ5240B	20	CMPZ4104*	250	CMPZ4697	50	BZX84C10	5.0
11	CMSZ5241B	20	CMSZDA11V	5.0	CMLZDA11V	5.0	CMPZ5241B	20	CMPZ4105*	250	CMPZ4698	50	BZX84C11	5.0
12	CMSZ5242B	20	CMSZDA12V	5.0	CMLZDA12V	5.0	CMPZ5242B	20	CMPZ4106*	250	CMPZ4699	50	BZX84C12	5.0
13	CMSZ5243B	9.5	CMSZDA13V	5.0	CMLZDA13V	5.0	CMPZ5243B	9.5	CMPZ4107*	250	CMPZ4700	50	BZX84C13	5.0
14	CMSZ5244B	9.0	-	-	-	-	CMPZ5244B	9.0	CMPZ4108*	250	CMPZ4701	50	-	-
15	CMSZ5245B	8.5	CMSZDA15V	5.0	CMLZDA15V	5.0	CMPZ5245B	8.5	CMPZ4109*	250	CMPZ4702	50	BZX84C15	5.0
16	CMSZ5246B	7.8	CMSZDA16V	5.0	CMLZDA16V	5.0	CMPZ5246B	7.8	CMPZ4110*	250	CMPZ4703	50	BZX84C16	5.0
17	CMSZ5247B	7.4	-	-	-	-	CMPZ5247B	7.4	CMPZ4111*	250	CMPZ4704	50	-	-
18	CMSZ5248B	7.0	CMSZDA18V	5.0	CMLZDA18V	5.0	CMPZ5248B	7.0	CMPZ4112*	250	CMPZ4705	50	BZX84C18	5.0
19	CMSZ5249B	6.6	-	-	-	-	CMPZ5249B	6.6	CMPZ4113*	250	CMPZ4706	50	-	-
20	CMSZ5250B	6.2	CMSZDA20V	5.0	CMLZDA20V	5.0	CMPZ5250B	6.2	CMPZ4114*	250	CMPZ4707	50	BZX84C20	5.0
22	CMSZ5251B	5.6	CMSZDA22V	5.0	CMLZDA22V	5.0	CMPZ5251B	5.6	CMPZ4115*	250	CMPZ4708	50	BZX84C22	5.0
24	CMSZ5252B	5.2	CMSZDA24V	5.0	CMLZDA24V	5.0	CMPZ5252B	5.2	CMPZ4116*	250	CMPZ4709	50	BZX84C24	5.0
25	CMSZ5253B	5.0	-	-	-	-	CMPZ5253B	5.0	CMPZ4117*	250	CMPZ4710	50	-	-
27	CMSZ5254B	4.6	CMSZDA27V	2.0	CMLZDA27V	2.0	CMPZ5254B	4.6	CMPZ4118*	250	CMPZ4711	50	BZX84C27	2.0
28	CMSZ5255B	4.5	-	-	-	-	CMPZ5255B	4.5	CMPZ4119*	250	CMPZ4712	50	-	-
30	CMSZ5256B	4.2	CMSZDA30V	2.0	CMLZDA30V	2.0	CMPZ5256B	4.2	CMPZ4120*	250	CMPZ4713	50	BZX84C30	2.0
33	CMSZ5257B	3.8	CMSZDA33V	2.0	CMLZDA33V	2.0	CMPZ5257B	3.8	CMPZ4121*	250	CMPZ4714	50	BZX84C33	2.0
36	CMSZ5258B	3.4	CMSZDA36V	2.0	CMLZDA36V	2.0	CMPZ5258B	3.4	CMPZ4122*	250	CMPZ4715	50	-	-
39	CMSZ5259B	3.2	CMSZDA39V	2.0	CMLZDA39V	2.0	CMPZ5259B	3.2	CMPZ4123*	250	CMPZ4716*	50	-	-
43	CMSZ5260B	3.0	CMSZDA43V	2.0	CMLZDA43V	2.0	CMPZ5260B	3.0	CMPZ4124*	250	CMPZ4717*	50	-	-
47	CMSZ5261B	2.7	CMSZDA47V	2.0	CMLZDA47V	2.0	CMPZ5261B	2.7	-	-	-	-	-	-
51	-	-	-	-	-	-	CMPZ5262B*	2.5	-	-	-	-	BZX84C51*	2.0
56	-	-	-	-	-	-	CMPZ5263B*	2.2	-	-	-	-	-	-
60	-	-	-	-	-	-	CMPZ5264B*	2.1	-	-	-	-	-	-
62	-	-	-	-	-	-	CMPZ5265B*	2.0	-	-	-	-	-	-
68	-	-	-	-	-	-	CMPZ5266B*	1.8	-	-	-	-	-	-
75	-	-	-	-	-	-	CMPZ5267B*	1.7	-	-	-	-	-	-

* Available on special order; please consult factory.

Zener Diodes (continued)

350mW
2.4 to 47V

Package dimensions shown are maximum values in mm.

POWER	350mW					
CASE	 3.05 x 2.49 x 1.09 SOT-23			 3.0 x 3.0 x 1.2 SOT-26		
ZENER VOLTAGE	DUAL, COMMON CATHODE	@ I _{ZT} (mA)	DUAL, COMMON ANODE	@ I _{ZT} (mA)	INDUSTRY STANDARD	@ I _{ZT} (mA)
						
2.4	CMPZDC2V4*	5.0	CMPZDA2V4	5.0	CMXZ2V4TO*	5.0
2.7	CMPZDC2V7*	5.0	CMPZDA2V7	5.0	CMXZ2V7TO*	5.0
3.0	CMPZDC3V0*	3.0	CMPZDA3V0	3.0	CMXZ3V0TO*	5.0
3.3	CMPZDC3V3*	3.0	CMPZDA3V3	3.0	CMXZ3V3TO*	5.0
3.6	CMPZDC3V6*	5.0	CMPZDA3V6	5.0	CMXZ3V6TO*	5.0
3.9	CMPZDC3V9*	5.0	CMPZDA3V9	5.0	CMXZ3V9TO*	5.0
4.3	CMPZDC4V3*	5.0	CMPZDA4V3	5.0	CMXZ4V3TO*	5.0
4.7	CMPZDC4V7*	5.0	CMPZDA4V7	5.0	CMXZ4V7TO*	5.0
5.1	CMPZDC5V1*	5.0	CMPZDA5V1	5.0	CMXZ5V1TO*	5.0
5.6	CMPZDC5V6	5.0	CMPZDA5V6	5.0	CMXZ5V6TO*	5.0
6.2	CMPZDC6V2*	5.0	CMPZDA6V2	5.0	CMXZ6V2TO*	5.0
6.8	CMPZDC6V8*	5.0	CMPZDA6V8	5.0	CMXZ6V8TO*	5.0
7.5	CMPZDC7V5*	5.0	CMPZDA7V5	5.0	CMXZ7V5TO*	5.0
8.2	CMPZDC8V2*	5.0	CMPZDA8V2	5.0	CMXZ8V2TO*	5.0
9.1	CMPZDC9V1*	5.0	CMPZDA9V1	5.0	CMXZ9V1TO*	5.0
10	CMPZDC10V*	5.0	CMPZDA10V	5.0	CMXZ10VTO*	5.0
11	CMPZDC11V*	5.0	CMPZDA11V	5.0	CMXZ11VTO*	5.0
12	CMPZDC12V*	5.0	CMPZDA12V	5.0	CMXZ12VTO*	5.0
13	CMPZDC13V*	5.0	CMPZDA13V	5.0	CMXZ13VTO*	5.0
15	CMPZDC15V*	5.0	CMPZDA15V	5.0	CMXZ15VTO*	5.0
16	CMPZDC16V*	5.0	CMPZDA16V	5.0	CMXZ16VTO*	5.0
18	CMPZDC18V*	5.0	CMPZDA18V	5.0	CMXZ18VTO*	5.0
20	CMPZDC20V*	5.0	CMPZDA20V	5.0	CMXZ20VTO*	5.0
22	CMPZDC22V*	5.0	CMPZDA22V	5.0	CMXZ22VTO*	5.0
24	CMPZDC24V*	5.0	CMPZDA24V	5.0	CMXZ24VTO*	5.0
27	CMPZDC27V	2.0	CMPZDA27V	2.0	CMXZ27VTO*	2.0
30	CMPZDC30V*	2.0	CMPZDA30V	2.0	CMXZ30VTO	2.0
33	CMPZDC33V*	2.0	CMPZDA33V	2.0	CMXZ33VTO*	2.0
36	CMPZDC36V*	2.0	CMPZDA36V	2.0	CMXZ36VTO*	2.0
39	CMPZDC39V*	2.0	CMPZDA39V	2.0	CMXZ39VTO*	2.0
43	CMPZDC43V*	2.0	CMPZDA43V	2.0	CMXZ43VTO*	2.0
47	CMPZDC47V*	2.0	CMPZDA47V	2.0	CMXZ47VTO*	2.0

* Available on special order; please consult factory.

Zener Diodes (continued)

500mW
1.8 to 75V

Package dimensions shown are maximum values in mm.

POWER	500mW									
CASE	 3.9 x 1.8 x 1.35 SOD-123					 3.71 x 1.7 SOD-80				
	ZENER VOLTAGE	INDUSTRY STANDARD	@ I _{ZT} (mA)	LOW LEVEL	@ I _{ZT} (μA)	LOW LEVEL LOW NOISE	@ I _{ZT} (μA)	INDUSTRY STANDARD	@ I _{ZT} (mA)	
										
1.8	-	-	CMHZ4678	50	CMHZ4614	250	-	-	-	-
2.0	-	-	CMHZ4679	50	CMHZ4615	250	-	-	-	-
2.2	-	-	CMHZ4680	50	CMHZ4616	250	-	-	-	-
2.4	CMHZ5221B	20	CMHZ4681	50	CMHZ4617	250	CLL5221B*	20	BZV55C2V4	5.0
2.5	CMHZ5222B	20	-	-	-	-	CLL5222B	20	-	-
2.7	CMHZ5223B	20	CMHZ4682	50	CMHZ4618	250	CLL5223B*	20	BZV55C2V7	5.0
2.8	CMHZ5224B	20	-	-	-	-	CLL5224B*	20	-	-
3.0	CMHZ5225B	20	CMHZ4683	50	CMHZ4619	250	CLL5225B	20	BZV55C3V0	5.0
3.3	CMHZ5226B	20	CMHZ4684	50	CMHZ4620	250	CLL5226B	20	BZV55C3V3	5.0
3.6	CMHZ5227B	20	CMHZ4685	50	CMHZ4621	250	CLL5227B	20	BZV55C3V6	5.0
3.9	CMHZ5228B	20	CMHZ4686	50	CMHZ4622	250	CLL5228B	20	BZV55C3V9	5.0
4.3	CMHZ5229B	20	CMHZ4687	50	CMHZ4623	250	CLL5229B	20	BZV55C4V3	5.0
4.7	CMHZ5230B	20	CMHZ4688	50	CMHZ4624	250	CLL5230B	20	BZV55C4V7	5.0
5.1	CMHZ5231B	20	CMHZ4689	50	CMHZ4625	250	CLL5231B	20	BZV55C5V1	5.0
5.6	CMHZ5232B	20	CMHZ4690	50	CMHZ4626	250	CLL3232B	20	BZV55C5V6	5.0
6.0	CMHZ5233B	20	-	-	-	-	CLL5233B	20	-	-
6.2	CMHZ5234B	20	CMHZ4691	50	CMHZ4627	250	CLL5234B	20	BZV55C6V2	5.0
6.8	CMHZ5235B	20	CMHZ4692	50	CMHZ4099	250	CLL5235B	20	BZV55C6V8	5.0
7.5	CMHZ5236B	20	CMHZ4693	50	CMHZ4100	250	CLL5236B	20	BZV55C7V5	5.0
8.2	CMHZ5237B	20	CMHZ4694	50	CMHZ4101	250	CLL5237B	20	BZV55C8V2	5.0
8.7	CMHZ5238B	20	CMHZ4695	50	CMHZ4102	250	CLL5238B	20	-	-
9.1	CMHZ5239B	20	CMHZ4696	50	CMHZ4103	250	CLL5239B	20	BZV55C9V1	5.0
10	CMHZ5240B	20	CMHZ4697	50	CMHZ4104	250	CLL5240B	20	BZV55C10	5.0
11	CMHZ5241B	20	CMHZ4698	50	CMHZ4105	250	CLL5241B	20	BZV55C11	5.0
12	CMHZ5242B	20	CMHZ4699	50	CMHZ4106	250	CLL5242B	20	BZV55C12	5.0
13	CMHZ5243B	9.5	CMHZ4700	50	CMHZ4107	250	CLL4243B	9.5	BZV55C13	5.0
14	CMHZ5244B	9.0	CMHZ4701	50	CMHZ4108	250	CLL5244B	9.0	-	-
15	CMHZ5245B	8.5	CMHZ4702	50	CMHZ4109	250	CLL5245B	8.5	BZV55C15	5.0
16	CMHZ5246B	7.8	CMHZ4703	50	CMHZ4110	250	CLL5246B	7.8	BZV55C16	5.0
17	CMHZ5247B	7.4	CMHZ4704	50	CMHZ4111	250	CLL5247B	7.4	-	-
18	CMHZ5248B	7.0	CMHZ4705	50	CMHZ4112	250	CLL5248B	7.0	BZV55C18	5.0
19	CMHZ5249B	6.6	CMHZ4706	50	CMHZ4113	250	CLL5249B	6.6	-	-
20	CMHZ5250B	6.2	CMHZ4707	50	CMHZ4114	250	CLL5250B	6.2	BZV55C20	5.0
22	CMHZ5251B	5.6	CMHZ4708	50	CMHZ4115	250	CLL5251B	5.6	BZV55C22	5.0
24	CMHZ5252B	5.2	CMHZ4709	50	CMHZ4116	250	CLL5252B	5.2	BZV55C24	5.0
25	CMHZ5253B	5.0	CMHZ4710	50	CMHZ4117	250	CLL5253B	5.0	-	-
27	CMHZ5254B	4.6	CMHZ4711	50	CMHZ4118	250	CLL5254B	4.6	BZV55C27	2.0
28	CMHZ5255B	4.5	CMHZ4712	50	CMHZ4119	250	CLL5255B	4.5	-	-
30	CMHZ5256B	4.2	CMHZ4713	50	CMHZ4120	250	CLL5256B	4.2	BZV55C30	2.0
33	CMHZ5257B	3.8	CMHZ4714	50	CMHZ4121	250	CLL5257B	3.8	BZV55C33	2.0
36	CMHZ5258B	3.4	CMHZ4715	50	CMHZ4122	250	CLL5258B	3.4	BZV55C36	2.0
39	CMHZ5259B	3.2	CMHZ4716	50	CMHZ4123	250	CLL5259B	3.2	BZV55C39	2.0
43	CMHZ5260B	3.0	CMHZ4717	50	CMHZ4124	250	CLL5260B	3.0	BZV55C43	2.0
47	CMHZ5261B	2.7	-	-	CMHZ4125	250	CLL5261B	2.7	BZV55C47	2.0
51	CMHZ5262B*	2.5	-	-	-	-	CLL5262B	2.5	BZV55C51	2.0
56	CMHZ5263B*	2.2	-	-	-	-	CLL5263B	2.2	BZV55C56	2.0
60	CMHZ5264B*	2.1	-	-	-	-	CLL5264B	2.1	-	-
62	CMHZ5265B*	2.0	-	-	-	-	CLL5265B	2.0	BZV55C62	2.0
68	CMHZ5266B*	1.8	-	-	-	-	CLL5266B	1.8	BZV55C68	2.0
75	CMHZ5267B*	1.7	-	-	-	-	CLL5267B	1.7	BZV55C75	2.0

Package dimensions shown are maximum values in mm.

* Available on special order; please consult factory.

Zener Diodes (continued)

1.0 to 10W
3.3 to 200V

Package dimensions shown are maximum values in mm.

POWER	1.0W		1.5W		3.0W		10W	
	 5.31 x 2.69		 5.59 x 2.92 x 2.62		 5.59 x 3.81 x 2.44		 8.13 x 6.22 x 2.62	
CASE	MELF		SMA		SMB		SMC	
ZENER VOLTAGE	GENERAL PURPOSE	@ I _{ZT} (mA)	1.5 WATT ZENER + 200W TVS	@ I _{ZT} (mA)	3.0 WATT ZENER	@ I _{ZT} (mA)	HIGH POWER	@ I _{ZT} (mA)
								
3.3	CLL4728A	76	CMZ5913B	113.6	CMZ5913BP	113.6	-	-
3.6	CLL4729A	69	CMZ5914B	104.2	CMZ5914BP	104.2	CMZ5334B	350
3.9	CLL4730A	64	CMZ5915B	96.1	CMZ5915BP	96.1	CMZ5335B	320
4.3	CLL4731A	58	CMZ5916B	87.2	CMZ5916BP	87.2	CMZ5336B	290
4.7	CLL4732A	53	CMZ5917B	79.8	CMZ5917BP	79.8	CMZ5337B	264
5.1	CLL4733A	49	CMZ5918B	73.5	CMZ5918BP	73.5	CMZ5338B	240
5.6	CLL4734A	45	CMZ5919B	66.9	CMZ5919BP	66.9	CMZ5339B	220
6.2	CLL4735A	41	CMZ5920B	60.5	CMZ5920BP	60.5	CMZ5340B	200
6.8	CLL4736A	37	CMZ5921B	55.1	CMZ5921BP	55.1	CMZ5342B	175
7.5	CLL4737A	34	CMZ5922B	50.0	CMZ5922BP	50.0	CMZ5343B	175
8.2	CLL4738A	31	CMZ5923B	45.7	CMZ5923BP	45.7	CMZ5344B	150
8.7	-	-	-	-	-	-	CMZ5345B	150
9.1	CLL4739A	28	CMZ5924B	41.2	CMZ5924BP	41.2	CMZ5346B	150
10	CLL4740A	25	CMZ5925B	37.5	CMZ5925BP	37.5	CMZ5347B	125
11	CLL4741A	23	CMZ5926B	34.1	CMZ5926BP	34.1	CMZ5348B	125
12	CLL4742A	21	CMZ5927B	31.2	CMZ5927BP	31.2	CMZ5349B	100
13	CLL4743A	19	CMZ5928B	28.8	CMZ5928BP	28.8	CMZ5350B	100
14	-	-	-	-	-	-	CMZ5351B	100
15	CLL4744A	17	CMZ5929B	25.0	CMZ5929BP	25.0	CMZ5352B	75
16	CLL4745A	15.5	CMZ5930B	23.4	CMZ5930BP	23.4	CMZ5353B	75
17	-	-	-	-	-	-	CMZ5354B	70
18	CLL4746A	14.0	CMZ5931B	20.8	CMZ5931BP	20.8	CMZ5355B	65
19	-	-	-	-	-	-	CMZ5356B	65
20	CLL4747A	12.5	CMZ5932B	18.7	CMZ5932BP	18.7	CMZ5357B	65
22	CLL4748A	11.5	CMZ5933B	17.0	CMZ5933BP	17.0	CMZ5358B	50
24	CLL4749A	10.5	CMZ5934B	15.6	CMZ5934BP	15.6	CMZ5359B	50
25	-	-	-	-	-	-	CMZ5360B	50
27	CLL4750A	9.5	CMZ5935B	13.9	CMZ5935BP	13.9	CMZ5361B	50
28	-	-	-	-	-	-	CMZ5362B	50
30	CLL4751A	8.5	CMZ5936B	12.5	CMZ5936BP	12.5	CMZ5363B	40
33	CLL4752A	7.5	CMZ5937B	11.4	CMZ5937BP	11.4	CMZ5364B	40
36	CLL4753A	7.0	CMZ5938B	10.4	CMZ5938BP	10.4	CMZ5365B	30
39	CLL4754A	6.5	CMZ5939B	9.6	CMZ5939BP	9.6	CMZ5366B	30
43	CLL4755A	6.0	CMZ5940B	8.7	CMZ5940BP	8.7	CMZ5367B	30
47	CLL4756A	5.5	CMZ5941B	8.0	CMZ5941BP	8.0	CMZ5368B	25
51	CLL4757A	5.0	CMZ5942B	7.3	CMZ5942BP	7.3	CMZ5369B	25
56	CLL4758A	4.5	CMZ5943B	6.7	CMZ5943BP	6.7	CMZ5370B	20
60	-	-	-	-	-	-	CMZ5371B	20
62	CLL4759A	4.0	CMZ5944B	6.0	CMZ5944BP	6.0	CMZ5372B	20
68	CLL4760A	3.7	CMZ5945B	5.5	CMZ5945BP	5.5	CMZ5373B	20
75	CLL4761A	3.3	CMZ5946B	5.0	CMZ5946BP	5.0	CMZ5374B	20
82	-	3.0	CMZ5947B	4.6	CMZ5947BP	4.6	CMZ5375B	15
87	-	-	-	-	-	-	CMZ5376B	15
91	-	2.8	CMZ5948B	4.1	CMZ5948BP	4.1	CMZ5377B	15
100	-	2.5	CMZ5949B	3.7	CMZ5949BP	3.7	CMZ5378B	12
110	-	-	CMZ5950B	3.4	CMZ5950BP	3.4	CMZ5379B	12
120	-	-	CMZ5951B	3.1	CMZ5951BP	3.1	CMZ5380B	10
130	-	-	CMZ5952B	2.9	CMZ5952BP	2.9	CMZ5381B	10
140	-	-	-	-	-	-	CMZ5382B	8.0
150	-	-	CMZ5953B	2.5	CMZ5953BP	2.5	CMZ5383B	8.0
160	-	-	CMZ5954B	2.3	CMZ5954BP	2.3	CMZ5384B	8.0
170	-	-	-	-	-	-	CMZ5385B	8.0
180	-	-	CMZ5955B	2.1	CMZ5955BP	2.1	CMZ5386B	5.0
190	-	-	-	-	-	-	CMZ5387B	5.0
200	-	-	CMZ5956B	1.9	CMZ5956BP	1.9	CMZ5388B	5.0

Package dimensions shown are maximum values in mm.



Product Search

Finding the devices you require is easier than ever with Central's advanced parametric search tool.

Parametric Search

www.centrasemi.com/parasearch

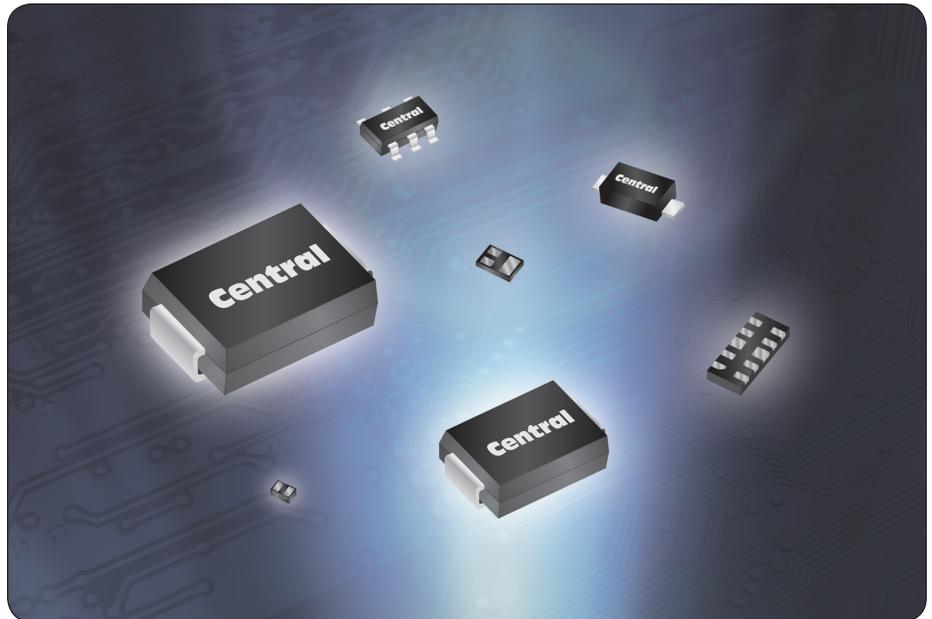
Central's Parametric Search is available in multiple languages. Designed to provide flexible search options, this online resource offers numerous search possibilities. Once you find what you are looking for, you can view technical data and even request samples. Please take a moment to try it out; we are confident you will use it often.



Challenges
welcome
www.centrasemi.com/justask



www.centrasemi.com



Protection Devices

	<u>Page</u>
Transient Voltage Suppressors specified by stand-off voltage	40-41
Transient Voltage Suppressors specified by breakdown voltage	42
ESD Transient Voltage Suppressors	43
ESD Protection Quad Line Diode Array	44
TVS/Diode Array	44-45
TVS/Zener Array	45

Transient Voltage Suppressors (TVS)

200 to 600W
5.0 to 220V



Package dimensions shown are maximum values in mm.

POWER	200W		400W				600W			
CASE	 3.95 x 1.95 x 1.08 SOD-123F		 4.9 x 2.6 x 1.1 SMAFL		 5.59 x 2.92 x 2.62 SMA		 5.59 x 3.81 x 2.44 SMB			
REVERSE STAND-OFF VOLTAGE V_{RWM}	UNI-POLAR	@ I_T (mA)	UNI-POLAR	@ I_T (mA)	UNI-POLAR	@ I_T (mA)	UNI-POLAR	@ I_T (mA)	BI-POLAR	@ I_T (mA)
5.0	CMF5.0A	10	-	-	P4SMA5.0A	1.0	1SMB5.0A	10	1SMB5.0CA	10
6.0	CMF6.0A	10	-	-	P4SMA6.0A	1.0	1SMB6.0A	10	1SMB6.0CA	10
6.5	CMF6.5A	10	-	-	P4SMA6.5A	1.0	1SMB6.5A	10	1SMB6.5CA	10
7.0	CMF7.0A	10	-	-	P4SMA7.0A	1.0	1SMB7.0A	10	1SMB7.0CA	10
7.5	CMF7.5A	1.0	-	-	P4SMA7.5A	1.0	1SMB7.5A	1.0	1SMB7.5CA	1.0
8.0	CMF8.0A	1.0	-	-	P4SMA8.0A	1.0	1SMB8.0A	1.0	1SMB8.0CA	1.0
8.5	CMF8.5A	1.0	C4SMAFL8.5A	1.0	P4SMA8.5A	1.0	1SMB8.5A	1.0	1SMB8.5CA	1.0
9.0	CMF9.0A	1.0	C4SMAFL9.0A	1.0	P4SMA9.0A	1.0	1SMB9.0A	1.0	1SMB9.0CA	1.0
10	CMF10A	1.0	C4SMAFL10A	1.0	P4SMA10A	1.0	1SMB10A	1.0	1SMB10CA	1.0
11	CMF11A	1.0	C4SMAFL11A	1.0	P4SMA11A	1.0	1SMB11A	1.0	1SMB11CA	1.0
12	CMF12A	1.0	C4SMAFL12A	1.0	P4SMA12A	1.0	1SMB12A	1.0	1SMB12CA	1.0
13	CMF13A	1.0	C4SMAFL13A	1.0	P4SMA13A	1.0	1SMB13A	1.0	1SMB13CA	1.0
14	CMF14A	1.0	C4SMAFL14A	1.0	P4SMA14A	1.0	1SMB14A	1.0	1SMB14CA	1.0
15	CMF15A	1.0	C4SMAFL15A	1.0	P4SMA15A	1.0	1SMB15A	1.0	1SMB15CA	1.0
16	CMF16A	1.0	C4SMAFL16A	1.0	P4SMA16A	1.0	1SMB16A	1.0	1SMB16CA	1.0
17	CMF17A	1.0	C4SMAFL17A	1.0	P4SMA17A	1.0	1SMB17A	1.0	1SMB17CA	1.0
18	CMF18A	1.0	C4SMAFL18A	1.0	P4SMA18A	1.0	1SMB18A	1.0	1SMB18CA	1.0
20	CMF20A	1.0	C4SMAFL20A	1.0	P4SMA20A	1.0	1SMB20A	1.0	1SMB20CA	1.0
22	CMF22A	1.0	C4SMAFL22A	1.0	P4SMA22A	1.0	1SMB22A	1.0	1SMB22CA	1.0
24	CMF24A	1.0	C4SMAFL24A	1.0	P4SMA24A	1.0	1SMB24A	1.0	1SMB24CA	1.0
26	CMF26A	1.0	C4SMAFL26A	1.0	P4SMA26A	1.0	1SMB26A	1.0	1SMB26CA	1.0
28	CMF28A	1.0	C4SMAFL28A	1.0	P4SMA28A	1.0	1SMB28A	1.0	1SMB28CA	1.0
30	CMF30A	1.0	C4SMAFL30A	1.0	P4SMA30A	1.0	1SMB30A	1.0	1SMB30CA	1.0
33	CMF33A	1.0	C4SMAFL33A	1.0	P4SMA33A	1.0	1SMB33A	1.0	1SMB33CA	1.0
36	CMF36A	1.0	C4SMAFL36A	1.0	P4SMA36A	1.0	1SMB36A	1.0	1SMB36CA	1.0
40	CMF40A	1.0	C4SMAFL40A	1.0	P4SMA40A	1.0	1SMB40A	1.0	1SMB40CA	1.0
43	CMF43A	1.0	C4SMAFL43A	1.0	P4SMA43A	1.0	1SMB43A	1.0	1SMB43CA	1.0
45	CMF45A	1.0	C4SMAFL45A	1.0	P4SMA45A	1.0	1SMB45A	1.0	1SMB45CA	1.0
48	CMF48A	1.0	C4SMAFL48A	1.0	P4SMA48A	1.0	1SMB48A	1.0	1SMB48CA	1.0
51	CMF51A	1.0	C4SMAFL51A	1.0	P4SMA51A	1.0	1SMB51A	1.0	1SMB51CA	1.0
54	CMF54A	1.0	C4SMAFL54A	1.0	P4SMA54A	1.0	1SMB54A	1.0	1SMB54CA	1.0
58	CMF58A	1.0	C4SMAFL58A	1.0	P4SMA58A	1.0	1SMB58A	1.0	1SMB58CA	1.0
60	CMF60A	1.0	C4SMAFL60A	1.0	P4SMA60A	1.0	1SMB60A	1.0	1SMB60CA	1.0
64	CMF64A	1.0	C4SMAFL64A	1.0	P4SMA64A	1.0	1SMB64A	1.0	1SMB64CA	1.0
70	CMF70A	1.0	C4SMAFL70A	1.0	P4SMA70A	1.0	1SMB70A	1.0	1SMB70CA	1.0
75	CMF75A	1.0	C4SMAFL75A	1.0	P4SMA75A	1.0	1SMB75A	1.0	1SMB75CA	1.0
78	CMF78A	1.0	C4SMAFL78A	1.0	P4SMA78A	1.0	1SMB78A	1.0	1SMB78CA	1.0
85	CMF85A	1.0	C4SMAFL85A	1.0	P4SMA85A	1.0	1SMB85A	1.0	1SMB85CA	1.0
90	CMF90A	1.0	C4SMAFL90A	1.0	P4SMA90A	1.0	1SMB90A	1.0	1SMB90CA	1.0
100	CMF100A	1.0	C4SMAFL100A	1.0	P4SMA100A	1.0	1SMB100A	1.0	1SMB100CA	1.0
110	CMF110A	1.0	C4SMAFL110A	1.0	P4SMA110A	1.0	1SMB110A	1.0	1SMB110CA	1.0
120	CMF120A	1.0	C4SMAFL120A	1.0	P4SMA120A	1.0	1SMB120A	1.0	1SMB120CA	1.0
130	CMF130A	1.0	C4SMAFL130A	1.0	P4SMA130A	1.0	1SMB130A	1.0	1SMB130CA	1.0
150	CMF150A	1.0	C4SMAFL150A	1.0	P4SMA150A	1.0	1SMB150A	1.0	1SMB150CA	1.0
160	CMF160A	1.0	C4SMAFL160A	1.0	P4SMA160A	1.0	1SMB160A	1.0	1SMB160CA	1.0
170	CMF170A	1.0	C4SMAFL170A	1.0	P4SMA170A	1.0	1SMB170A	1.0	1SMB170CA	1.0
180	-	-	-	-	P4SMA180A	1.0	-	-	-	-
190	-	-	-	-	P4SMA190A	1.0	-	-	-	-
200	-	-	-	-	P4SMA200A	1.0	-	-	-	-
210	-	-	-	-	P4SMA210A	1.0	-	-	-	-
220	-	-	-	-	P4SMA220A	1.0	-	-	-	-

Transient Voltage Suppressors (TVS continued)

1500 to 5000W
5.0 to 170V



Package dimensions shown are maximum values in mm.

POWER	1500W				3000W				5000W	
CASE	 8.13 x 6.22 x 2.62 SMC									
REVERSE STAND-OFF VOLTAGE V_{RWM}	UNI-POLAR 	@ I_T (mA)	BI-POLAR 	@ I_T (mA)	UNI-POLAR 	@ I_T (mA)	BI-POLAR 	@ I_T (mA)	UNI-POLAR 	@ I_T (mA)
5.0	1SMC5.0A	10	1SMC5.0CA	10	3SMC5.0A	10	3SMC5.0CA	10	-	-
6.0	1SMC6.0A	10	1SMC6.0CA	10	3SMC6.0A	10	3SMC6.0CA	10	-	-
6.5	1SMC6.5A	10	1SMC6.5CA	10	3SMC6.5A	10	3SMC6.5CA	10	-	-
7.0	1SMC7.0A	10	1SMC7.0CA	10	3SMC7.0A	10	3SMC7.0CA	10	-	-
7.5	1SMC7.5A	1.0	1SMC7.5CA	1.0	3SMC7.5A	1.0	3SMC7.5CA	1.0	-	-
8.0	1SMC8.0A	1.0	1SMC8.0CA	1.0	3SMC8.0A	1.0	3SMC8.0CA	1.0	-	-
8.5	1SMC8.5A	1.0	1SMC8.5CA	1.0	3SMC8.5A	1.0	3SMC8.5CA	1.0	-	-
9.0	1SMC9.0A	1.0	1SMC9.0CA	1.0	3SMC9.0A	1.0	3SMC9.0CA	1.0	-	-
10	1SMC10A	1.0	1SMC10CA	1.0	3SMC10A	1.0	3SMC10CA	1.0	-	-
11	1SMC11A	1.0	1SMC11CA	1.0	3SMC11A	1.0	3SMC11CA	1.0	-	-
12	1SMC12A	1.0	1SMC12CA	1.0	3SMC12A	1.0	3SMC12CA	1.0	-	-
13	1SMC13A	1.0	1SMC13CA	1.0	3SMC13A	1.0	3SMC13CA	1.0	-	-
14	1SMC14A	1.0	1SMC14CA	1.0	3SMC14A	1.0	3SMC14CA	1.0	-	-
15	1SMC15A	1.0	1SMC15CA	1.0	3SMC15A	1.0	3SMC15CA	1.0	-	-
16	1SMC16A	1.0	1SMC16CA	1.0	3SMC16A	1.0	3SMC16CA	1.0	-	-
17	1SMC17A	1.0	1SMC17CA	1.0	3SMC17A	1.0	3SMC17CA	1.0	-	-
18	1SMC18A	1.0	1SMC18CA	1.0	3SMC18A	1.0	3SMC18CA	1.0	-	-
20	1SMC20A	1.0	1SMC20CA	1.0	3SMC20A	1.0	3SMC20CA	1.0	-	-
22	1SMC22A	1.0	1SMC22CA	1.0	3SMC22A	1.0	3SMC22CA	1.0	-	-
24	1SMC24A	1.0	1SMC24CA	1.0	3SMC24A	1.0	3SMC24CA	1.0	-	-
26	1SMC26A	1.0	1SMC26CA	1.0	3SMC26A	1.0	3SMC26CA	1.0	-	-
28	1SMC28A	1.0	1SMC28CA	1.0	3SMC28A	1.0	3SMC28CA	1.0	-	-
30	1SMC30A	1.0	1SMC30CA	1.0	3SMC30A	1.0	3SMC30CA	1.0	-	-
33	1SMC33A	1.0	1SMC33CA	1.0	3SMC33A	1.0	3SMC33CA	1.0	5SMC33A	1.0
36	1SMC36A	1.0	1SMC36CA	1.0	3SMC36A	1.0	3SMC36CA	1.0	5SMC36A	1.0
40	1SMC40A	1.0	1SMC40CA	1.0	3SMC40A	1.0	3SMC40CA	1.0	5SMC40A	1.0
43	1SMC43A	1.0	1SMC43CA	1.0	3SMC43A	1.0	3SMC43CA	1.0	5SMC43A	1.0
45	1SMC45A	1.0	1SMC45CA	1.0	3SMC45A	1.0	3SMC45CA	1.0	5SMC45A	1.0
48	1SMC48A	1.0	1SMC48CA	1.0	3SMC48A	1.0	3SMC48CA	1.0	5SMC48A	1.0
51	1SMC51A	1.0	1SMC51CA	1.0	3SMC51A	1.0	3SMC51CA	1.0	5SMC51A	1.0
54	1SMC54A	1.0	1SMC54CA	1.0	3SMC54A	1.0	3SMC54CA	1.0	5SMC54A	1.0
58	1SMC58A	1.0	1SMC58CA	1.0	3SMC58A	1.0	3SMC58CA	1.0	5SMC58A	1.0
60	1SMC60A	1.0	1SMC60CA	1.0	3SMC60A	1.0	3SMC60CA	1.0	5SMC60A	1.0
64	1SMC64A	1.0	1SMC64CA	1.0	3SMC64A	1.0	3SMC64CA	1.0	5SMC64A	1.0
70	1SMC70A	1.0	1SMC70CA	1.0	3SMC70A	1.0	3SMC70CA	1.0	5SMC70A	1.0
75	1SMC75A	1.0	1SMC75CA	1.0	3SMC75A	1.0	3SMC75CA	1.0	5SMC75A	1.0
78	1SMC78A	1.0	1SMC78CA	1.0	3SMC78A	1.0	3SMC78CA	1.0	5SMC78A	1.0
85	1SMC85A	1.0	1SMC85CA	1.0	3SMC85A	1.0	3SMC85CA	1.0	5SMC85A	1.0
90	1SMC90A	1.0	1SMC90CA	1.0	3SMC90A	1.0	3SMC90CA	1.0	5SMC90A	1.0
100	1SMC100A	1.0	1SMC100CA	1.0	3SMC100A	1.0	3SMC100CA	1.0	5SMC100A	1.0
110	1SMC110A	1.0	1SMC110CA	1.0	3SMC110A	1.0	3SMC110CA	1.0	5SMC110A	1.0
120	1SMC120A	1.0	1SMC120CA	1.0	3SMC120A	1.0	3SMC120CA	1.0	5SMC120A	1.0
130	1SMC130A	1.0	1SMC130CA	1.0	3SMC130A	1.0	3SMC130CA	1.0	5SMC130A	1.0
150	1SMC150A	1.0	1SMC150CA	1.0	3SMC150A	1.0	3SMC150CA	1.0	5SMC150A	1.0
160	1SMC160A	1.0	1SMC160CA	1.0	3SMC160A	1.0	3SMC160CA	1.0	5SMC160A	1.0
170	1SMC170A	1.0	1SMC170CA	1.0	3SMC170A	1.0	3SMC170CA	1.0	5SMC170A	1.0

Transient Voltage Suppressors (TVS continued)

600 to 1500W

6.8 to 250V



Package dimensions shown are maximum values in mm.

POWER	600W				1500W			
CASE	 5.59 x 3.81 x 2.44 SMB				 8.13 x 6.22 x 2.62 SMC			
BREAKDOWN VOLTAGE V _{BR}	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)	UNI-POLAR 	@ I _T (mA)	BI-POLAR 	@ I _T (mA)
6.8	P6SMB6.8A	10	P6SMB6.8CA	10	1.5SMC6.8A	10	1.5SMC6.8CA	10
7.5	P6SMB7.5A	10	P6SMB7.5CA	10	1.5SMC7.5A	10	1.5SMC7.5CA	10
8.2	P6SMB8.2A	10	P6SMB8.2CA	10	1.5SMC8.2A	10	1.5SMC8.2CA	10
9.1	P6SMB9.1A	1.0	P6SMB9.1CA	1.0	1.5SMC9.1A	1.0	1.5SMC9.1CA	1.0
10	P6SMB10A	1.0	P6SMB10CA	1.0	1.5SMC10A	1.0	1.5SMC10CA	1.0
11	P6SMB11A	1.0	P6SMB11CA	1.0	1.5SMC11A	1.0	1.5SMC11CA	1.0
12	P6SMB12A	1.0	P6SMB12CA	1.0	1.5SMC12A	1.0	1.5SMC12CA	1.0
13	P6SMB13A	1.0	P6SMB13CA	1.0	1.5SMC13A	1.0	1.5SMC13CA	1.0
15	P6SMB15A	1.0	P6SMB15CA	1.0	1.5SMC15A	1.0	1.5SMC15CA	1.0
16	P6SMB16A	1.0	P6SMB16CA	1.0	1.5SMC16A	1.0	1.5SMC16CA	1.0
18	P6SMB18A	1.0	P6SMB18CA	1.0	1.5SMC18A	1.0	1.5SMC18CA	1.0
20	P6SMB20A	1.0	P6SMB20CA	1.0	1.5SMC20A	1.0	1.5SMC20CA	1.0
22	P6SMB22A	1.0	P6SMB22CA	1.0	1.5SMC22A	1.0	1.5SMC22CA	1.0
24	P6SMB24A	1.0	P6SMB24CA	1.0	1.5SMC24A	1.0	1.5SMC24CA	1.0
27	P6SMB27A	1.0	P6SMB27CA	1.0	1.5SMC27A	1.0	1.5SMC27CA	1.0
30	P6SMB30A	1.0	P6SMB30CA	1.0	1.5SMC30A	1.0	1.5SMC30CA	1.0
33	P6SMB33A	1.0	P6SMB33CA	1.0	1.5SMC33A	1.0	1.5SMC33CA	1.0
36	P6SMB36A	1.0	P6SMB36CA	1.0	1.5SMC36A	1.0	1.5SMC36CA	1.0
39	P6SMB39A	1.0	P6SMB39CA	1.0	1.5SMC39A	1.0	1.5SMC39CA	1.0
43	P6SMB43A	1.0	P6SMB43CA	1.0	1.5SMC43A	1.0	1.5SMC43CA	1.0
47	P6SMB47A	1.0	P6SMB47CA	1.0	1.5SMC47A	1.0	1.5SMC47CA	1.0
51	P6SMB51A	1.0	P6SMB51CA	1.0	1.5SMC51A	1.0	1.5SMC51CA	1.0
56	P6SMB56A	1.0	P6SMB56CA	1.0	1.5SMC56A	1.0	1.5SMC56CA	1.0
62	P6SMB62A	1.0	P6SMB62CA	1.0	1.5SMC62A	1.0	1.5SMC62CA	1.0
68	P6SMB68A	1.0	P6SMB68CA	1.0	1.5SMC68A	1.0	1.5SMC68CA	1.0
75	P6SMB75A	1.0	P6SMB75CA	1.0	1.5SMC75A	1.0	1.5SMC75CA	1.0
82	P6SMB82A	1.0	P6SMB82CA	1.0	1.5SMC82A	1.0	1.5SMC82CA	1.0
91	P6SMB91A	1.0	P6SMB91CA	1.0	1.5SMC91A	1.0	1.5SMC91CA	1.0
100	P6SMB100A	1.0	P6SMB100CA	1.0	1.5SMC100A	1.0	1.5SMC100CA	1.0
110	P6SMB110A	1.0	P6SMB110CA	1.0	1.5SMC110A	1.0	1.5SMC110CA	1.0
120	P6SMB120A	1.0	P6SMB120CA	1.0	1.5SMC120A	1.0	1.5SMC120CA	1.0
130	P6SMB130A	1.0	P6SMB130CA	1.0	1.5SMC130A	1.0	1.5SMC130CA	1.0
150	P6SMB150A	1.0	P6SMB150CA	1.0	1.5SMC150A	1.0	1.5SMC150CA	1.0
160	P6SMB160A	1.0	P6SMB160CA	1.0	1.5SMC160A	1.0	1.5SMC160CA	1.0
170	P6SMB170A	1.0	P6SMB170CA	1.0	1.5SMC170A	1.0	1.5SMC170CA	1.0
180	P6SMB180A	1.0	P6SMB180CA	1.0	1.5SMC180A	1.0	1.5SMC180CA	1.0
200	P6SMB200A	1.0	P6SMB200CA	1.0	1.5SMC200A	1.0	1.5SMC200CA	1.0
220	P6SMB220A	1.0	P6SMB220CA	1.0	1.5SMC220A	1.0	1.5SMC220CA	1.0
250	P6SMB250A	1.0	P6SMB250CA	1.0				

Package dimensions shown are maximum values in mm.

ESD Transient Voltage Suppressors

12W to 400W
1.5V to 9.0V

Package dimensions shown are maximum values in mm.

Central Part No.	Case Type	Description	*VESD MAX (kV)	Peak Pulse Power 8X20µs PPK (W)	Max. Reverse Stand-Off Voltage VRWM (V)	Breakdown Voltage VBR @ IT		Max. Clamping Voltage 8X20µs VC @ IPP (V)	Max. Peak Pulse Current 8X20µs IPP (A)	Typical Dynamic Resistance (Note 1) RDYN (Ω)	Max. Junction Capacitance 0V DC, 1MHz CJ (pF)	Max. Off-State Capacitance 0V DC, 1MHz CJ (pF)
						MIN (V)	MAX (V)					

Standard

CMATVS3V3		Single	15	80	3.3	5.0	-	11	7.0	0.5	45 (TYP)	-
CMATVS5V0	1.10 x 0.65 x 0.41 SOD-923	Single	15	80	5.0	6.2	-	12.3	7.0	0.5	40 (TYP)	-
CMOTVS5V7		Single	15	66	4.0	5.7	6.7	12	5.5	0.53	35 (TYP)	-
CTLTVS6V2		Single	15	35	4.0	5.8	6.6	10.7	3.0	0.54	25 (TYP)	-

Low Capacitance

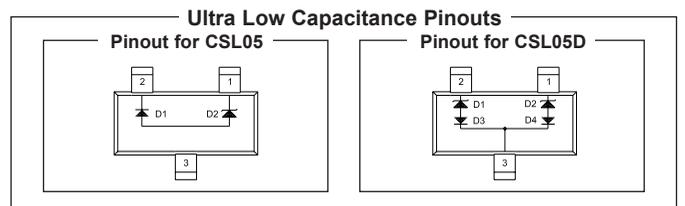
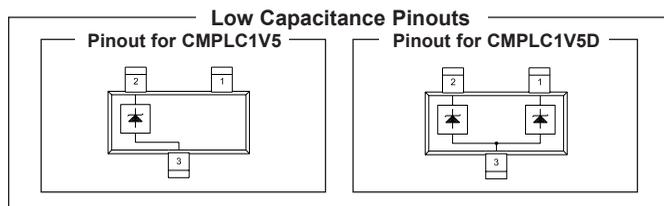
CMPESD24CA		Dual, Bi-directional	20	210	24	25.4	30.3	70	3.0	1.3	9.0 (TYP)	-
CMPLC1V5		Single	>25	50	1.5	-	-	7.0 (@ IPP = 3.0A)	5.0	0.97	-	10
CMPLC1V5D		3.05 x 2.49 x 1.09 SOT-23	Dual	>25	50	1.5	-	-	7.0 (@ IPP = 3.0A)	5.0	0.97	-
CFTVS3V3B		Single, Bi-directional	30	40	3.3	3.5	-	6.5 8.0	1.0 5.0	0.25	10	-
CTLTVS12		Single	30	35	9.0	10	14	18 (@ IPP = 1.8A)	1.8	0.71	-	14
CTLTVS5V0B		Single, Bi-directional	15	30	5.0	5.5	10	12 15	1.0 2.0	0.5	3.5	-

Ultra Low Capacitance

CSL05		Single	>25	400	5.0	-	-	12 (@ IPP = 5.0A)	17	0.57	1.2	-
CSL05D		3.05 x 2.49 x 1.09 SOT-23	Dual	>25	400	5.0	-	-	12 (@ IPP = 5.0A)	17	0.57	1.2
CFTVS5V0BULC		Single, Bi-directional	15	14	5.0	6.0	10	14	1.0	2.94	0.35	-
CFTVS5V0LC		1.05 x 0.65 x 0.4 SOD-882L	Single	15	12	5.0	6.0	-	12	1.0	0.96	0.9
CMO5V0LC		Single	15	12	5.0	6.0	-	12	1.0	0.96	-	0.9

* IEC-61000-4-2 Standard

Note 1: Transmission Line Pulse (TLP) conditions: Z0=50Ω, tp=100ns



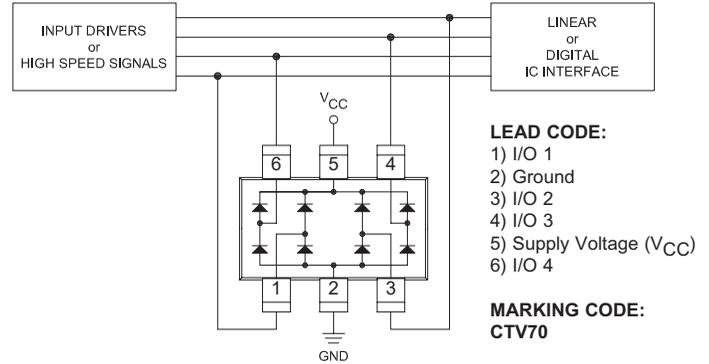
ESD Protection Quad Line Diode Array

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	V_R	V_{ESD}^* (Air)	T_J, T_{stg}	V_F @ I_F			Reverse Leakage Current		Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (V)	MAX (kV)	MAX ($^\circ\text{C}$)	TYP (V)	MAX (V)	(mA)	I_R @ V_R	MAX (μA) (V)	MAX (pF)	MAX (pF)
CMXESD70-4	 3.0 x 3.0 x 1.2 SOT-26	70	15	-55 to +150	0.61	0.715	1.0	1.0	70	1.0	0.9
					0.74	0.855	10				
					0.88	1.0	50				
					1.07	1.25	150				

*IEC61000-4-2

Theory of operation: In this configuration, when the transient voltage exceeds the sum of the diode forward voltage drop (V_F), plus the supply voltage (V_{CC}), the diode will direct the surge to the supply, thereby protecting the high speed data line.



TVS/Diode Array

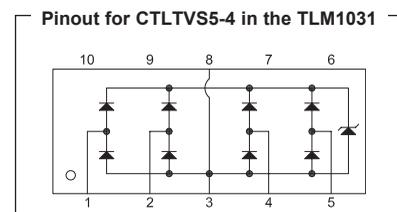
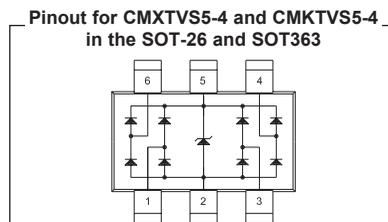
ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	V_I	V_{ESD}^* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage pin 5 to pin 2 V_Z @ I_Z		Reverse Leakage Current pin 5 to pin 2 I_R @ V_{RWM}		Clamping Voltage 8x20 μs I/O to pin 2 V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (V)	MAX (kV)	MAX (V)	MIN (V)	(mA)	MAX (μA)	(V)	MAX (V)	(A)	TYP (Ω)	MAX (pF)	MAX (pF)
CMXTVS5-4	 3.0 x 3.0 x 1.2 SOT-26	5.5	15	5.0	6.0	1.0	5.0	5.0	12	1.0	0.3	1.2	0.6
CMKTVS5-4	 2.2 x 2.3 x 1.1 SOT-363	5.5	15	5.0	6.0	1.0	3.0	5.0	14 23	1.0 5.0	0.72	3.0	1.5

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	PKK 8x20 μs	V_{ESD}^* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage I/O to GND V_Z @ 1.0mA		Reverse Leakage Current I/O to GND I_R @ V_R		Clamping Voltage 8x20 μs I/O to GND V_C @ I_{PP}		Dynamic Resistance (Note 1) R_{DYN}	Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
		MAX (W)	MAX (kV)	MAX (V)	MIN (V)	MAX (V)	MAX (μA)	MAX (V)	MAX (V)	MAX (A)	TYP (Ω)	MAX (pF)	MAX (pF)
CTLTVS5-4	 2.55 x 1.05 x 0.55 TLM1031	32.5	15	5.0	6.0	9.0	1.0	5.0	12	1.0	0.5	0.8	0.4
									13	2.5			

Note 1: Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega, t_p=100\text{ns}$



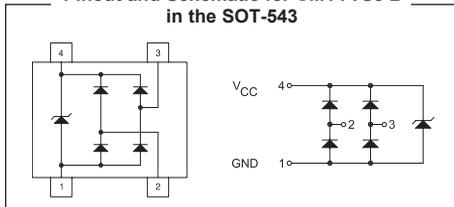
TVS/Diode Array (continued)

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Central Part No.	Case Type	PPK 8x20 μs	VESD* (Air)	Reverse Stand-off Voltage V_{RWM}	Reverse Breakdown Voltage pin 4 to pin 1 $V_Z @ I_Z$		Reverse Leakage Current pin 4 to pin 1 $I_R @ V_{RWM}$		Clamping Voltage 8x20 μs I/O to pin 1 $V_C @ I_{PP}$		Off State Junction Capacitance I/O to GND ($V_R=0, f=1.0\text{MHz}$) C_J	Off State Junction Capacitance I/O to I/O ($V_R=0, f=1.0\text{MHz}$) C_J
					MAX (W)	MAX (kV)	MAX (V)	MIN (V)	(mA)	MAX (μA)	(V)	MAX (V)
CMYTVS5-2	 1.7 x 1.7 x 0.6 SOT-543	60	15	5.0	6.2	1.0	1.0	5.0	12	5.0	1.2	0.6

*IEC61000-4-2

Pinout and Schematic for CMYTVS5-2 in the SOT-543



TVS/Zener Array

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

Package dimensions shown are maximum values in mm.

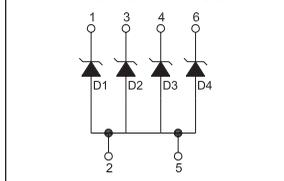
Central Part No.	Case Type	Power (8x20 μs) PPK (W)	Breakdown Voltage $V_{BR} @ 1.0\text{mA}$			Maximum Leakage Current $I_{RWM} @ V_{RWM}$		Maximum Clamping Voltage (10x1000 μs) $V_C @ I_{PP}$		Maximum Clamping Voltage (8x20 μs) $V_C @ I_{PP}$		Dynamic Resistance (Note 1) R_{DYN}	Maximum Capacitance @ 0V Bias	Maximum Capacitance @ 2.8V Bias	Maximum Impedance $Z_{ZT} @ 1.0\text{mA}$
			MIN (V)	NOM (V)	MAX (V)	(μA)	(V)	(V)	(A)	(V)	(A)	TYP (Ω)	(pF)	(pF)	(Ω)
CMXTVS5V6	 3.0 x 3.0 x 1.2 SOT-26	150	5.32	5.6	5.88	2.0	3.0	8.0	3.0	12	12.5	0.29	275	160	400
CMXTVS6V2			5.89	6.2	6.51	0.7	4.3	9.0	2.66	12.5	12	0.36	260	150	300

ELECTRICAL CHARACTERISTICS PER DIODE: ($T_A=25^\circ\text{C}$)

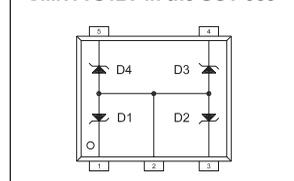
Central Part No.	Case Type	Power PPK (W)	Breakdown Voltage $V_{BR} @ I_R$				Maximum Leakage Current $I_{RWM} @ V_{RWM}$		Maximum Clamping Voltage $V_C @ I_{PP}$		Dynamic Resistance (Note 1) R_{DYN}	Capacitance @ 0V Bias	Capacitance @ 3V Bias	Capacitance @ 3.3V Bias
			MIN (V)	NOM (V)	MAX (V)	(mA)	(μA)	(V)	(V)	(A)	TYP (Ω)	(pF)	(pF)	(pF)
CMNTVS5V0	 1.05 x 1.05 x 0.5 SOT-953	25	6.0	7.1	8.0	1.0	0.25	5.0	12.5	2.0	1.45	10	-	5.5
CMNTVS12V		18	11.4	12.0	12.7	5.0	0.5	9.0	18	1.0	2.56	10	6.0	-

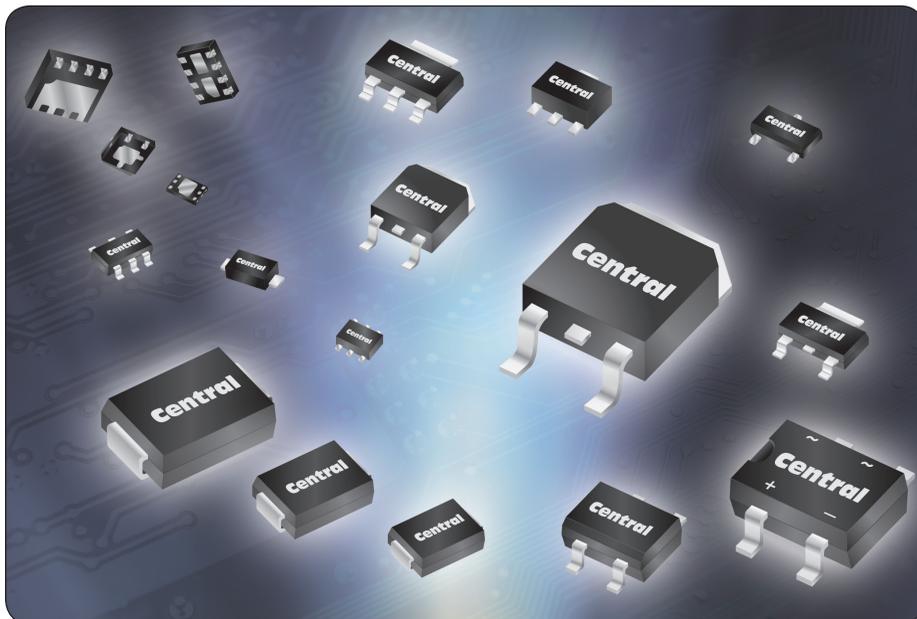
Note 1: Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega, t_p=100\text{ns}$

Pinout for CMXTVS5V6 and CMXTVS6V2 in the SOT-26



Pinout for CMNTVS5V0 and CMNTVS12V in the SOT-953





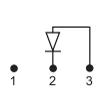
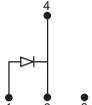
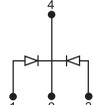
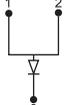
Rectifiers

	<u>Page</u>
General Purpose Rectifiers	48
Fast Recovery Rectifiers	49
Ultra Fast Recovery Rectifiers	50-51
Super Fast Recovery Rectifiers	52
Hyper Fast Recovery Rectifiers	53
Schottky Rectifiers	54-61
Silicon Carbide Schottky Rectifiers	61
Bridge Rectifiers	62-63

General Purpose Rectifiers

1.0 to 5.0A
200 to 1000V

Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0					2.0		3.0	5.0	
@ T _A (°C) **T _L	75**	25	25	25	100**	75	50	**120	75	25
I _{FSM} (AMPS)	30	10	10	10	30	30	60	70	200	150
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 4.7 x 4.5 x 1.7 SOT-89	 6.7 x 7.3 x 1.8 SOT-223		 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 4.9 x 2.6 x 1.1 SMAFL	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	
	SINGLE	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)										
200	CMMR1-02	-	-	-	CMR1-02M	CMR1-02	CMR2-02	-	CMR3-02	-
400	CMMR1-04	CXR1-04	CZR1-04	CZR1-04C†	CMR1-04M	CMR1-04	CMR2-04	CMR2-04MFL	CMR3-04	-
600	CMMR1-06	-	-	-	CMR1-06M	CMR1-06	CMR2-06	CMR2-06MFL	CMR3-06	CTLR5-06
800	-	-	-	-	-	-	-	CMR2-08MFL	-	-
1000	CMMR1-10	-	-	-	CMR1-10M	CMR1-10	CMR2-10	CMR2-10MFL	CMR3-10	-
V _F MAX @ I _F = I _O	1.1V	1.2V	1.2V	1.2V	1.1V	1.1V	1.1V	1.1V	1.2V	1.0V
I _R MAX @ V _{RRM}	10µA	1.0µA	1.0µA	1.0µA	5.0µA	10µA	5.0µA	1.0µA	5.0µA	5.0µA
PINOUT										

† Dual Common Cathode (Ratings Per Diode)

Fast Recovery Rectifiers

1.0A 200 to 1000V

Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0	
@ T_A (°C) ** T_L	75**	120**
I_{FSM} (AMPS)	30	30
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA
	SINGLE	SINGLE
V_{RRM} (VOLTS)		
200	CMMR1F-02	CMR1F-02M
400	CMMR1F-04	CMR1F-04M
600	CMMR1F-06	CMR1F-06M
800	CMMR1F-08	-
1000	-	CMR1F-10M
V_F MAX @ $I_F = I_O$	1.3V	1.3V
I_R MAX @ V_{RRM}	10 μ A	5.0 μ A
t_{rr} (200V)	150ns	150ns
t_{rr} (400V)	150ns	150ns
t_{rr} (600V)	250ns	250ns
t_{rr} (800V)	500ns	-
t_{rr} (1000V)	-	500ns
PINOUT		

Ultra Fast Recovery Rectifiers

1.0 to 3.0A
100 to 1300V

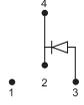
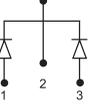
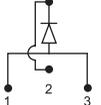
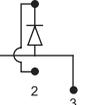
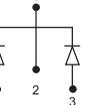
Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0					2.0	3.0	
@ T _A (°C) *T _C **T _L	90**	75	75	75	120**	50	75	75
I _{FSM} (AMPS)	30	30	30	30	30	50	100	150
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA		 5.59 x 3.81 x 2.44 SMB	 5.5 x 3.7 x 1.1 SMBFL	 5.59 x 3.81 x 2.44 SMB	 8.13 x 6.22 x 2.62 SMC	
	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)								
100	–	CMR1U-01M	–	CMR1U-01	–	CMR2U-01	CMR3U-01M	CMR3U-01
200	CMMR1U-02	CMR1U-02M	–	CMR1U-02	CMR1U-02FL	CMR2U-02	CMR3U-02M	CMR3U-02
400	CMMR1U-04	CMR1U-04M	–	CMR1U-04	CMR1U-04FL	CMR2U-04	CMR3U-04M	CMR3U-04
600	CMMR1U-06	CMR1U-06M	–	CMR1U-06	CMR1U-06FL	CMR2U-06	CMR3U-06M	CMR3U-06
800	CMMR1U-08	–	–	–	–	–	–	–
1000	–	CMR1U-10M	–	CMR1U-10	–	–	CMR3U-10M	CMR3U-10
1300	–	–	CMR1U-13M	–	–	–	–	–
V _F MAX @ I _F = I _O								
100	–	1.0V	–	1.0V	–	1.0V	1.0V	1.0V
200	1.0V	1.0V	–	1.0V	1.0V	1.0V	1.0V	1.0V
400	1.4V	1.25V	–	1.25V	1.3V	1.25V	1.25V	1.25V
600	1.7V	1.4V	–	1.4V	1.7V	1.4V	1.4V	1.4V
800	1.7V	–	–	–	–	–	–	–
1000	–	1.7V	–	1.7V	–	–	1.7V	1.7V
1300	–	–	1.9V	–	–	–	–	–
I _R MAX @ V _{RRM}	1.0μA	5.0μA	5.0μA	5.0μA	1.0μA	10μA	5.0μA	5.0μA
t _{rr} (100V)	–	35ns	–	50ns	–	50ns	50ns	50ns
t _{rr} (200V)	50ns	35ns	–	50ns	50ns	50ns	50ns	50ns
t _{rr} (400V)	50ns	50ns	–	50ns	50ns	50ns	50ns	50ns
t _{rr} (600V)	100ns	75ns	–	100ns	100ns	50ns	100ns	100ns
t _{rr} (800V)	100ns	–	–	–	–	–	–	–
t _{rr} (1000V)	–	100ns	–	100ns	–	–	100ns	100ns
t _{rr} (1300V)	–	–	75ns	–	–	–	–	–
PINOUT								

Ultra Fast Recovery Rectifiers (continued)

4.0 to 16A
200 to 800V

Package dimensions shown are maximum values in mm.

I_O (AMPS)	4.0	5.0	6.0	8.0	10	16
@ T_A (°C) * T_C	130*	55	130*	100*	100*	100*
I_{FSM} (AMPS)	70	175	70	125	100	125
CASE	 10.73 x 6.81 x 2.75 DPAK	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK
	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE	DUAL COMMON CATHODE
V_{RRM} (VOLTS)						
200	CUD3-02	CMR5U-02	CUD6-02C	CUDD8-02	CUD10-02	CUDD16-02C
400	–	CMR5U-04	–	CUDD8-04	CUD10-04	CUDD16-04C
600	–	–	–	–	CUD10-06	–
800	–	CMR5U-08	–	CUDD8-08	–	CUDD16-08C
V_F MAX @ $I_F = I_O$		–	–	–	–	–
200	1.25V @ 12A	1.0V	1.25† @ 10A	0.975V	0.95V	0.975V† @ 8.0A
400	–	1.3V	–	1.3V	1.3V	1.3V† @ 8.0A
600	–	–	–	–	1.7V	–
800	–	1.7V	–	1.5V	–	1.5V† @ 8.0A
I_R MAX @ V_{RRM}	20μA	10μA	20μA †	5μA	10μA	5μA†
t_{rr} (200V)	35ns	50ns	35ns†	25ns	35ns	25ns†
t_{rr} (400V)		50ns	–	25ns	35ns	25ns†
t_{rr} (600V)		–	–	–	35ns	–
t_{rr} (800V)		100ns	–	50ns	–	50ns†
PINOUT						

† Electrical Characteristic Per Diode

Super Fast Recovery Rectifiers

1.0 to 3.0A
100 to 600V

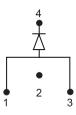
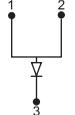
Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0		2.0	3.0
@ T_A ($^{\circ}C$) T_L	110**	25	110**	75**
I_{FSM} (AMPS)	30	30	50	100
CASE	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 3.81 x 2.44 SMB		 8.13 x 6.22 x 2.62 SMC
	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)				
100	-	CMR1S-01	-	CMR3S-01
200	CMMR1S-02	CMR1S-02	CMR2S-02	CMR3S-02
400	-	-	CMR2S-04	CMR3S-04
600	-	-	CMR2S-06	CMR3S-06
V_F MAX @ $I_F = I_O$				
100	-	0.95V	-	0.95V
200	0.95V	0.95V	0.95V	0.95V
400	-	-	1.25V	1.25V
600	-	-	1.70V	1.70V
I_R MAX @ V_{RRM}	10 μ A	5.0 μ A	1.0 μ A	5.0 μ A
t_{rr}	35ns	35ns	30ns	35ns
PINOUT				

Hyper Fast Recovery Rectifiers

1.0 to 10A
400V, 600V

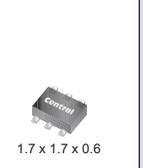
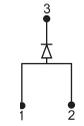
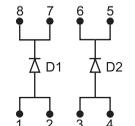
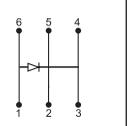
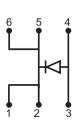
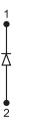
Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0	5.0	8.0	10
@ T_A (°C) * T_C ** T_L	**120	**75	*100	**90
I_{FSM} (AMPS)	30	100	100	150
CASE	 4.9 x 2.6 x 1.1 SMAFL	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 6.65 x 4.35 x 1.2 TLM364
	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)				
400	CMR1H-04MFL	—	—	—
600	—	CMR5H-06	CHD8-06	CTLHR10-06
V_F TYP @ $I_F = I_O$	1.1V	1.55V	1.9V	1.6V
V_F MAX @ $I_F = I_O$	1.25V	1.7V	2.2V	1.7V
I_R MAX @ V_{RRM}	1.0 μ A	1.0 μ A	10 μ A	10 μ A
t_{rr} TYP	20ns	20ns	22ns	22ns
t_{rr} MAX	25ns	22ns	25ns	25ns
PINOUT				

Schottky Rectifiers

1.0A
20 to 100V

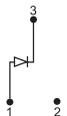
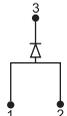
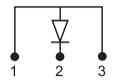
Package dimensions shown are maximum values in mm.

I_O (AMPS)	1.0							
@ T_A (°C) ** T_L †† T_J	25	25	25	25	25	110**	75**	25††
I_{FSM} (AMPS)	10	10	10	6.0	10	20	30	50
CASE	 2.05 x 2.05 x 0.6 TLM322S	 3.05 x 2.05 x 1.05 TLM832DS	 3.05 x 2.05 x 1.05 TLM832DS	 2.15 x 1.65 x 0.4 TLM621H	 1.7 x 1.7 x 0.6 SOT-563	 1.95 x 1.4 x 0.85 SOD-323FL	 3.95 x 1.95 x 1.08 SOD-123F	
	SINGLE	DUAL ISOLATED	DUAL ISOLATED	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)								
20	-	-	-	-	-	-	CMMSH1-20	-
30	-	-	-	-	-	CMDSH1-3	-	-
40	CTLSH1-40M322S	CTLSH1-40M832DS	-	CTLSH1-40M621H	CMLSH1-40	CMDSH1-4	CMMSH1-40	CMMSH1-40L
50	-	-	CTLSH1-50M832DS	-	-	-	-	-
60	-	-	-	-	-	CMDSH1-6	CMMSH1-60	-
100	-	-	-	-	-	-	CMMSH1-100	-
V_F MAX @ $I_F = I_O$								
20	-	-	-	-	-	-	0.45V	-
30	-	-	-	-	-	0.52V	0.45V	-
40	0.55V	0.55V	-	0.60V	0.55V	0.58V	0.55V	0.45V
50	-	-	0.55V	-	-	-	-	-
60	-	-	-	-	-	0.68V	0.70V	-
100	-	-	-	-	-	-	0.85V	-
I_R MAX @ V_{RRM}	50µA @ 15V	50µA @ 15V	500µA	50µA @ 15V	50µA @ 15V	100µA	500µA	500µA
PINOUT								

Schottky Rectifiers (continued)

1.0A 20 to 200V

Package dimensions shown are maximum values in mm.

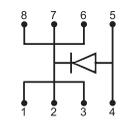
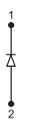
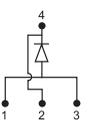
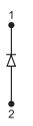
I_O (AMPS)	1.0							
@ T_A (°C) ** T_L †† T_J	25	25	25	75**	25	75	25	25
I_{FSM} (AMPS)	12	20	20	30	30	30	10	30
CASE	 3.00 x 2.50 x 1.0 SOT-23F			 5.59 x 2.92 x 2.62 SMA		 5.59 x 3.81 x 2.44 SMB	 4.7 x 4.5 x 1.7 SOT-89	 5.59 x 2.92 x 2.62 SMA
V_{RRM} (VOLTS)	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	
20	-	-	-	CMSH1-20M	CMSH1-20ML	CMSH1-20	-	-
30	-	-	-	-	-	-	-	-
40	CMP SH1-4	CMP SH1-4L	CMP SH1-4LE	CMSH1-40M	CMSH1-40ML	CMSH1-40	CXSH-4	CMSH1-40HE
60	-	-	-	CMSH1-60M†	-	CMSH1-60	-	CMSH1-60HE
80	-	-	-	-	-	-	-	CMSH1-80HE
100	-	-	-	CMSH1-100M†	-	CMSH1-100	-	CMSH1-100HE
150	-	-	-	-	-	-	-	CMSH1-150HE
200	-	-	-	-	-	-	-	CMSH1-200HE
V_F MAX @ $I_F = I_O$								
20	-	-	-	0.50V	0.38V	0.55V	-	-
30	-	-	-	-	-	-	-	-
40	0.55V	0.39V	0.4V	0.50V	0.40V	0.55V	0.55V	0.70V
60	-	-	-	0.70V	-	0.70V	-	0.74V
80	-	-	-	-	-	-	-	0.80V
100	-	-	-	0.85V	-	0.85V	-	0.80V
150	-	-	-	-	-	-	-	0.90V
200	-	-	-	-	-	-	-	0.90V
I_R MAX @ V_{RRM}	100µA @ 30V	1.5mA @ 30V	900µA @ 40V	500µA	500µA	500µA	1.0mA	50µA
PINOUT								

† $T_L = 100^\circ\text{C}$ for 60V & 100V

Schottky Rectifiers (continued)

2.0A 20 to 100V

Package dimensions shown are maximum values in mm.

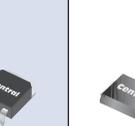
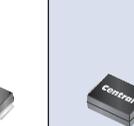
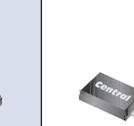
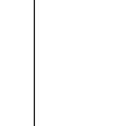
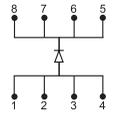
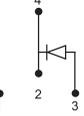
I_O (AMPS)	2.0						
@ T_A (°C) †† T_L ††† T_J	25	25††	75**	55	105**	25	125**
I_{FSM} (AMPS)	15	50	50	50	50	10	50
CASE	 3.1 x 2.1 x 1.0 TLM832	 3.95 x 1.95 x 1.08 SOD-123F	 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	  6.7 x 7.3 x 1.8 SOT-223	 4.9 x 2.6 x 1.1 SMAFL	
V_{RRM} (VOLTS)	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
20	-	-	CMSH2-20M	CMSH2-20	CMSH2-20L	-	-
40	CTLSH2-40M832	CMMSH2-40	CMSH2-40M	CMSH2-40	CMSH2-40L	CZSH-4	CMSH2-40FL
60	-	-	CMSH2-60M	CMSH2-60	-	-	-
100	-	-	CMSH2-100M	CMSH2-100	-	-	-
V_F MAX @ $I_F = I_O$							
20	-	-	0.55V	0.50V	0.40V	-	-
40	0.50V	0.50V	0.55V	0.50V	0.40V	0.60V	0.50V
60	-	-	0.70V	0.70V	-	-	-
100	-	-	0.85V	0.85V	-	-	-
I_R MAX @ V_{RRM}	200µA	500µA	500µA	500µA	500µA	1.0mA	100µA
PINOUT							

† $T_L = 100^\circ\text{C}$ for 60V & 100V

Schottky Rectifiers (continued)

3.0A 20 to 200V

Package dimensions shown are maximum values in mm.

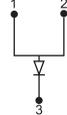
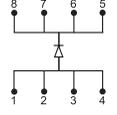
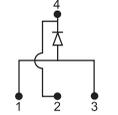
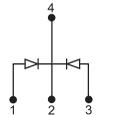
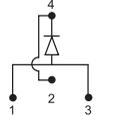
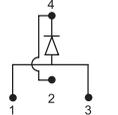
I _O (AMPS)	3.0								
@ T _A (°C) *T _C **T _L	25	25	75**	75**	75	120*	125**	125**	110**
I _{FSM} (AMPS)	25	25	80	80	150	75 50†	80	80	80
CASE	 3.1 x 3.1 x 1.0 TLM833	 3.15 x 3.15 x 1.0 TLM833S	 5.59 x 2.92 x 2.62 SMA	 5.59 x 3.81 x 2.44 SMB	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 5.5 x 3.7 x 1.1 SMBFL	 5.59 x 3.81 x 2.44 SMB	 4.9 x 2.6 x 1.1 SMAFL
	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)									
20	-	-	CMSH3-20MA	CMSH3-20M	CMSH3-20	-	-	-	-
30	CTLSH3-30M833	CTLSH3-30M833S	-	-	-	-	-	-	-
40	-	-	CMSH3-40MA	CMSH3-40M	CMSH3-40	CSHD3-40	CMSH3-40FL	-	-
60	-	-	CMSH3-60MA	CMSH3-60M	CMSH3-60	CSHD3-60	-	-	-
100	-	-	CMSH3-100MA	CMSH3-100M	CMSH3-100	CSHD3-100	-	CMSH3-100MHV	CMSH3-100MFL
150	-	-	-	-	-	-	-	CMSH3-150MHV	CMSH3-150MFL
200	-	-	-	-	-	-	-	CMSH3-200MHV	CMSH3-200MFL
V _F MAX @ I _F = I _O									-
20	-	-	0.50V	0.55V	0.50V	-	-	-	-
30	0.45V	0.45V	-	-	-	-	-	-	-
40	-	-	0.50V	0.55V	0.50V	0.65V	0.50V	-	-
60	-	-	0.70V	0.75V	0.70V	0.75V	-	-	-
100	-	-	0.85V	0.85V	0.80V	0.85V	-	0.8V	0.8V
150	-	-	-	-	-	-	-	0.9V	0.9V
200	-	-	-	-	-	-	-	0.9V	0.9V
I _R MAX @ V _{RRM}	1.0mA	1.0mA	500µA	500µA	500µA	30µA†	100µA	50µA	50µA
PINOUT									

† 60V & 100V Devices

Schottky Rectifiers (continued)

4.0A to 5.0A
20 to 200V

Package dimensions shown are maximum values in mm.

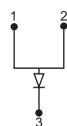
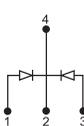
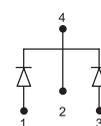
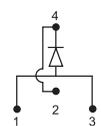
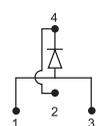
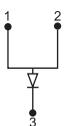
I _O (AMPS)	4.0				5.0					
@ T _A (°C) *T _C **T _L	90**	125**	25	125**	75	75	75	75**	120*	
I _{FSM} (AMPS)	150	100	50	100	125	125	75	100	80	
CASE	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	 3.15 x 3.15 x 1.0 TLM833S	 5.5 x 3.7 x 1.1 SMBFL	 8.13 x 6.22 x 2.62 SMC	 6.7 x 7.3 x 1.8 SOT-223			 10.73 x 6.81 x 2.75 DPAK	
V _{RRM} (VOLTS)	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	SINGLE	DUAL COMMON CATHODE	SINGLE	SINGLE	
20	CMSH3-20L	-	-	-	CMSH5-20	-	-	-	-	
25	-	-	-	-	-	-	-	-	CSHD5-25L	
40	CMSH3-40L	-	CTLSH5-40M833S	CMSH5-40FL	CMSH5-40	CZSH5-40	CZSH5-40C	CSHD5-40	-	
60	-	-	-	-	CMSH5-60	-	-	CSHD5-60	-	
100	-	-	-	-	CMSH5-100	-	-	CSHD5-100	-	
150	-	-	-	-	-	-	-	-	-	
200	-	CTLSH4-200M364	-	-	-	-	-	-	-	
V _F MAX @ I _F = I _O										
20	0.42V	-	-	-	0.55V	-	-	-	-	
25	-	-	-	-	-	-	-	-	0.47V	
40	0.44V	-	0.52V	0.46V	0.55V	0.55V	0.55V	0.55V	-	
60	-	-	-	-	0.75V	-	-	0.75V	-	
100	-	-	-	-	0.85V	-	-	0.85V	-	
150	-	-	-	-	-	-	-	-	-	
200	-	0.84V	-	-	-	-	-	-	-	
I _R MAX @ V _{RRM}	500µA	1.0µA	200µA	100µA	3.0mA	3.0mA	3.0mA	200µA	500µA	
PINOUT										

† 60V & 100V Devices

Schottky Rectifiers (continued)

5.0A to 8.0A
20 to 200V

Package dimensions shown are maximum values in mm.

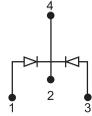
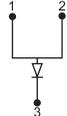
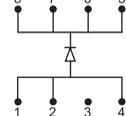
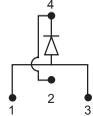
I _O (AMPS)	5.0		6.0		8.0			
@ T _A (°C) *T _C **T _L	75**	125**	75	120*	115**	75**	100*	125**
I _{FSM} (AMPS)	100	150	75	75 50†	150	85	150	280
CASE	 8.13 x 6.22 x 2.62 SMC	 6.65 x 4.35 x 1.2 TLM364	 6.7 x 7.3 x 1.8 SOT-223	 10.73 x 6.81 x 2.75 DPAK	 8.13 x 6.22 x 2.62 SMC	 10.73 x 6.81 x 2.75 DPAK	 16.6 x 10.4 x 4.8 D ² PAK	 6.65 x 4.35 x 1.2 TLM364
	SINGLE	SINGLE	DUAL COMMON CATHODE	DUAL COMMON CATHODE		SINGLE	SINGLE	SINGLE
V _{RRM} (VOLTS)								
20	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
40	-	-	-	CSHD6-40C	CMSH8-40	-	CSHDD8-40	-
60	-	-	-	CSHD6-60C	-	CSHD8-60	CSHDD8-60	CTLSH8-60M364
100	CMSH5-100HV	CTLSH5-100M364	CZSH6-100C	CSHD6-100C	-	CSHD8-100	CSHDD8-100	-
150	CMSH5-150HV	-	-	-	-	-	-	-
200	CMSH5-200HV	-	-	-	-	CSHD8-200	-	-
V _F MAX @ I _F = I _O								
20	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
40	-	-	-	0.85V Per Leg	0.55V	-	0.65V	-
60	-	-	-	0.9V Per Leg	-	0.75V	0.75V	0.54V
100	0.80V	0.80V	1.0V Per Leg	1.1V Per Leg	-	0.8V	0.85V	-
150	0.90V	-	-	-	-	-	-	-
200	0.90V	-	-	-	-	0.9V	-	-
I _R MAX @ V _{RRM}	50μA	15μA	10μA	30μA†	500μA	50μA	100μA	0.6mA
PINOUT								

† 60V & 100V Devices

Schottky Rectifiers (continued)

10A
40 to 100V

Package dimensions shown are maximum values in mm.

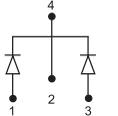
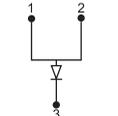
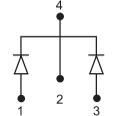
I_O (AMPS)	10					
@ T_A (°C) * T_C ** T_L	100*	75	110** †90**	100**	25	120*
I_{FSM} (AMPS)	100	125	275 †300	300	250	200
CASE	 10.73 x 6.81 x 2.75 DPAK	 6.7 x 7.3 x 1.8 SOT-223C	 6.65 x 4.35 x 1.2 TLM364	 6.1 x 5.1 x 1.025 TLM856	 10.73 x 6.81 x 2.75 DPAK	
	DUAL COMMON CATHODE	DUAL COMMON CATHODE	SINGLE	SINGLE	SINGLE	SINGLE
V_{RRM} (VOLTS)						
40	-	CZSH10-40CN	-	-	-	-
45	-	-	CTLSH10-45L	CTLSH10-45M364	-	CSHD10-45L
60	-	-	-	-	CTLSH10-60M856	-
100	CSHD10-100C	-	CTLSH10-100L	-	-	-
V_F MAX @ $I_F = I_O$						
40	-	0.60V Per Leg	-	-	-	-
45	-	-	0.47V	0.55V	-	0.75V
60	-	-	-	-	0.67V	-
100	0.9V (TYP)	-	0.68V	-	-	-
I_R MAX @ V_{RRM}	50µA	3.0mA	250µA	50µA	500µA	100µA
100	50µA	-	150µA	-	-	-
PINOUT						

†100V Devices

Schottky Rectifiers (continued)

12 to 16A 40 to 200V

Package dimensions shown are maximum values in mm.

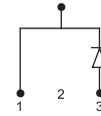
I _O (AMPS)	12	15	16
@ T _A (°C) *T _C **T _L	75*	**120	75*
I _{FSM} (AMPS)	100	275	150
CASE	 10.73 x 6.81 x 2.75 DPAK	 6.65 x 4.35 x 1.2 TLM364	 16.6 x 10.4 x 4.8 D ² PAK
	DUAL COMMON CATHODE	SINGLE	DUAL COMMON CATHODE
V _R RM (VOLTS)			
30	–	CTLSH15-30M364	–
40	–	–	CSHDD16-40C
60	CSHD12-60C	CTLSH15-60M364	CSHDD16-60C
100	–	–	CSHDD16-100C
200	–	–	CSHDD16-200C
V _F MAX @ I _F = I _O			
30	–	0.56V	–
40	–	–	0.84V Per Leg
60	0.75V @ 6.0A	0.59V	0.95V Per Leg
100	–	–	1.1V Per Leg
200	–	–	1.2V Per Leg
I _R MAX @ V _R RM	50µA	100µA	50µA
60	–	200µA	–
100	–	–	50µA
PINOUT			

†100V Devices

Silicon Carbide (SiC) Schottky Rectifiers

10A 650V

Package dimensions shown are maximum values in mm.

I _F (AMPS)	10
@ T _A (°C) *T _C **T _L	135*
I _{FSM} (AMPS)	60
CASE	 10.73 x 6.81 x 2.75 DPAK
	SINGLE
V _R RM (VOLTS)	
650	CSICD10-650
V _F MAX @ I _F = I _O	1.7V @ 25°C 2.5V @ 175°C
I _R MAX @ V _R RM	125µA
PINOUT	

Also Available CSIC10-1200, 1200V, 10A device in TO-220-2 package (see page 64)

TO-220-2

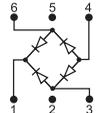
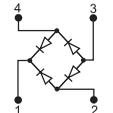
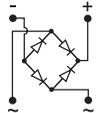


Also available in bare die form. Process CPC01

Bridge Rectifiers

Single Phase, Full Wave
0.14 to 1.0A
40 to 1000V

Package dimensions shown are maximum values in mm.

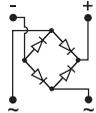
I _O (AMPS)	0.14		0.5	1.0				
@ T _A (°C)	25	25	40	25	25	50	40	40
I _{FSM} (AMPS)	-	-	30	20	20	50	50	50
CASE	 2.2 x 2.3 x 1.1 SOT-363	 3.04 x 2.50 x 1.14 SOT-143	HD BRIDGE  4.9 x 7.0 x 2.7 HD DIP		 8.51 x 10.41 x 2.49 SMDIP			
	GENERAL PURPOSE	GENERAL PURPOSE	GENERAL PURPOSE	SCHOTTKY	LOW V _F SCHOTTKY	GENERAL PURPOSE	FAST RECOVERY	ULTRA FAST RECOVERY
V _R RM (VOLTS)								
40	-	-	-	-	CBRHDSH1-40L	-	-	-
60	CMKBR-6F	CMFBR-6F	-	-	CBRHDSH1-60	-	-	-
100	-	-	CBRHD-01	CBRHDSH1-100	CBRHDSH1-100	-	-	CBR1U-D010S
200	-	-	CBRHD-02	-	CBRHDSH1-200	CBR1-D020S	CBR1F-D020S	CBR1U-D020S
400	-	-	CBRHD-04	-	-	CBR1-D040S	CBR1F-D040S	-
600	-	-	CBRHD-06	-	-	CBR1-D060S	CBR1F-D060S	-
1000	-	-	CBRHD-10*	-	-	CBR1-D100S	CBR1F-D100S*	-
V _F MAX @ I _F (40V)	-	-	-	-	0.44V	-	-	-
V _F MAX @ I _F (60V)	1.0V @ 20mA	1.0V @ 20mA	-	-	0.6V	-	-	-
V _F MAX @ I _F (100V)	-	-	1.0V @ 0.4A	0.75V @ 1.0A	0.75V	-	-	1.05V @ 1.0A
V _F MAX @ I _F (200V-1000V)	-	-	1.0V @ 0.4A	-	0.9V	1.1V @ 1.0A	1.3V @ 1.0A	1.05V @ 1.0A
I _R MAX @ V _R RM (40V)	-	-	-	-	50µA	-	-	-
I _R MAX @ V _R RM (60V)	10nA @ 50V	10nA @ 50V	-	-	20µA	-	-	-
I _R MAX @ V _R RM (100V)	-	-	5.0µA	10µA	10µA	-	-	5µA
I _R MAX @ V _R RM (200V - 1000V)	-	-	5.0µA	-	50µA	10µA	5.0µA	5µA
t _{rr} (60V)	1.0µs typ.	1.0µs typ.	-	-	-	-	-	-
t _{rr} (100 - 400V)	-	-	-	-	-	-	200ns	50ns
t _{rr} (600V)	-	-	-	-	-	-	300ns	-
t _{rr} (1000V)	-	-	-	-	-	-	500ns	-
PINOUT								

* Available on special order; please consult factory.

Bridge Rectifiers (continued)

Single Phase, Full Wave 1.0 to 2.0A 40 to 1000V

Package dimensions shown are maximum values in mm.

I _O (AMPS)	1.0		2.0				
	25	25	50**	25	25	25	25
I _{FSM} (AMPS)	30	30	50	30	50	50	110
CASE	 6.7 x 5.15 x 1.45 LPDIP		  4.9 x 7.0 x 2.7 HD DIP			 8.51 x 10.41 x 2.49 SMDIP	
	SCHOTTKY	GENERAL PURPOSE	SCHOTTKY	SCHOTTKY	SCHOTTKY	GENERAL PURPOSE	SCHOTTKY
V _{RRM} (VOLTS)							
40	CBRLDSH1-40	-	CBRLDSH2-40	CBRHDSH2-40	-	-	CBRSDSH2-40
60	-	-	CBRLDSH2-60	-	-	-	CBRSDSH2-60
100	-	-	CBRLDSH2-100	-	CBRHDSH2-100	-	CBRSDSH2-100
200	-	CBRLD1-02	-	-	-	CBR2-D020S	-
400	-	CBRLD1-04	-	-	-	CBR2-D040S	-
600	-	CBRLD1-06	-	-	-	CBR2-D060S	-
800	-	CBRLD1-08	-	-	-	CBR2-D080S	-
1000	-	CBRLD1-10	-	-	-	CBR2-D100S	-
V _F MAX @ I _F (40V)	500mV @ 1.0A	-	500mV @ 2.0A	0.5V @ 2.0A	-	-	450mV @ 2.0A
V _F MAX @ I _F (60V)	-	-	700mV @ 2.0A	-	-	-	600mV @ 2.0A
V _F MAX @ I _F (100V)	-	-	840mV @ 2.0A	-	0.84V @ 2.0A	-	700mV @ 2.0A
V _F MAX @ I _F (200V - 1000V)	-	1.0V @ 1.0A	-	-	-	1.1V @ 2.0A	-
I _R MAX @ V _{RRM} (40V)	100μA	-	100μA	50μA	-	-	70μA
I _R MAX @ V _{RRM} (60V)	-	-	500μA	-	-	-	70μA
I _R MAX @ V _{RRM} (100V)	-	-	4.0μA	-	4.0μA	-	50μA
I _R MAX @ V _{RRM} (200V - 1000V)	-	10μA	-	-	-	5.0μA	-
PINOUT							

* Available on special order; please consult factory.

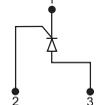


Thyristors

	<u>Page</u>
SCRs	66-67
TRIACs	68-69

0.2 to 4.0A
100 to 800V

Package dimensions shown are maximum values in mm.

I_T (AMPS)	0.2	0.8			2.0	4.0	
@ $T_C / ^*T_A$ (°C)	25	60	25	25	60	85	25
I_{TSM} (AMPS)	7.5	10	10	10	10	30	15
CASE	 3.05 x 2.49 x 1.09 SOT-23	 4.7 x 4.5 x 1.7 SOT-89	 6.7 x 7.3 x 1.8 SOT-223			 10.73 x 6.81 x 2.75 DPAK	
V_{RRM} (VOLTS)							
100	-	-	-	-	-	-	MCR703A
200	-	-	-	-	-	-	MCR704A
300	-	-	-	-	-	-	-
400	CMPS5064	-	CZS5064	-	-	-	MCR706A
600	-	CS89M	-	CS223M	CS223-2M	CS223-4M	MCR708A
800	-	CS89N*	-	-	CS223-2N*	CS223-4N*	-
I_{GT}	200µA	200µA	200µA	200µA	200µA	200µA	75µA
V_{GT}	0.8V	0.8V	0.8V	0.8V	0.8V	0.8V	0.8V
I_H	5.0mA	5.0mA	5.0mA	5.0mA	2.0mA	2.0mA	2.0mA
PINOUT							

* Available on request. Please consult factory.

SCRs (continued)

**4.0 to 25A
400 to 800V**

Package dimensions shown are maximum values in mm.

I_T (AMPS)	4.0		8.0		12	16	25
@ T_C (°C)	25	85	90	90	90	90	90
I_{TSM} (AMPS)	15	30	80	80	120	160	250
CASE	 10.73 x 6.81 x 2.75 DPAK				 16.6 x 10.4 x 4.8 D ² PAK		
V_{RRM} (VOLTS)							
400	MCR716	–	–	–	–	–	–
600	MCR718	CSD-4M	CSD-8M	CSDD-8M	CSDD-12M	CSDD-16M	CSDD-25M
800	–	CSD-4N*	CSD-8N*	CSDD-8N*	CSDD-12N*	CSDD-16N*	CSDD-25N*
I_{GT}	75µA	200µA	15mA	15mA	15mA	15mA	30mA
V_{GT}	0.8V	0.8V	1.5V	1.5V	1.5V	1.5V	1.5V
I_H	2.0mA	2.0mA	20mA	20mA	20mA	20mA	50mA
PINOUT							

* Available on request. Please consult factory.

TRIACS

2.0 to 4.0A
400 to 800V

Package dimensions shown are maximum values in mm.

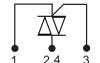
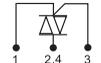
I_T (AMPS)	2.0		4.0
@ T_C (°C)	50	80	80
I_{TSM} (AMPS)	20	10	40
CASE	 4.7 x 4.5 x 1.7 SOT-89		 6.7 x 7.3 x 1.8 SOT-223
V_{RRM} (VOLTS)			
400	–	–	–
600	CQ89-2M	CQ223-2M	CQ223-4M
800	CQ89-2N*	CQ223-2N*	CQ223-4N*
$I_{GT\ QI}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QII}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QIII}$	5.0mA	5.0mA	5.0mA
$I_{GT\ QIV}$	8.0mA	8.0mA	9.0mA
$V_{GT\ QI-QIII}$	1.8V	1.8V	1.75V
$V_{GT\ QIV}$	1.8V	1.8V	1.75V
I_H	5.0mA	5.0mA	5.0mA
PINOUT			

* Available on request. Please consult factory.

TRIACS (continued)

4.0 to 25A
600 to 800V

Package dimensions shown are maximum values in mm.

I_T (AMPS)	4.0	8.0		12		16	25
@ T_C (°C) * T_J	80	25**	90	90	25	90	90
I_{TSM} (AMPS)	40	70	90	125	100	170	210
CASE	 10.73 x 6.81 x 2.75 DPAK			 16.6 x 10.4 x 4.8 D ² PAK			
V_{RRM} (VOLTS)		THREE QUADRANT			THREE QUADRANT		
600	CQD-4M	CQD-8M3	CQDD-8M	CQDD-12M	CQDD-12M3	CQDD-16M	CQDD-25M
800	CQD-4N*	–	CQDD-8N*	CQDD-12N*	–	CQDD-16N*	CQDD-25N*
$I_{GT\ QI}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QII}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QIII}$	5.0mA	50mA	20mA	20mA	50mA	25mA	30mA
$I_{GT\ QIV}$	9.0mA	–	50mA	50mA	–	75mA	60mA
$V_{GT\ QI-QIII}$	1.75V	1.3V	1.5V	1.5V	1.3V	1.5V	1.5V
$V_{GT\ QIV}$	1.75V	–	2.5V	2.5V	–	2.5V	2.5V
I_H	5.0mA	50mA	25mA	25mA	50mA	25mA	50mA
PINOUT							

* Available on request. Please consult factory.



my.Centralsemi

Your portal to advanced account management.

Benefits include:

- Quick ship samples
- Product alerts
- Enewsletters
- Online inquires



www.centralsemi.com



Multi Discrete Modules (MDMs)

Integrating different device types into a single package often facilitates assembly cost reductions. MOSFETs and diodes, MOSFETs and rectifiers, transistors and rectifiers, and other custom combinations are available.

	<u>Page</u>
N-Channel MOSFET and Low V_F Schottky Diode	72
P-Channel MOSFET and Low V_F Schottky Diode	72
Low $V_{CE(SAT)}$ Small Signal Transistor and Low V_F Schottky Diode	73

MDM™ Multi Discrete Module



SOT-563 Case

1.7 x 1.7 x 0.6



TLM832D Case

3.1 x 2.1 x 1.0



Package dimensions shown are maximum values in mm.

N-Channel MOSFET and Low V_F Schottky Diode

TYPE NO.	CASE	DESCRIPTION	N-Channel MOSFET									Low V_F Schottky Diode				
			BV_{DSS}	I_D	$r_{DS(ON)}$	I_D	V_{GS}	$V_{GS(th)}$		t_{on}, t_{off}		V_{RRM}	I_F	V_F	I_F	C_T
			(V) MIN	(mA) MAX	(Ω) MAX	(A) MAX	(V) MAX	(V) MIN	(V) MAX	(ns) MAX		(V) MAX	(mA) MAX	(V) MAX	(mA) MAX	(pF) MAX
CMLM0205	SOT-563	Combination: N-Channel MOSFET and Low V_F Schottky diode	60	280	2.0 3.0	0.5 0.05	10 5.0	1.0	2.5	20	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0574	SOT-563	Combination: N-Channel MOSFET and Low V_F Schottky diode	30	450	0.46 0.56 0.73	0.2 0.1 0.075	4.5 2.5 1.8	0.5	1.0	- / -	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0575	SOT-563	Combination: N-Channel MOSFET and Low V_F Schottky diode	20	650	0.23 0.275 0.7	0.6 0.5 0.35	4.5 2.5 1.8	0.5	1.1	10, 25 (TYP)	+	40	500	0.27 0.35 0.47	10 100 500	50
CTLM7110- M832D	TLM832D	Combination: N-Channel MOSFET and Low V_F Schottky diode	20	1000	0.10 0.14 0.25	0.5 0.5 0.1	4.5 2.5 1.5	0.5	1.2	25, 140 (TYP)	+	40	1000	0.29 0.36 0.45 0.55	10 100 500 1000	-

P-Channel MOSFET and Low V_F Schottky Diode

TYPE NO.	CASE	DESCRIPTION	P-Channel MOSFET									Low V_F Schottky Diode				
			BV_{DSS}	I_D	$r_{DS(ON)}$	I_D	V_{GS}	$V_{GS(th)}$		t_{on}, t_{off}		V_{RRM}	I_F	V_F	I_F	C_T
			(V) MIN	(mA) MAX	(Ω) MAX	(A) MAX	(V) MAX	(V) MIN	(V) MAX	(ns) MAX		(V) MAX	(mA) MAX	(V) MAX	(mA) MAX	(pF) MAX
CMLM0584	SOT-563	Combination: P-Channel MOSFET and Low V_F Schottky diode	30	450	1.1 2.0 3.3	0.43 0.2 0.1	4.5 2.5 1.8	0.5	1.0	- / -	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0585	SOT-563	Combination: P-Channel MOSFET and Low V_F Schottky diode	20	650	0.36 0.5 0.8	0.35 0.3 0.15	4.5 2.5 1.8	0.5	1.0	38, 48 (TYP)	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0305	SOT-563	Combination: P-Channel MOSFET and Low V_F Schottky diode	50	280	2.0 2.5 3.0	0.05 0.05 0.05	5.0 2.5 1.8	0.75	1.2	-	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM0305T	SOT-563	Combination: P-Channel MOSFET and Low V_F Schottky diode	50	280	1.5 1.9 2.3	0.05 0.05 0.05	5.0 2.5 1.8	0.75	1.2	-	+	40	500	0.27 0.35 0.47	10 100 500	50
CMLM8205	SOT-563	Combination: P-Channel MOSFET and Low V_F Schottky diode	50	280	2.5 3.0	0.5 0.05	10 5.0	1.0	2.5	20	+	40	500	0.27 0.35 0.47	10 100 500	50
CTLM8110- M832D	TLM832D	Combination: P-Channel MOSFET and Low V_F Schottky diode	20	860	0.150 0.142 0.200 0.240	0.95 0.77 0.67 0.2	4.5 4.5 2.5 1.8	0.45	1.0	20, 25 (TYP)	+	40	1000	0.45	500	-

MDM™ Multi Discrete Module (continued)



SOT-563 Case

1.7 x 1.7 x 0.6



TLM832D Case

3.1 x 2.1 x 1.0



Package dimensions shown are maximum values in mm.

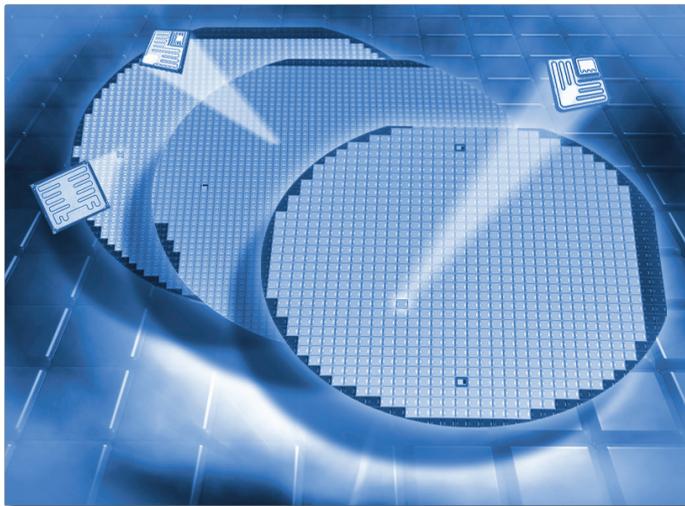
Low $V_{CE(SAT)}$ Small Signal Transistor and Low V_F Schottky Diode

TYPE NO.	CASE	DESCRIPTION	Low $V_{CE(SAT)}$ Small Signal Transistor							Low V_F Schottky Diode					
			BV_{CBO} (V)	BV_{CEO} (V)	BV_{EBO} (V)	$V_{CE(SAT)}$ (V)		@ I_C (mA)		V_{RRM} (V)	I_F (mA)	V_F (V)	@	I_F (mA)	C_T (pF)
			MIN	MIN	MIN	TYP	MAX			MAX	MAX	MAX	MAX		MAX
CMLM0405	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose NPN transistor and Low V_F Schottky diode	60	40	6.0	0.057 0.090	0.1 0.2	10 50	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM0605	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose PNP transistor and Low V_F Schottky diode	60	40	6.0	0.05 0.10	0.1 0.2	10 50	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM0705	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose PNP transistor and Low V_F Schottky diode	60	60	5.0	0.113 0.280	0.2 0.7	150 500	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM2205	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose NPN transistor and Low V_F Schottky diode	100	45	6.0	0.09 0.12	0.15 0.50	150 500	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM3405	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose NPN transistor and Low V_F Schottky diode	40	25	6.0	0.250	0.45	1000	+	40	500	0.27 0.35 0.47	10 100 500	50	
CMLM7405	SOT-563	Combination: Low $V_{CE(SAT)}$ General Purpose PNP transistor and Low V_F Schottky diode	40	25	6.0	0.275	0.45	1000	+	40	500	0.27 0.35 0.47	10 100 500	50	
CTLM1034-M832D	TLM832D	Combination: Low $V_{CE(SAT)}$ General Purpose NPN transistor and Low V_F Schottky diode	40	25	6.0	0.250	0.45	1000	+	40	1000	0.29 0.36 0.45 0.55	10 100 500 1000	-	
CTLM1074-M832D	TLM832D	Combination: Low $V_{CE(SAT)}$ General Purpose PNP transistor and Low V_F Schottky diode	40	25	6.0	0.275	0.45	1000	+	40	1000	0.29 0.36 0.45 0.55	10 100 500 1000	-	



Up-screening for bare die

Central offers a broad range of up-screening options for Bare die.



Up-screening options available:

- MIL-PRF-38534 equivalent screening for Class K and Class H
- MIL-PRF-19500 equivalent screening for Class KC and Class HC
- Customer-specific screening

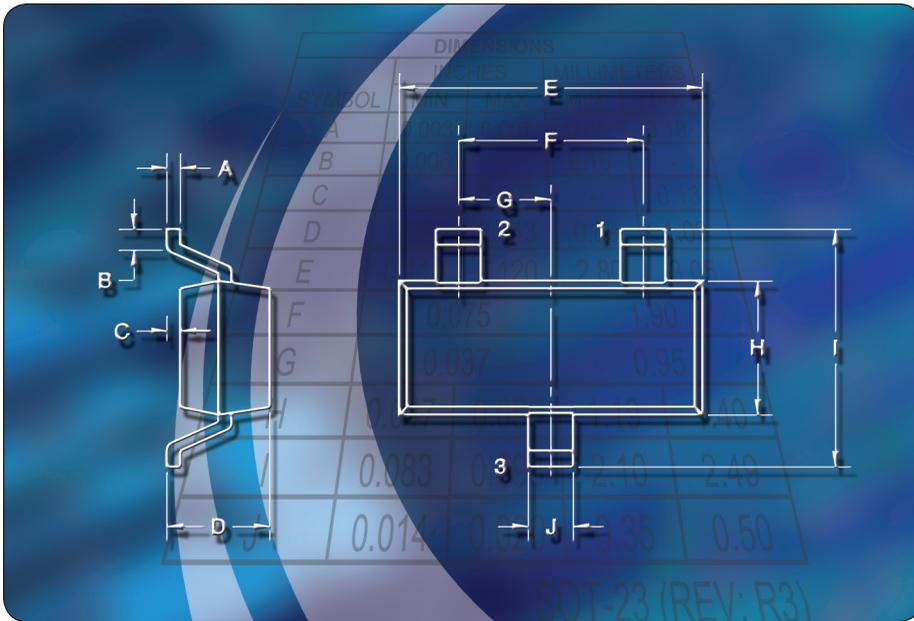
Bare die applications:

- Solar
- Smart Wearables
- Medical
- Industrial
- Mil/Aero



Central[™]
Semiconductor Corp.

www.centrasemi.com

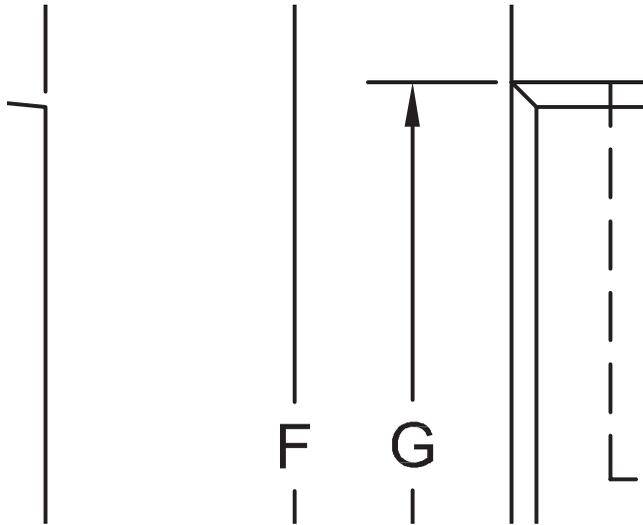


Package Mechanical Specifications

	<u>Page</u>		<u>Page</u>		<u>Page</u>
D ² PAK	76	SOD-923	82	SOT-963	88
DDPAK	76	SOIC-8	82	SOD-882	88
HD DIP	76	SOT-23	82	SOD-882L	88
LPDIP	77	SOT-23F	83	SOT-883L	89
MELF	77	SOT-26	83	SOT-883VL	89
SMA	77	SOT-28	83	TLM2D3D6	90
SMAFL	78	SOT-89	84	TLM3D6D8	90
SMB	78	SOT-143	84	TLM322S	90
SMBFL	78	SOT-223	84	TLM364	91
SMC	79	SOT-223C	85	TLM621	91
SMDIP	79	SOT-323	85	TLM621H	91
SOD-80	79	SOT-363	85	TLM832	92
SOD-123	80	SOT-523	86	TLM832D	92
SOD-123F	80	SOT-523W	86	TLM832DS	92
SOD-123FL	80	SOT-543	86	TLM833	93
SOD-323	81	SOT-563	87	TLM833S	93
SOD-323FL	81	SOT-923	87	TLM856	94
SOD-523	81	SOT-953	87	TLM1031	94

Package Mechanical Specifications

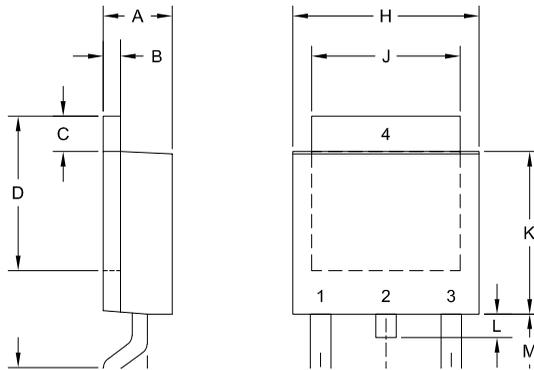
D²PAK



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.163	0.189	4.14	4.80
B	0.045	0.055	1.14	1.40
C	0.000	0.010	0.00	0.25
D	0.012	0.028	0.30	0.70
E	0.386	0.415	9.80	10.55
F	0.378	0.417	9.60	10.60
G	0.335	0.358	8.50	9.10
H	0.188	0.236	4.78	6.00
J	0.093	0.108	2.35	2.75
K	0.030	0.035	0.75	0.90

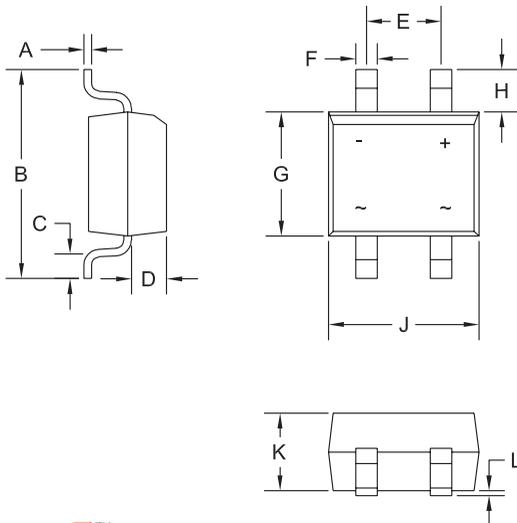
D2PAK (REV: R3)

DPAK



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.083	0.108	2.10	2.75
B	0.016	0.032	0.40	0.81
C	0.035	0.063	0.89	1.60
D	0.203	0.228	5.15	5.79
E	0.020	-	0.51	-
F	0.016	0.024	0.40	0.60
G	0.051	0.071	1.30	1.80
H	0.248	0.268	6.30	6.81
J	0.197	0.217	5.00	5.50
K	0.209	0.245	5.30	6.22
L	0.025	0.040	0.64	1.02
M	0.090	0.115	2.30	2.91
N	0.012	0.045	0.30	1.14
P	0.180		4.60	

HD DIP

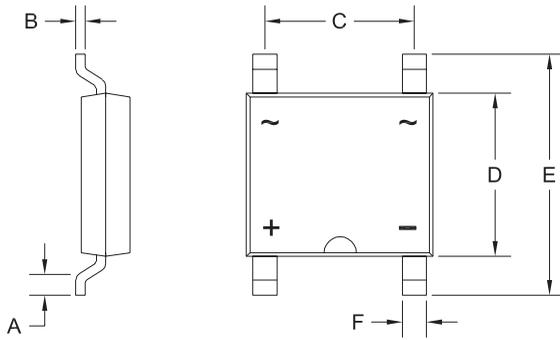


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.006	0.014	0.15	0.35
B	-	0.275	-	7.00
C	0.027	0.043	0.70	1.10
D	0.035	0.051	0.90	1.30
E	0.090	0.106	2.30	2.70
F	0.019	0.031	0.50	0.80
G	0.150	0.165	3.80	4.20
H	0.051	0.067	1.30	1.70
J	0.177	0.193	4.50	4.90
K	0.090	0.106	2.30	2.70
L	0.000	0.008	0.00	0.20

HD DIP (REV: R2)

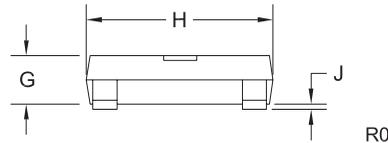
Package Mechanical Specifications (continued)

LPDIP



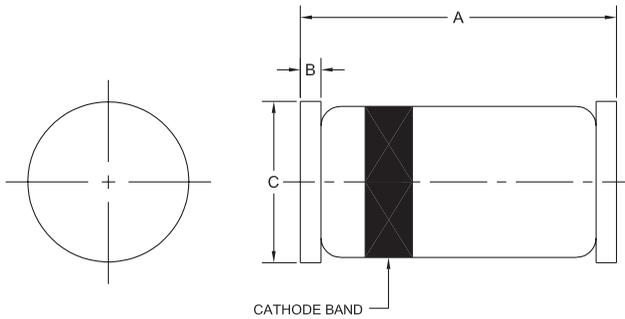
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.019	0.028	0.50	0.70
B	0.007	0.012	0.20	0.30
C	0.153	0.162	3.90	4.10
D	0.167	0.179	4.25	4.55
E	0.248	0.264	6.30	6.70
F	0.023	0.028	0.60	0.70
G	0.045	0.058	1.15	1.45
H	0.190	0.203	4.85	5.15
J	0.002	0.006	0.05	0.15

LPDIP (REV: R0)



R0

MELF



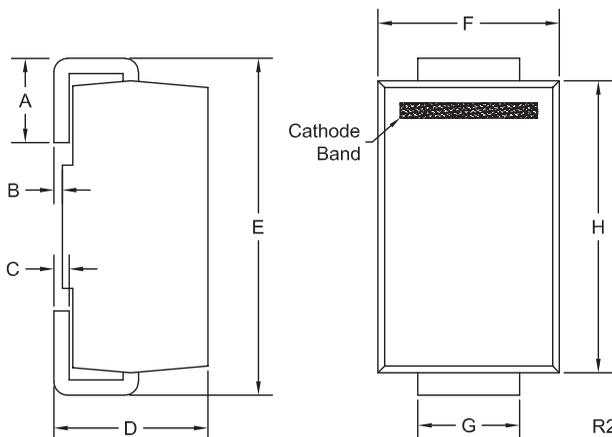
CATHODE BAND

R2

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.185	0.217	4.70	5.50
B	0.012	0.022	0.30	0.56
C (DIA)	0.094	0.110	2.40	2.80

MELF (REV:R2)

SMA



Cathode Band

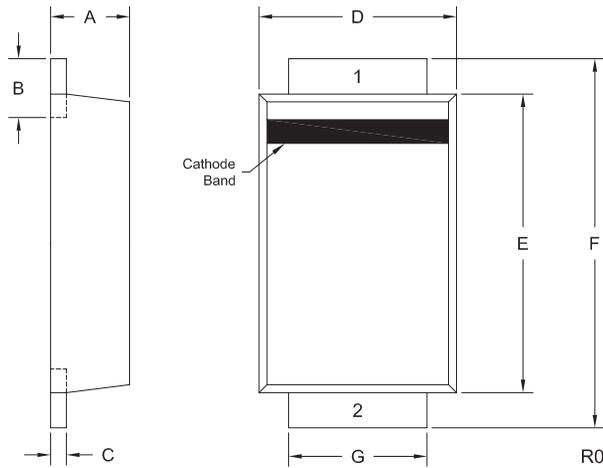
R2

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.006	0.012	0.15	0.30
D	0.078	0.103	1.98	2.62
E	0.188	0.220	4.78	5.59
F	0.090	0.115	2.29	2.92
G	0.050	0.070	1.27	1.78
H	0.157	0.181	3.99	4.60

SMA (REV: R2)

Package Mechanical Specifications (continued)

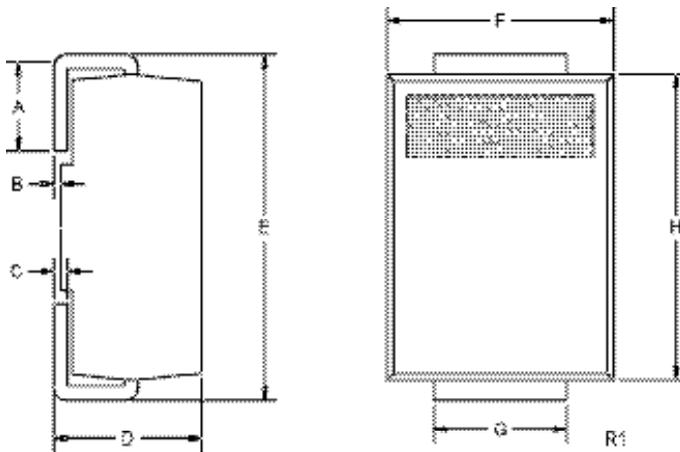
SMAFL



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.90	1.10
B	0.021	0.038	0.55	0.95
C	0.006	0.010	0.15	0.25
D	0.094	0.103	2.40	2.60
E	0.145	0.154	3.70	3.90
F	0.177	0.193	4.50	4.90
G	0.065	0.073	1.65	1.85

SMAFL (REV: R0)

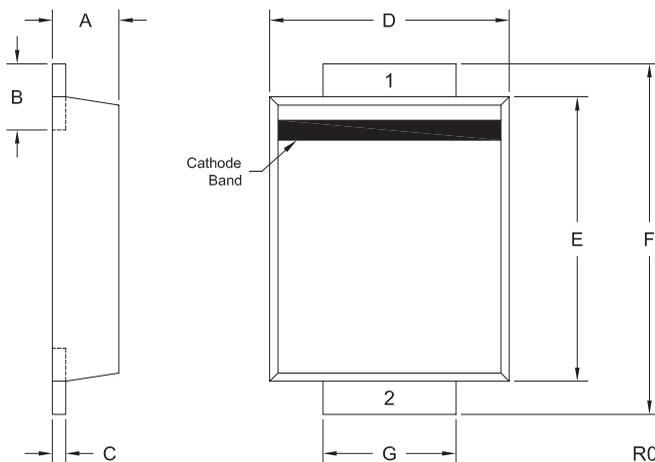
SMB



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.004	0.008	0.10	0.20
C	0.006	0.012	0.15	0.30
D	0.086	0.096	2.18	2.44
E	0.200	0.220	5.08	5.59
F	0.130	0.150	3.30	3.81
G	0.077	0.083	1.96	2.11
H	0.160	0.180	4.06	4.57

SMB (REV: R1)

SMBFL

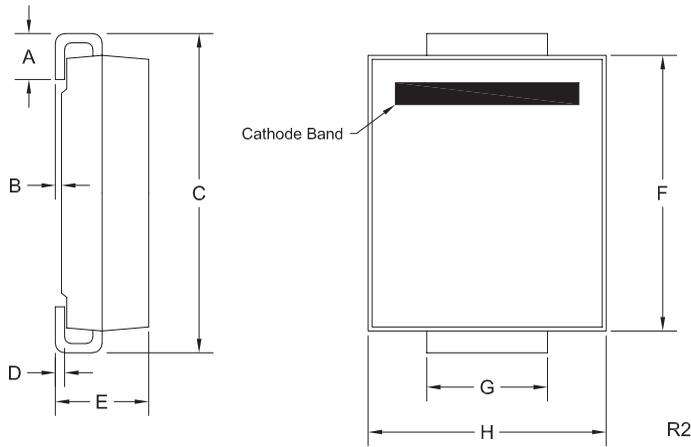


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.90	1.10
B	0.031	0.048	0.80	1.20
C	0.006	0.010	0.15	0.25
D	0.137	0.146	3.50	3.70
E	0.161	0.178	4.10	4.50
F	0.200	0.217	5.10	5.50
G	0.074	0.083	1.90	2.10

SMBFL (REV: R0)

Package Mechanical Specifications (continued)

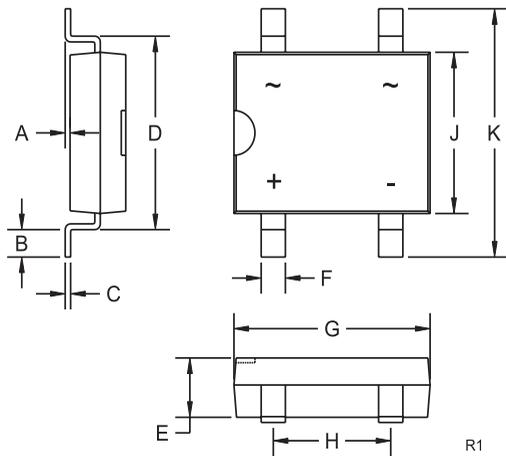
SMC



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.002	0.008	0.05	0.20
C	0.305	0.320	7.75	8.13
D	0.006	0.012	0.15	0.31
E	0.079	0.103	2.00	2.62
F	0.260	0.280	6.60	7.11
G	0.108	0.128	2.75	3.25
H	0.220	0.245	5.59	6.22

SMC (REV: R2)

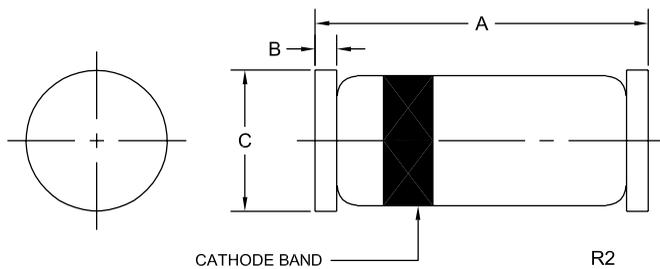
SMDIP



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.040	0.060	1.02	1.52
C	0.009		0.23	
D	0.290	0.310	7.37	7.87
E	0.086	0.098	2.18	2.49
F	0.038	0.042	0.97	1.07
G	0.316	0.335	8.03	8.51
H	0.195	0.205	4.95	5.21
J	0.245	0.255	6.22	6.48
K	0.360	0.410	9.14	10.41

SMDIP (REV: R1)

SOD-80

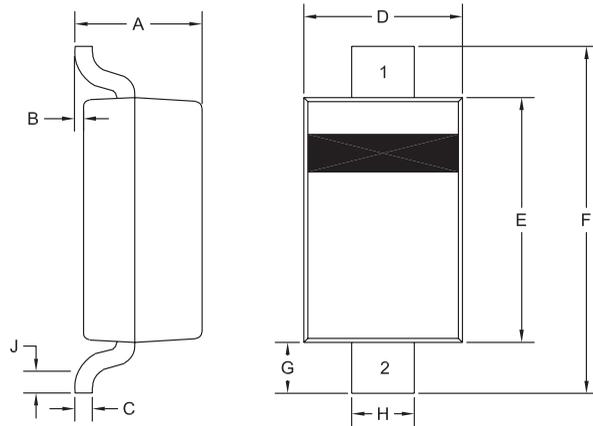


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.014		0.35	
C (DIA)	0.049	0.067	1.25	1.70

SOD-80 (REV:R2)

Package Mechanical Specifications (continued)

SOD-123

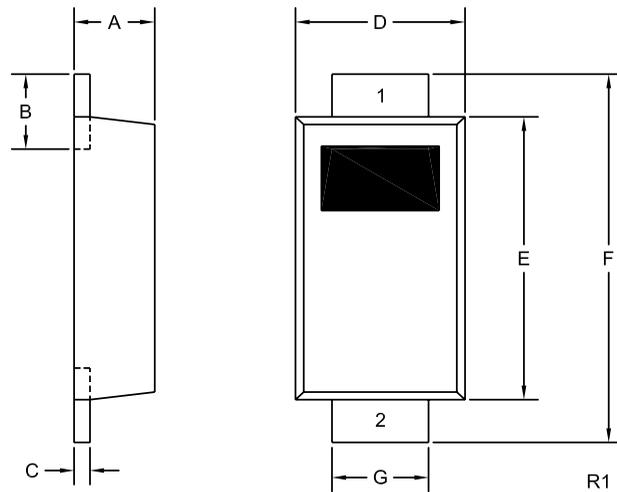


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.053	0.95	1.35
B	0.000	0.005	0.00	0.12
C	-	0.008	-	0.20
D	0.055	0.071	1.40	1.80
E	0.098	0.110	2.50	2.80
F	0.142	0.154	3.60	3.90
G	0.016	-	0.40	-
H	0.020	0.028	0.50	0.70
J	0.010	-	0.25	-

SOD-123 (REV:R5)

R5

SOD-123F

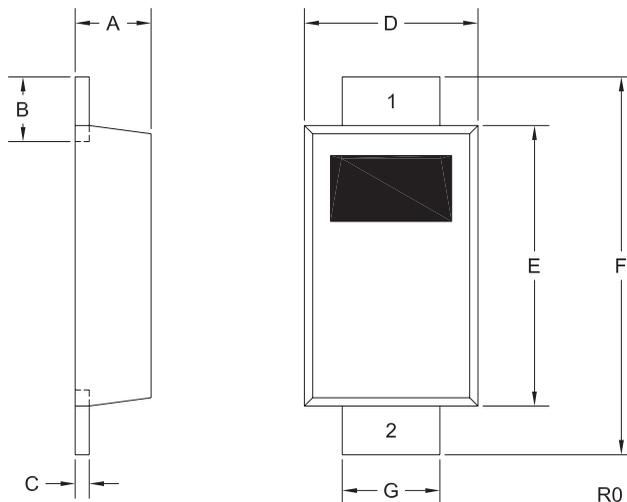


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.88	1.08
B	0.020	0.031	0.50	0.80
C	0.004	0.008	0.10	0.20
D	0.065	0.077	1.65	1.95
E	0.104	0.116	2.65	2.95
F	0.140	0.156	3.55	3.95
G	0.030	0.041	0.75	1.05

SOD-123F (REV:R1)

R1

SOD-123FL



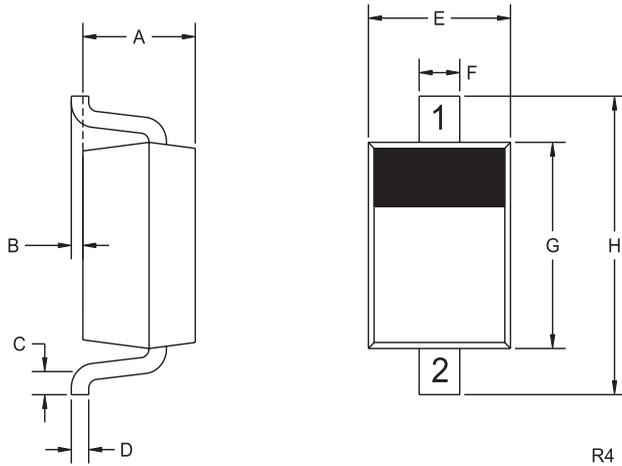
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.024	0.031	0.60	0.80
B	0.020	0.028	0.50	0.70
C	0.003	0.007	0.08	0.18
D	0.059	0.067	1.50	1.70
E	0.094	0.110	2.40	2.80
F	0.130	0.146	3.30	3.70
G	0.031	0.039	0.80	1.00

SOD-123FL (REV:R0)

R0

Package Mechanical Specifications (continued)

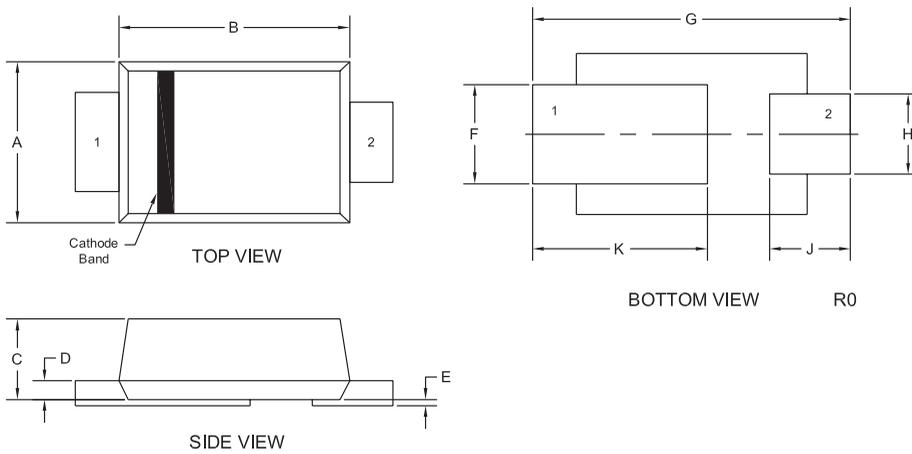
SOD-323



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.031	0.039	0.80	1.00
B	0.000	0.004	0.00	0.10
C	0.008	-	0.20	-
D	0.004	0.007	0.11	0.19
E	0.045	0.053	1.15	1.35
F	-	0.014	-	0.35
G	0.063	0.071	1.60	1.80
H	0.094	0.102	2.40	2.60

SOD-323 (REV: R4)

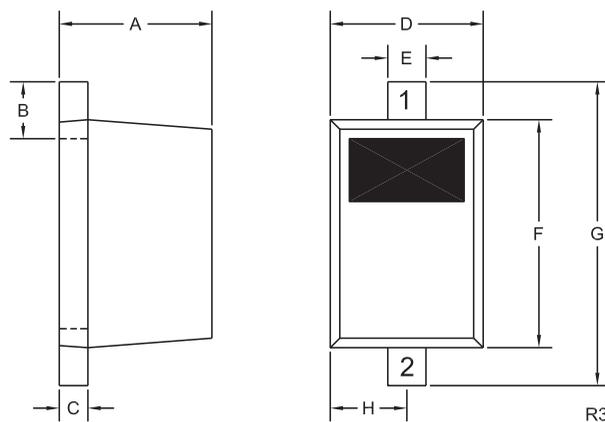
SOD-323FL



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.047	0.055	1.20	1.40
B	0.068	0.077	1.75	1.95
C	0.021	0.030	0.55	0.75
D	0.004	0.008	0.10	0.20
E	-	0.004	-	0.10
F	0.025	0.038	0.65	0.95
G	0.090	0.107	2.30	2.70
H	0.017	0.030	0.45	0.75
J	0.015	0.032	0.40	0.80
K	0.045	0.061	1.15	1.55

SOD-323FL (REV:R0)

SOD-523

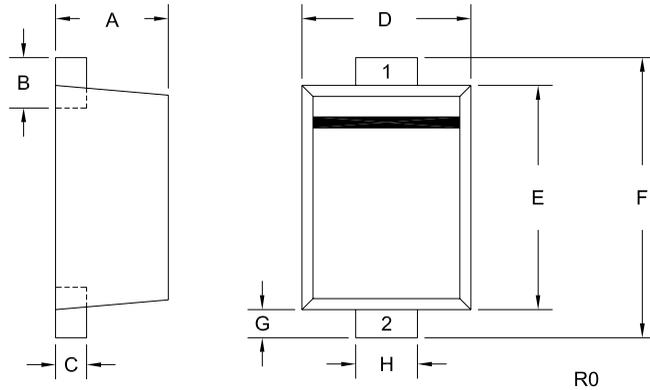


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.008	0.016	0.20	0.40
C	0.002	0.008	0.05	0.20
D	0.028	0.035	0.70	0.90
E	0.008	0.014	0.20	0.35
F	0.039	0.055	1.00	1.40
G	0.055	0.071	1.40	1.80
H	0.016		0.40	

SOD-523 (REV: R3)

Package Mechanical Specifications (continued)

SOD-923

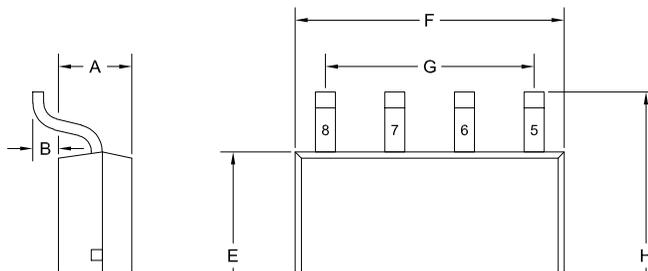


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.015	0.016	0.39	0.41
B	0.004	0.010	0.10	0.26
C	0.003	0.006	0.08	0.14
D	0.022	0.026	0.55	0.65
E	0.030	0.033	0.75	0.85
F	0.035	0.043	0.90	1.10
G	0.002	0.006	0.05	0.15
H	0.007	0.011	0.17	0.27

SOD-923 (REV: R0)

SOIC-8

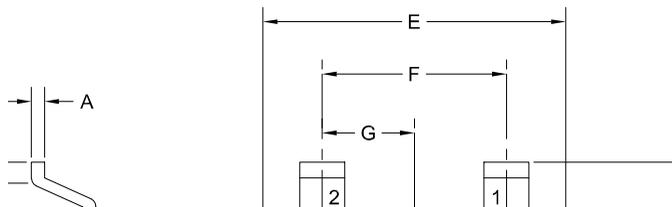
Mechanical Drawing: SOIC-8



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.061	1.392	1.554
B	0.004	0.009	0.100	0.224
C	0.016	0.035	0.40	0.90
D	0.007	0.010	0.19	0.25
E	0.145	0.157	3.80	4.00
F	0.189	0.198	4.80	5.00
G	0.150		3.81	
H	0.228	0.244	5.80	6.20
J	0.013	0.020	0.33	0.51
K	0.050		1.27	

SOT-23

Mechanical Drawing: SOT-23

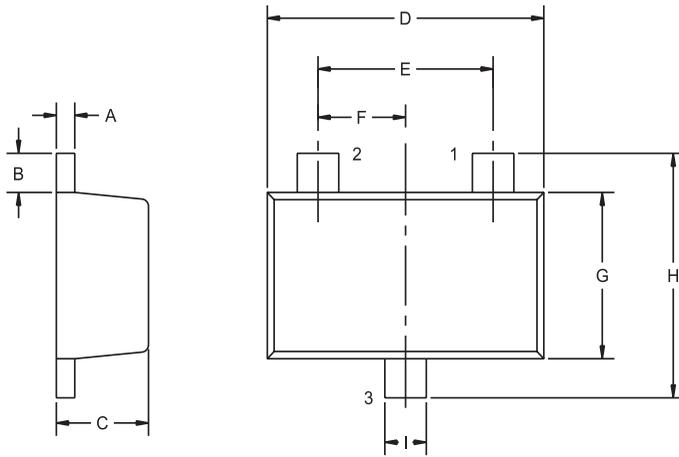


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.044	0.89	1.12
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R4)

Package Mechanical Specifications (continued)

SOT-23F

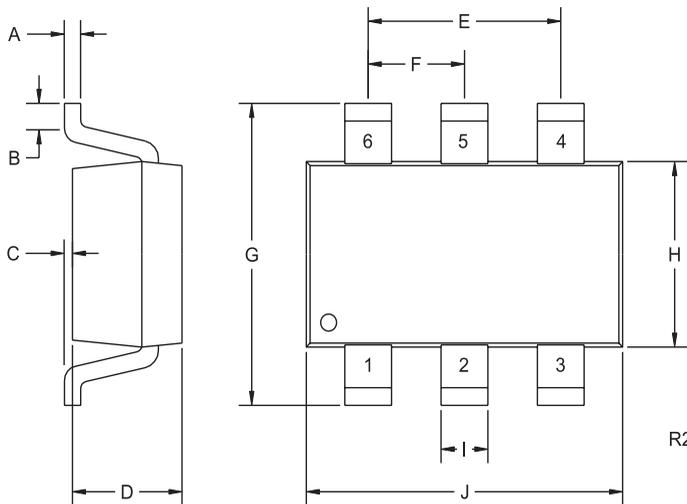


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.012	0.020	0.30	0.50
C	0.031	0.039	0.80	1.00
D	0.110	0.118	2.80	3.00
E	0.075		1.90	
F	0.037		0.95	
G	0.059	0.067	1.50	1.70
H	0.091	0.098	2.30	2.50
I	0.014	0.018	0.35	0.45

SOT-23F (REV: R1)

R1

SOT-26

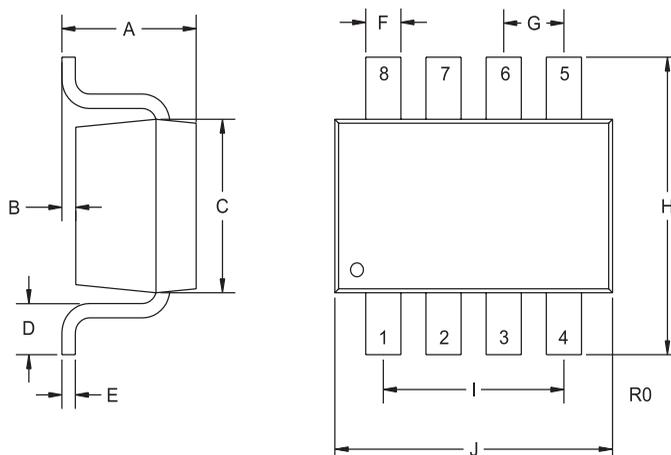


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	0.004	-	0.10
D	0.039	0.047	1.00	1.20
E	0.074	0.075	1.88	1.92
F	0.037	0.038	0.93	0.97
G	0.102	0.118	2.60	3.00
H	0.059	0.067	1.50	1.70
I	0.016		0.41	
J	0.110	0.118	2.80	3.00

SOT-26 (REV: R2)

R2

SOT-28



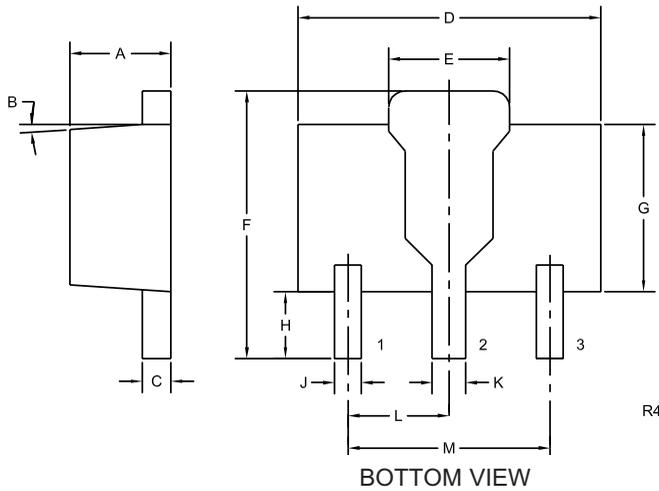
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.057	0.90	1.45
B	0.000	0.006	0.00	0.15
C	0.059	0.069	1.50	1.75
D	0.014	0.022	0.35	0.55
E	0.004	0.008	0.09	0.20
F	0.009	0.015	0.22	0.38
G	0.026		0.65	
H	0.102	0.118	2.60	3.00
I	0.077		1.95	
J	0.110	0.118	2.80	3.00

SOT-28 (REV: R0)

R0

Package Mechanical Specifications (continued)

SOT-89

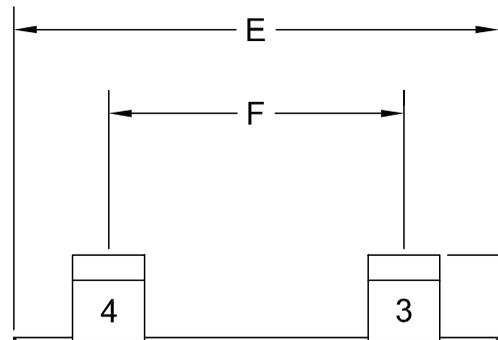


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

SOT-143

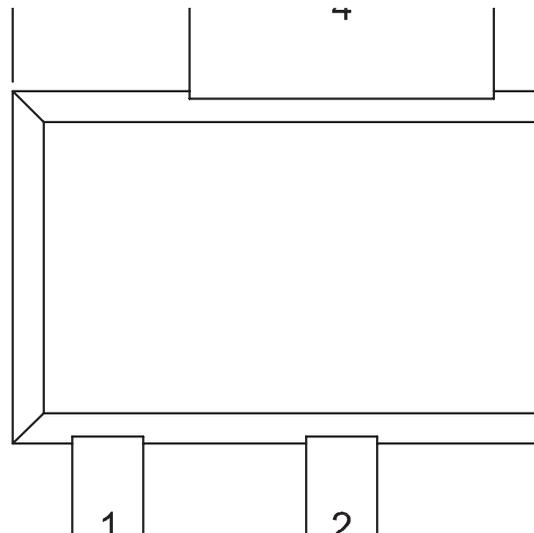
SOT-143 MECHANICAL DRAWING



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.008	0.08	0.20
B	0.006	-	0.15	-
C	0.000	0.005	0.01	0.13
D	0.035	0.045	0.89	1.14
E	0.110	0.120	2.79	3.04
F	0.075		1.90	
G	0.083	0.102	2.10	2.60
H	0.047	0.055	1.19	1.40
J	0.012	0.020	0.30	0.50
K	0.030	0.037	0.76	0.93
L	0.067		1.70	

SOT-143 (REV: R3)

SOT-223

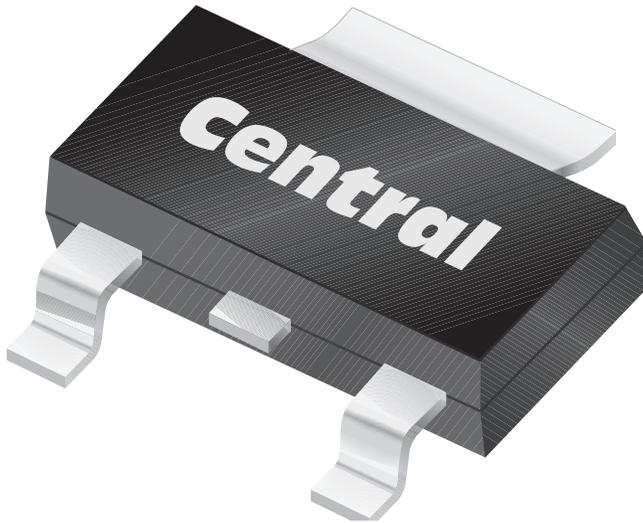


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	—	0.45	—
D	0.000	0.004	0.00	0.10
E	10°		10°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R4)

Package Mechanical Specifications (continued)

SOT-223C

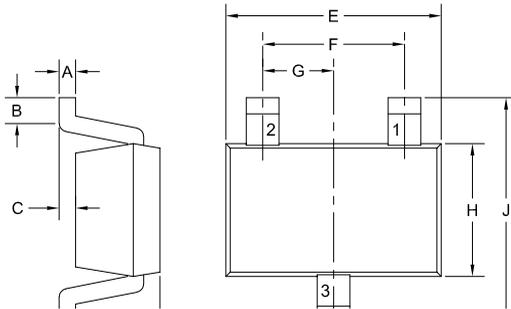


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	-	0.45	-
D	0.000	0.004	0.00	0.10
E	15°		15°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
J	0.130	0.146	3.30	3.70
K	0.264	0.287	6.70	7.30
L	0.024	0.033	0.60	0.85
M	0.091		2.30	
N	0.181		4.60	
P	-	0.025	-	0.64

SOT-223C (REV: R2)

SOT-323

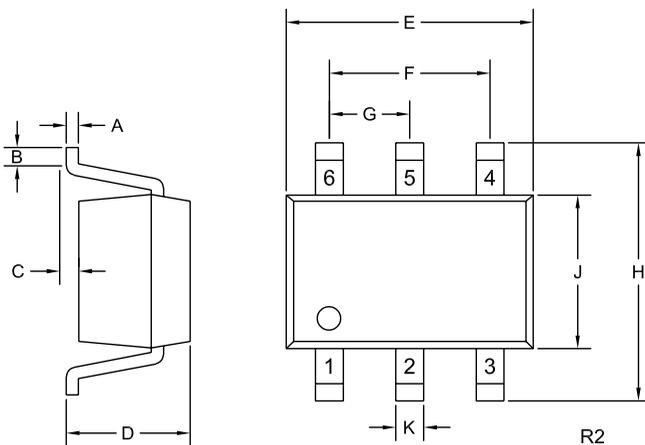
Mechanical Drawing: SOT-323



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.045	0.053	1.15	1.35
J	0.079	0.087	2.00	2.20
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R3)

SOT-363



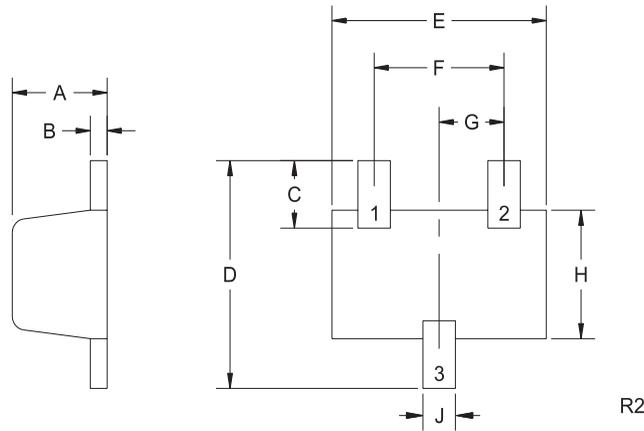
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.010	0.10	0.25
B	0.005	-	0.12	-
C	0.000	0.004	0.00	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.075	0.091	1.90	2.30
J	0.043	0.055	1.10	1.40
K	0.006	0.012	0.15	0.30

SOT-363 (REV: R2)

Package Mechanical Specifications (continued)

SOT-523

BOTTOM VIEW

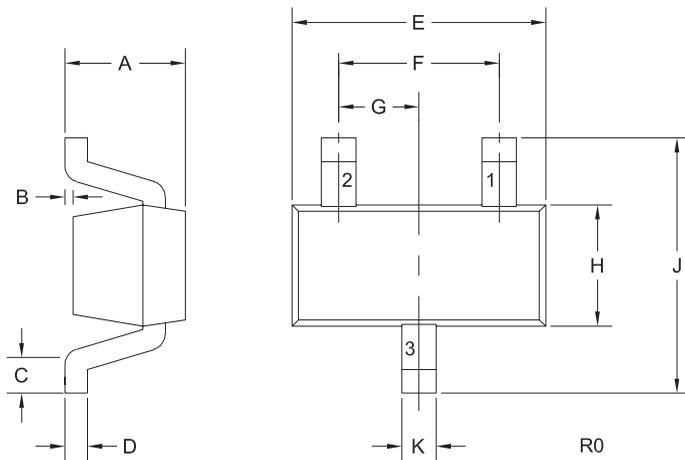


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.023	0.031	0.58	0.78
B	0.002	0.008	0.04	0.20
C	0.013	0.021	0.34	0.54
D	0.059	0.067	1.50	1.70
E	0.059	0.067	1.50	1.70
F	0.035	0.043	0.90	1.10
G	0.020		0.50	
H	0.031	0.039	0.78	0.98
J	0.010	0.014	0.25	0.35

SOT-523 (REV: R2)

R2

SOT-523W

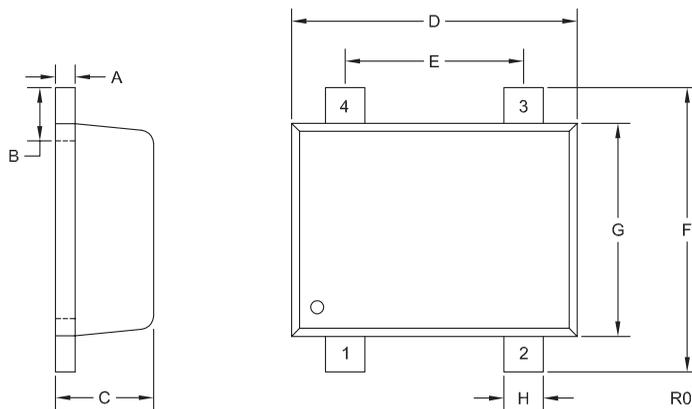


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	-	0.031	-	0.80
B	0.000	0.004	0.00	0.10
C	0.006	0.012	0.15	0.30
D	0.005	0.006	0.13	0.15
E	0.058	0.066	1.48	1.68
F	0.039		1.00	
G	0.020		0.50	
H	0.026	0.034	0.66	0.86
J	0.059	0.067	1.50	1.70
K	0.007	0.009	0.19	0.24

SOT-523W (REV: R0)

R0

SOT-543



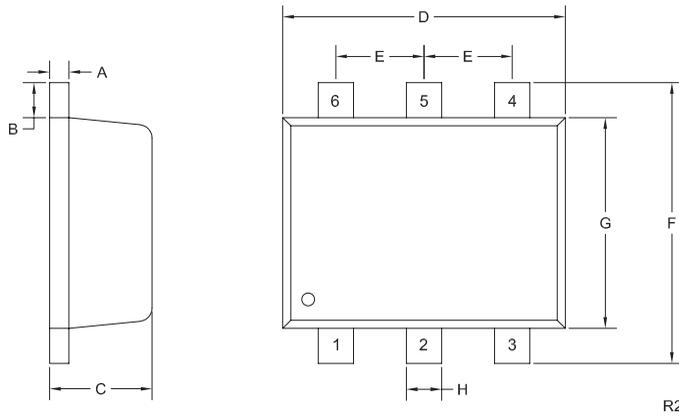
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.007	0.07	0.17
B	0.004	0.012	0.10	0.30
C	0.019	0.024	0.50	0.60
D	0.059	0.067	1.50	1.70
E	0.035	0.044	0.90	1.10
F	0.059	0.067	1.50	1.70
G	0.044	0.052	1.10	1.30
H	0.006	0.011	0.17	0.27

SOT-543 (REV: R0)

R0

Package Mechanical Specifications (continued)

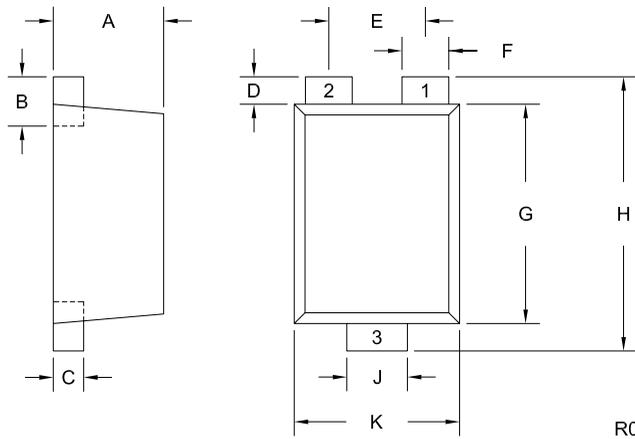
SOT-563



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

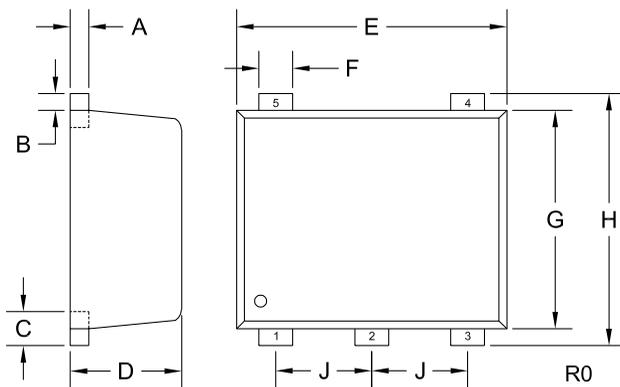
SOT-923



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.015	0.016	0.39	0.41
B	0.004	0.010	0.10	0.26
C	0.003	0.006	0.08	0.14
D	0.002	0.006	0.05	0.15
E	0.014		0.35	
F	0.005	0.009	0.12	0.22
G	0.030	0.033	0.75	0.85
H	0.035	0.043	0.90	1.10
J	0.007	0.011	0.17	0.27
K	0.022	0.026	0.55	0.65

SOT-923 (REV: R0)

SOT-953

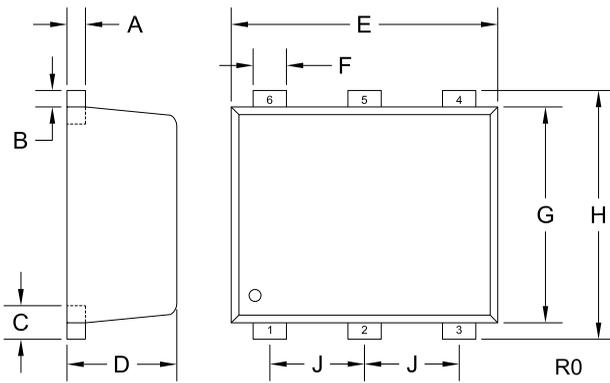


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.006	0.050	0.150
B	0.002	0.006	0.050	0.150
C	0.005	0.007	0.125	0.175
D	0.016	0.020	0.400	0.500
E	0.037	0.041	0.950	1.050
F	0.004	0.008	0.100	0.200
G	0.030	0.033	0.750	0.850
H	0.037	0.041	0.950	1.050
J	0.014		0.350	

SOT-953 (REV: R0)

Package Mechanical Specifications (continued)

SOT-963

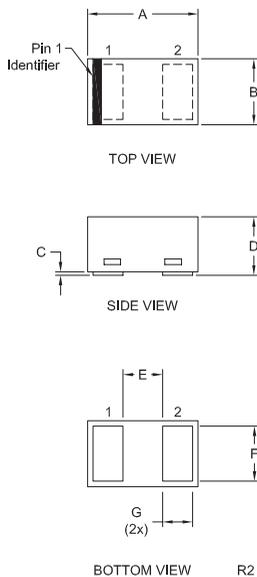


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.006	0.050	0.150
B	0.002	0.006	0.050	0.150
C	0.005	0.007	0.125	0.175
D	0.016	0.020	0.400	0.500
E	0.037	0.041	0.950	1.050
F	0.004	0.008	0.100	0.200
G	0.030	0.033	0.750	0.850
H	0.037	0.041	0.950	1.050
J	0.014		0.350	

SOT-963 (REV: R0)

Leadless Packages, Mechanical Specifications

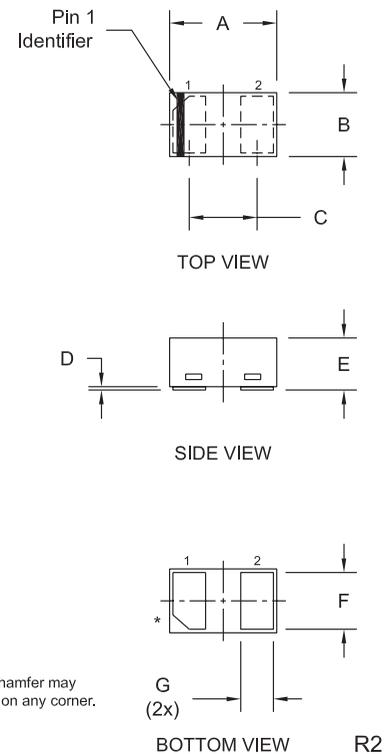
SOD-882



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.042	0.95	1.05
B	0.022	0.026	0.55	0.65
C	0.000	0.002	0.00	0.05
D	0.017	0.022	0.45	0.55
E	0.014		0.36	
F	0.017	0.022	0.45	0.55
G	0.008	0.013	0.22	0.32

SOD-882 (REV:R2)

SOD-882L



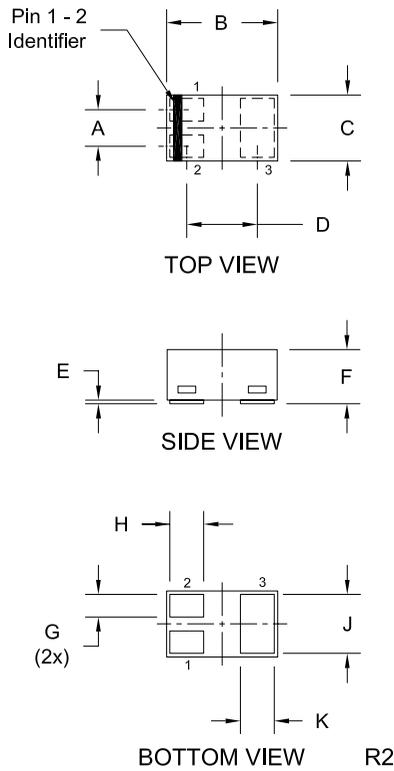
* Pin 1 chamfer may appear on any corner.

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.041	0.95	1.05
B	0.022	0.026	0.55	0.65
C	0.026		0.65	
D	0.000	0.002	0.00	0.05
E	0.012	0.016	0.30	0.40
F	0.018	0.022	0.45	0.55
G	0.008	0.012	0.20	0.30

SOD-882L (REV:R2)

Leadless Packages, Mechanical Specifications (continued)

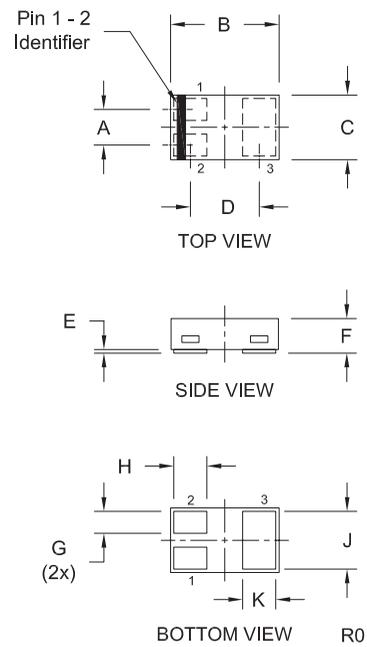
SOT-883L



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.016	0.30	0.40
G	0.005	0.007	0.13	0.18
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883L (REV:R2)

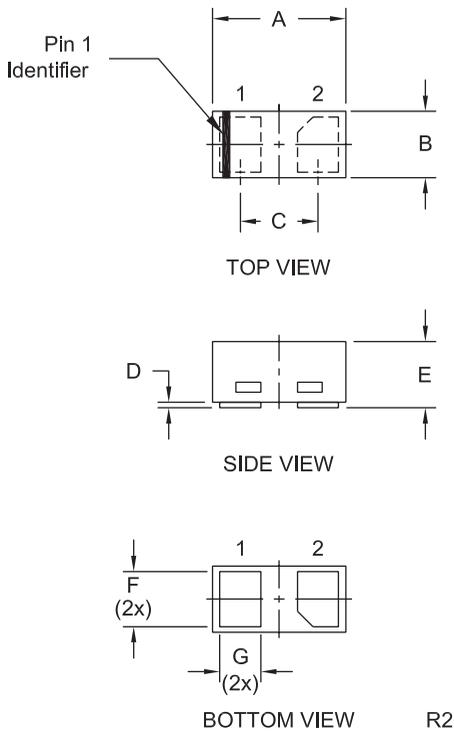
SOT-883VL



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.014		0.35	
B	0.037	0.041	0.95	1.05
C	0.022	0.026	0.55	0.65
D	0.026		0.65	
E	0.000	0.002	0.00	0.05
F	0.012	0.013	0.30	0.32
G	0.004	0.008	0.10	0.20
H	0.008	0.012	0.20	0.30
J	0.018	0.022	0.45	0.55
K	0.008	0.012	0.20	0.30

SOT-883VL (REV:R0)

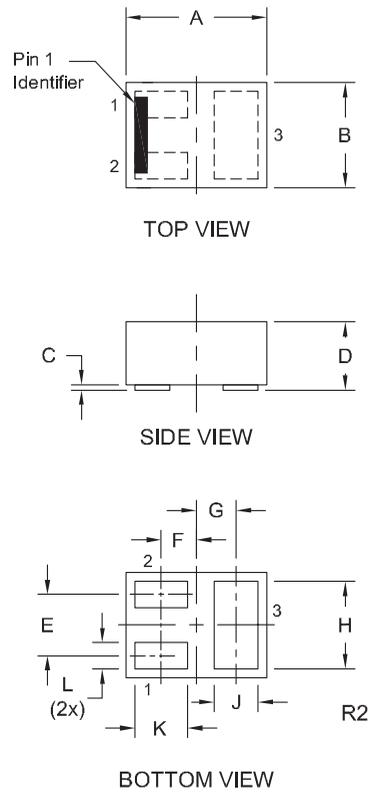
TLM2D3D6



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.022	0.026	0.55	0.65
B	0.010	0.014	0.25	0.35
C	0.014		0.35	
D	0.000	0.002	0.00	0.05
E	0.011	0.013	0.28	0.32
F	0.008	0.012	0.20	0.30
G	0.005	0.009	0.13	0.24

TLM2D3D6 (REV: R2)

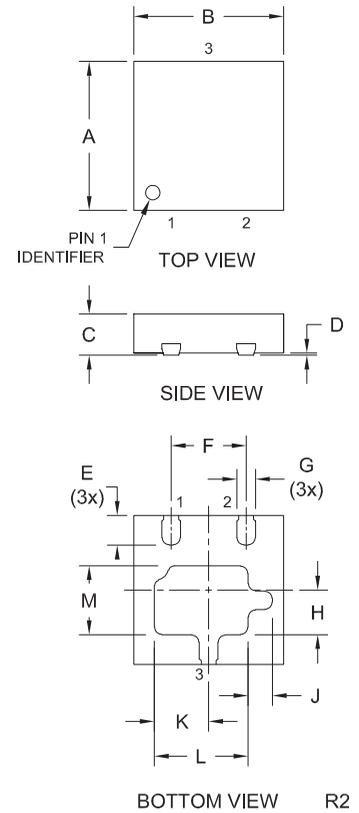
TLM3D6D8



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.029	0.034	0.75	0.85
B	0.021	0.026	0.55	0.65
C	0.000	0.002	0.00	0.05
D	0.012	0.016	0.31	0.40
E	0.014		0.35	
F	0.008		0.20	
G	0.009		0.225	
H	0.017	0.022	0.45	0.55
J	0.008	0.012	0.20	0.30
K	0.010	0.014	0.25	0.35
L	0.004	0.008	0.10	0.20

TLM3D6D8 (REV: R2)

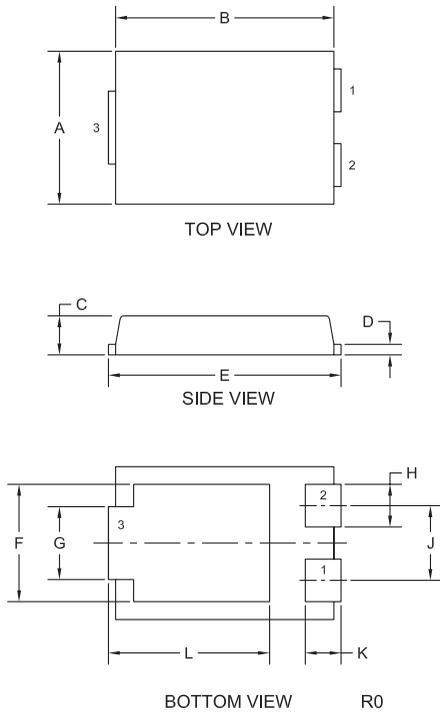
TLM322S



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.076	0.081	1.95	2.05
B	0.076	0.081	1.95	2.05
C	0.019	0.024	0.50	0.60
D	0.000	0.002	0.00	0.05
E	0.011	0.020	0.30	0.50
F	0.039		1.00	
G	0.007	0.012	0.18	0.30
H	0.017	0.028	0.45	0.70
J	0.008	0.017	0.22	0.43
K	0.024	0.033	0.62	0.83
L	0.043	0.054	1.10	1.35
M	0.030	0.041	0.77	1.03

TLM322S (REV:R2)

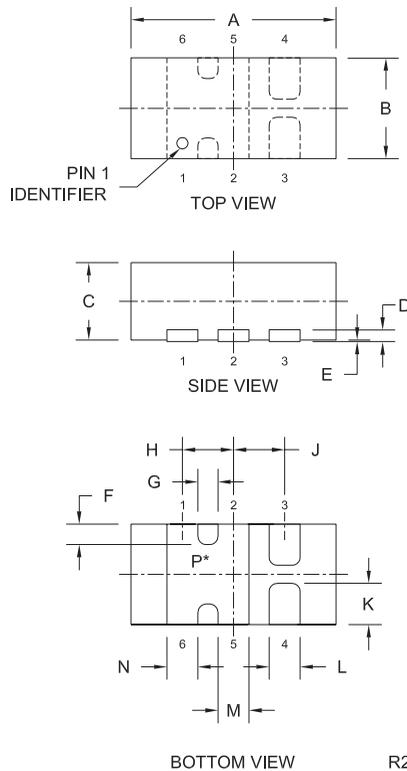
TLM364



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.167	0.172	4.25	4.35
B	0.238	0.243	6.05	6.15
C	0.039	0.048	1.00	1.20
D	0.009	0.014	0.25	0.35
E	0.250	0.262	6.35	6.65
F	0.128	0.136	3.25	3.45
G	0.076	0.085	1.95	2.15
H	0.044	0.052	1.10	1.30
J	0.083		2.10	
K	0.035	0.044	0.90	1.10
L	0.171	0.183	4.35	4.65

TLM364 (REV:R0)

TLM621

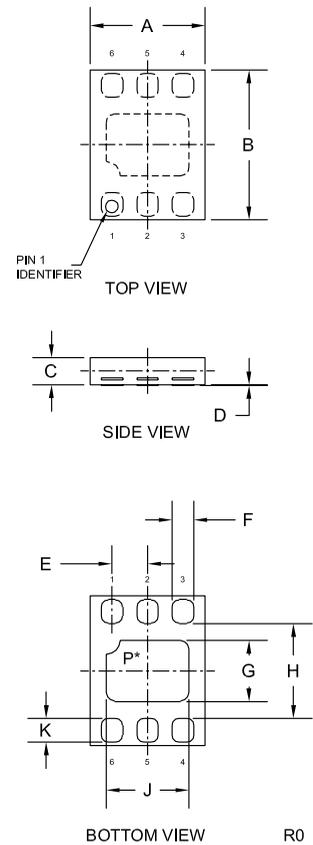


Exposed pad P connects pins 1, 2, 5, and 6

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.073	0.085	1.850	2.150
B	0.033	0.045	0.850	1.150
C	0.028	0.031	0.700	0.800
D	0.006		0.150	
E	0.000	0.002	0.000	0.050
F	0.008		0.200	
G	0.010		0.250	
H	0.020		0.500	
J	0.020		0.500	
K	0.012	0.020	0.300	0.500
L	0.007	0.012	0.180	0.300
M	0.007	0.012	0.180	0.300
N	0.007	0.012	0.180	0.300

TLM621 (REV: R2)

TLM621H



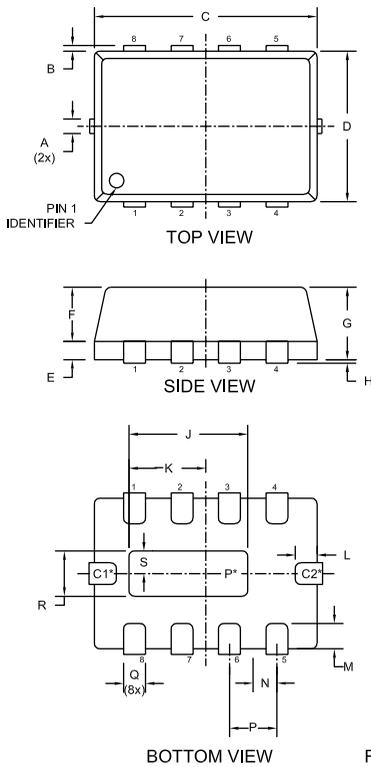
*Exposed pad P internally connected to pins 3 and 4

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.053	0.065	1.35	1.65
B	0.073	0.085	1.85	2.15
C	0.012	0.016	0.30	0.40
D	0.000	0.002	0.00	0.05
E	0.020		0.50	
F	0.008	0.012	0.20	0.30
G	0.027	0.035	0.69	0.89
H	0.053	0.057	1.35	1.45
J	0.039	0.047	0.99	1.19
K	0.011	0.015	0.28	0.38

TLM621H (REV:R0)

Leadless Packages, Mechanical Specifications (continued)

TLM832

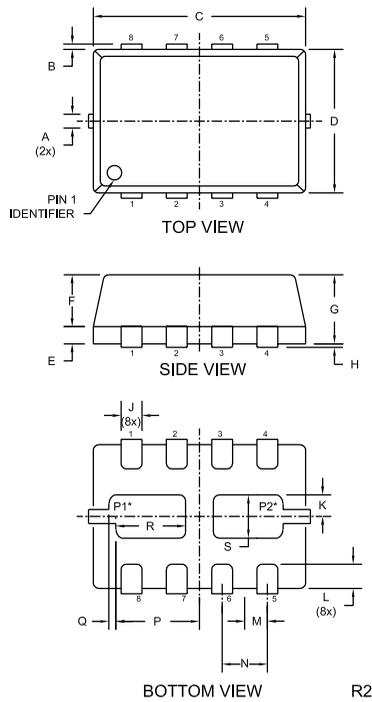


- * Note:
- Exposed pad P internally connected to pins 1, 2, 3, 6, 7, 8
 - Exposed metallized connection C1 internally connected to pins 1, 2, 3, 6, 7, 8
 - Exposed metallized connection C2 internally connected to pin 5

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.007	0.012	0.170	0.300
B	-	0.005	-	0.125
C	0.114	0.122	2.900	3.100
D	0.075	0.083	1.900	2.100
E	0.006	0.010	0.150	0.250
F	0.026	0.030	0.650	0.750
G	0.031	0.039	0.800	1.000
H	0.000	0.002	0.000	0.050
J	0.059	0.067	1.500	1.700
K	0.036	0.044	0.910	1.110
L	0.008	0.018	0.200	0.450
M	0.008	0.018	0.200	0.450
N	0.013		0.325	
P	0.026		0.650	
Q	0.009	0.013	0.240	0.340
R	0.017	0.025	0.430	0.630
S	0.006	0.014	0.160	0.360

TLM832 (REV: R2)

TLM832D

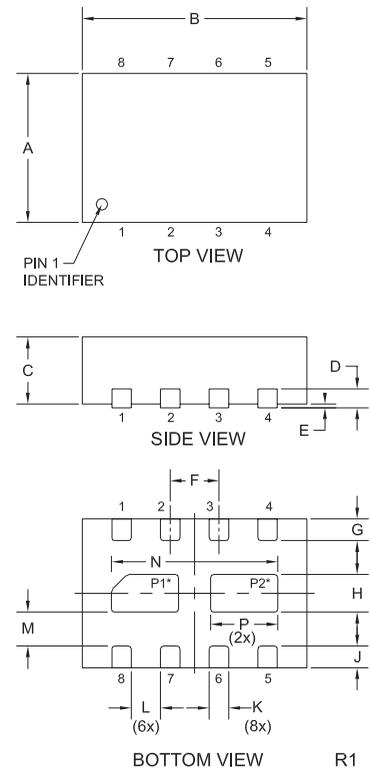


- * Note:
- Exposed pad P1 common to pins 7 and 8
 - Exposed pad P2 common to pins 5 and 6

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.007	0.012	0.170	0.300
B	-	0.005	-	0.125
C	0.114	0.122	2.900	3.100
D	0.075	0.083	1.900	2.100
E	0.006	0.010	0.150	0.250
F	0.026	0.030	0.650	0.750
G	0.031	0.039	0.800	1.000
H	0.000	0.002	0.000	0.050
J	0.009	0.013	0.240	0.340
K	0.006	0.014	0.160	0.360
L	0.008	0.018	0.200	0.450
M	0.013		0.325	
N	0.026		0.650	
P	0.040	0.048	1.010	1.210
Q	0.004		0.100	
R	0.032	0.040	0.820	1.020
S	0.017	0.025	0.430	0.630

TLM832D (REV: R2)

TLM832DS



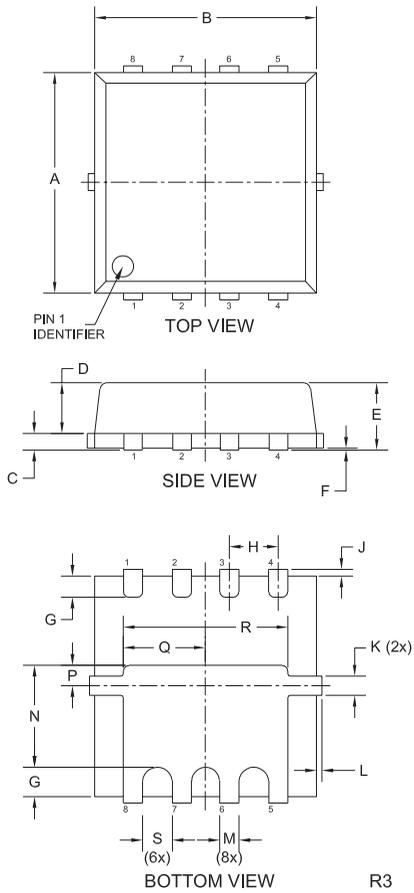
- * Exposed pad P1 common to pins 7 and 8
Exposed pad P2 common to pins 5 and 6

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.077	0.081	1.95	2.05
B	0.116	0.120	2.95	3.05
C	0.031	0.039	0.80	1.00
D	0.006	0.010	0.16	0.25
E	0.000	0.002	0.00	0.05
F		0.026		0.65
G	0.008	0.016	0.19	0.40
H	0.014	0.024	0.35	0.61
J	0.008	0.016	0.19	0.40
K	0.008	0.012	0.21	0.31
L	0.013	0.017	0.34	0.44
M	0.006	--	0.15	--
N		0.087		2.22
P	0.029	0.039	0.74	1.00

TLM832DS (REV:R1)

Leadless Packages, Mechanical Specifications (continued)

TLM833

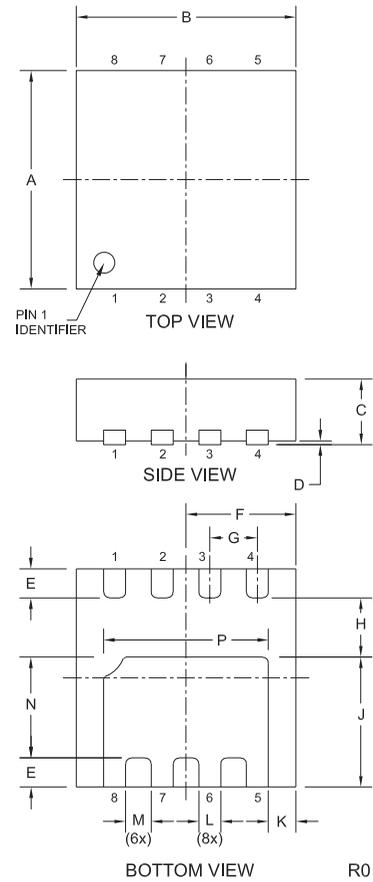


R3

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.114	0.122	2.90	3.10
B	0.114	0.122	2.90	3.10
C	0.006	0.010	0.15	0.25
D	0.026	0.030	0.65	0.75
E	0.031	0.039	0.80	1.00
F	0.000	0.002	0.00	0.05
G	0.008	0.018	0.20	0.45
H	0.026		0.65	
J	--	0.005	--	0.125
K	0.007	0.012	0.17	0.30
L	--	0.005	--	0.125
M	0.011	0.015	0.29	0.39
N	0.049	0.057	1.25	1.45
P	0.006	0.014	0.15	0.35
Q	0.040	0.048	1.01	1.21
R	0.085	0.093	2.16	2.36
S	0.012	0.016	0.30	0.40

TLM833 (REV:R3)

TLM833S



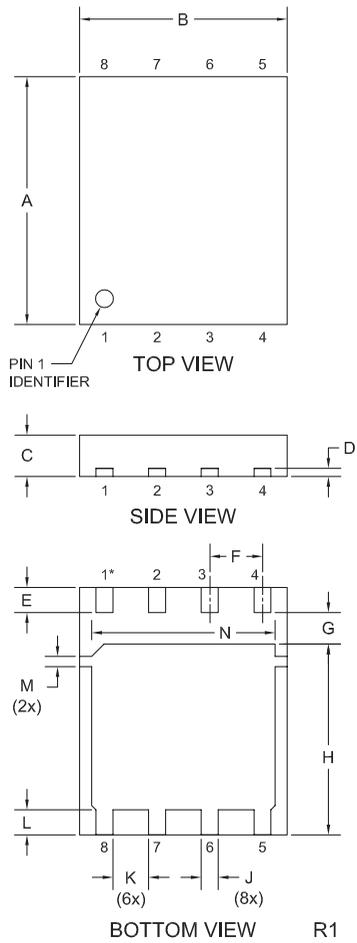
R0

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.112	0.124	2.85	3.15
B	0.112	0.124	2.85	3.15
C	0.031	0.039	0.80	1.00
D	0.000	0.002	0.00	0.05
E	0.012	0.020	0.30	0.50
F	0.056	0.062	1.43	1.57
G	0.026		0.65	
H	0.030	0.033	0.75	0.85
J	0.065	0.073	1.65	1.85
K	0.012	0.016	0.30	0.40
L	0.010	0.014	0.25	0.35
M	0.012	0.016	0.30	0.40
N	0.047	0.057	1.20	1.45
P	0.081	0.091	2.07	2.32

TLM833S (REV:R0)

Leadless Packages, Mechanical Specifications (continued)

TLM856

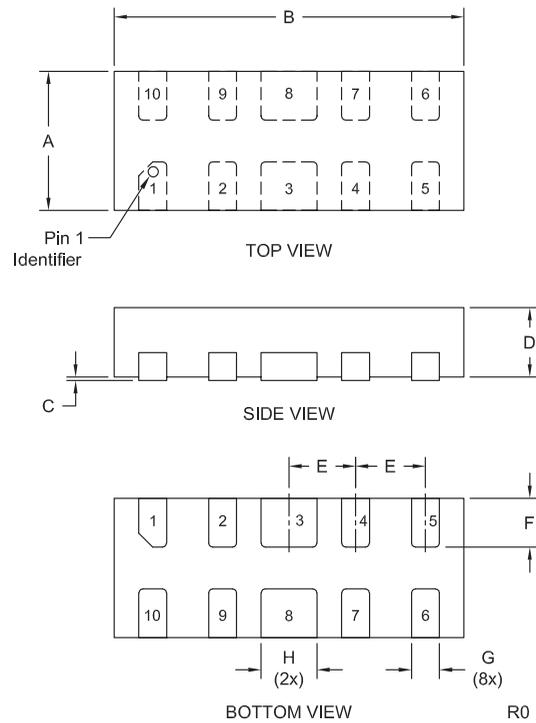


* Pins 1, 2, and 3 are internally connected

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.232	0.240	5.90	6.10
B	0.193	0.201	4.90	5.10
C	0.037	0.040	0.95	1.025
D	0.008		0.20	
E	0.022	0.026	0.56	0.66
F	0.050		1.27	
G	0.028	0.032	0.71	0.81
H	0.180	0.184	4.58	4.68
J	0.014	0.018	0.36	0.46
K	0.034		0.86	
L	0.022	0.026	0.56	0.66
M	0.008	0.012	0.20	0.30
N	0.172	0.176	4.37	4.47

TLM856 (REV:R1)

TLM1031



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.041	0.95	1.05
B	0.096	0.100	2.45	2.55
C	0.000	0.002	0.00	0.05
D	0.018	0.022	0.45	0.55
E	0.020		0.50	
F	0.012	0.016	0.30	0.40
G	0.006	0.010	0.15	0.25
H	0.014	0.018	0.35	0.45

TLM1031 (REV:R0)



We aspire to be the
preferred
manufacturer of the most
innovative
discrete semiconductors
in the industry



QUALITY POLICY

- ◆ Our definition of quality is **Complete Customer Satisfaction**.
- ◆ We are dedicated to manufacturing **Competitively Priced, Quality Products** delivered on time and professionally serviced.
- ◆ We define **Excellence** as surpassing our customers' expectations.
- ◆ Our perpetual challenge is the pursuit of **Achieving Excellence** in everything we do, and we strive to accomplish this by utilizing **Ongoing Training** for **Continuous Improvement** in all areas.
- ◆ We recognize that customer satisfaction results in **Repeat Business**.



Product Support

Central's sales-operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom packing
- Custom bar coding for shipments

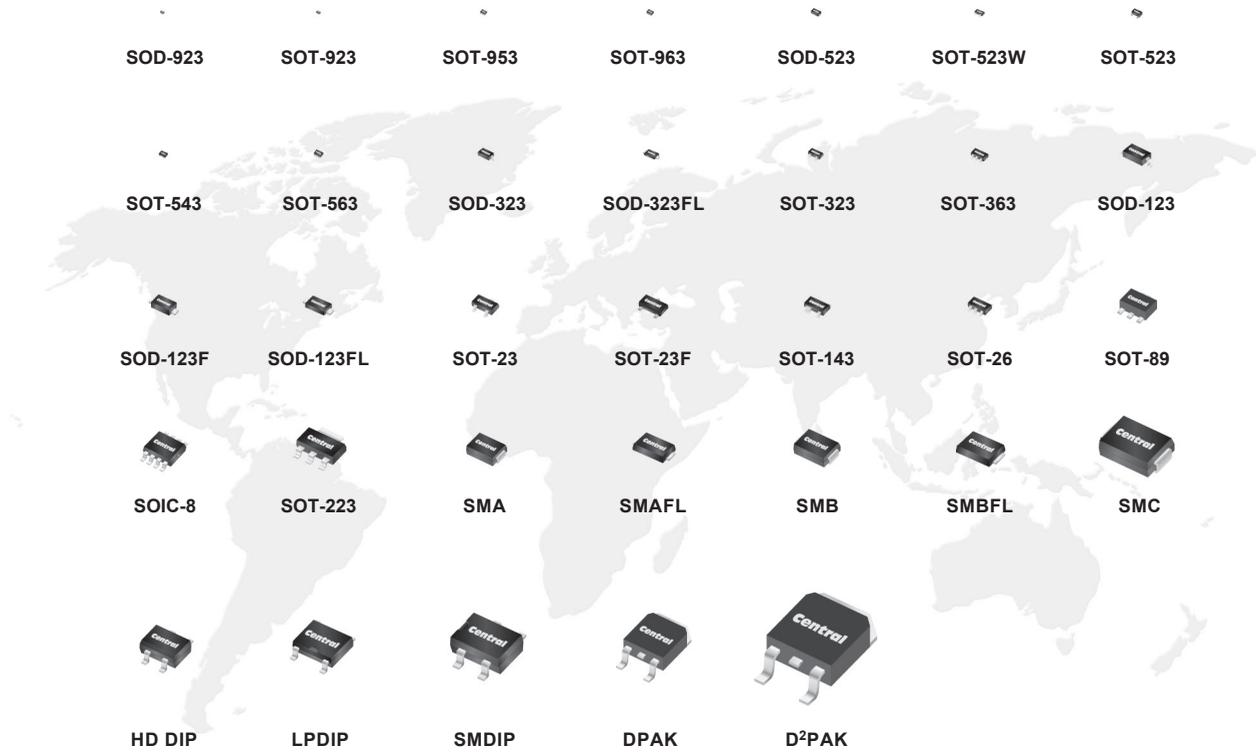
Designer Support/Services

Central's engineering team is ready to discuss your design challenges. Just ask.

- Quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development



Surface Mount Packages (Actual Size)



TLM™ Tiny Leadless Module

Bottom View



TLP™ Tiny Leadless Package

Bottom View



145 Adams Avenue, Hauppauge, NY 11788 USA

Tel: (631) 435-1110 • Fax: (631) 435-1824

www.centralsemi.com