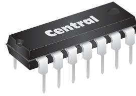
Material Composition Specification

TO-116 Case



Device average mass. . . . . 1035 mg

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

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	0.05%	0.5	Si	7440-21-3	0.048%	0.5	483
bond wire	gold	0.02%	0.21	Au	7440-57-5	0.02%	0.21	203
leadframe	Cu alloy 194 w/ silver plating	32.85%	340	Cu	7440-50-8	31.981%	331	319,807
				Fe	7439-89-6	0.773%	8	7,729
				Zn	7440-66-6	0.043%	0.45	435
				P	7723-14-0	0.035%	0.36	348
				Ag	7440-22-4	0.018%	0.19	184
die attach	silver epoxy	0.03%	0.29	Ag	7440-22-4	0.022%	0.23	222
				epoxy resin	9003-36-5	0.003%	0.03	29
				diluent	26647-14-3	0.002%	0.02	19
				hardener	620-92-8	0.001%	0.01	10
encapsulation*	EMC	65.89%	682	silica	7631-86-9	52.715%	545.6	527,150
				epoxy resin	Proprietary	9.884%	102.3	98,841
				TBBA	79-94-7	1.652%	17.1	16,522
				Sb_2O_3	1309-64-4	1.314%	13.6	13,140
				carbon black	1333-86-4	0.329%	3.4	3,285
	EMC GREEN	65.89%	682	silica (fused)	60676-86-0	56.01%	579.7	560,097
				epoxy resin	Proprietary	4.193%	43.4	41,932
				phenol resin	9003-35-4	4.193%	43.4	41,932
				epoxy, cresol novolac	29690-82-2	1.314%	13.6	13,140
				carbon black	1333-86-4	0.184%	1.9	1,836
plating**	tin/lead process	1.16%	12	Sn	7440-31-5	0.928%	9.6	9,275
				Pb	7439-92-1	0.232%	2.4	2,319
	matte tin	1.16%	12	Sn	7440-31-5	1.159%	12	11,594

*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.

R2 (16-July 2018)