Material Composition Specification

TO-18 Case

Device average mass . . . . . **312.4 mg**

Fluctuation margin . . . . . **+/-10%**

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	1.6%	5.0	Si	7440-21-3	1.6%	5.0	16,004
bond wire	Al alloy	0.125%	0.39	Al	7429-90-5	0.122%	0.38	1,216
				Si	7440-21-3	0.003%	0.01	32
die attach (CS18D only)	high temperature solder paste	3.2%	1.0	Pb	7439-92-1	0.295%	0.925	2,951
				Sn	7440-31-5	0.016%	0.05	160
				Ag	7440-22-4	0.008%	0.025	80
header	Kovar (Fe/Ni/Co alloy)	58.8%	183.71	Fe	7439-89-6	22.161%	69.236	221,615
				Ni	7440-02-0	14.511%	45.334	145,108
				glass	Proprietary	13.444%	42	134,436
				Co	7440-48-4	7.808%	24.392	78,075
				Mn	7439-96-5	0.217%	0.677	2,167
				P	7723-14-0	0.18%	0.561	1,796
				Si	7440-21-3	0.13%	0.406	1,300
				Ag	7440-22-4	0.23%	0.72	2,305
				C	1333-86-4	0.21%	0.067	214
				Cu	7440-50-8	0.09%	0.28	896
				S	7704-34-9	0.013%	0.041	131
can	alloy	36.81%	114.99	Fe	7439-89-6	36.698%	114.65	366,979
				C	1333-86-4	0.017%	0.052	166
				Mn	7439-96-5	0.074%	0.23	736
				Al	7429-90-5	0.019%	0.06	192
can plating (inner layer)	nickel	1.06%	3.32	Ni	7440-02-0	1.06%	3.32	10,627
can plating (outer layer)	matte tin**	1.44%	4.5	Sn	7440-31-5	1.44%	4.5	14,404
lead free termination plating*	matte tin**	0.16%	0.5	Sn	7440-31-5	0.16%	0.5	1,601

*For Lead Free termination plating, add suffix “PB FREE” to part number.
**Contact the Central Semiconductor Sales Department for tin/lead plating availability.