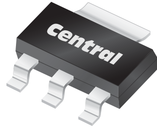
Material Composition Specification

SOT-223 Case



Eutectic Die Attach

Device average mass . . . . . . 113 mg (+/-10%)

Component	Material	Material (%wt)	Material (mg)	Substance	CAS No.	Substance (%wt)	Substance (mg)	Substance (ppm)
active device	doped Si	0.95%	1.072	Si	7440-21-3	0.95%	1.072	9,487
bond wire	gold or copper	0.05%	0.06	Au	7440-57-5	0.05%	0.06	531
				Cu	7440-50-8			
leadframe	copper w/ silver plating	40.55%	45.82	Cu	7440-50-8	40.13%	45.35	401,327
				Fe	7439-89-6	0.04%	0.05	442
				P	7723-14-0	0.01%	0.015	113
				Ag	7440-22-4	0.36%	0.402	3,558
encapsulation*	EMC	56.48%	63.82	silica	7631-86-9	41.24%	46.6	412,389
				epoxy resin	Proprietary	13.43%	15.18	134,336
				Sb_2O_3	1309-64-4	1.11%	1.256	11,115
				TBBA	79-94-7	0.55%	0.627	5,549
				carbon black	1333-86-4	0.14%	0.158	1,398
	EMC GREEN	56.48%	63.82	silica	60676-86-0	40.1%	45.31	401,000
				epoxy resin	29690-82-2	5.22%	5.904	52,248
				phenol resin	9003-35-4	5.22%	5.904	52,248
				carbon black	1333-86-4	0.28%	0.32	2,832
				metal hydroxide	1309-42-8	5.65%	6.38	56,460
plating**	tin/lead process	1.97%	2.23	Sn	7440-31-5	1.58%	1.785	15,796
				Pb	7439-92-1	0.39%	0.445	3,938
	matte tin	1.97%	2.23	Sn	7440-31-5	1.97%	2.23	19,735

Solder Die Attach

Device average mass . . . . . . 115 mg (+/-10%)

Component	Material	Material (%wt)	Material (mg)	Substance	CAS No.	Substance (%wt)	Substance (mg)	Substance (ppm)
active device	doped Si	1.25%	1.432	Si	7440-21-3	1.25%	1.432	12,452
bond wire	gold or copper	0.11%	0.125	Au	7440-57-5	0.11%	0.125	1,087
				Cu	7440-50-8			
leadframe	copper w/ silver plating	44.92%	51.66	Cu	7440-50-8	44.56%	51.24	445,565
				Fe	7439-89-6	0.05%	0.057	496
				P	7723-14-0	0.02%	0.02	174
				Ag	7440-22-4	0.3%	0.345	3,000
die attach	high temperature solder paste	0.34%	0.39	Pb	7439-92-1	0.32%	0.37	3,217
				Sn	7440-31-5	0.02%	0.02	174
				Ag	7440-22-4	0.001%	0.001	9
encapsulation*	EMC	51.44%	59.16	silica	7631-86-9	37.56%	43.196	375,624
				epoxy resin	Proprietary	12.23%	14.07	122,350
				Sb_2O_3	1309-64-4	1.01%	1.165	10,131
				TBBA	79-94-7	0.51%	0.582	5,061
				carbon black	1333-86-4	0.13%	0.147	1,278
	EMC GREEN	51.44%	59.16	silica	60676-86-0	36.53%	42.004	365,259
				epoxy resin	29690-82-2	4.76%	5.473	47,592
				phenol resin	9003-35-4	4.76%	5.473	47,592
				carbon black	1333-86-4	0.26%	0.297	2,583
				metal hydroxide	1309-42-8	5.14%	5.913	51,418
plating**	tin/lead process	1.94%	2.23	Sn	7440-31-5	1.55%	1.785	15,522
				Pb	7439-92-1	0.39%	0.445	3,870
	matte tin	1.94%	2.23	Sn	7440-31-5	1.94%	2.23	19,392

*EMC GREEN molding compound is Halogen-Free.

**For Lead Free plating, add suffix “PB FREE” to part number.
For Tin/Lead plating, add suffix “TIN/LEAD” to part number.
No suffix designation allows for the supply of either lead-free or tin/lead plated product depending on availability.

Disclaimer
The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

R10 (16-July 2018)