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
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.

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.

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