Material Composition Specification

DO-41 Case

Epoxy Case

Device average mass . . . . . . 336 mg (+/-10%)

Component	Material	Material (%wt)	Material (mg)	Substance	CAS No.	Substance (%wt)	Substance (mg)	Substance (ppm)
active device	doped Si	0.22%	0.75	Si	7440-21-3	0.22%	0.75	2,233
				Au	7440-57-5	0.001%	0.004	12
leadframe	metal alloy	82.55%	277.3	Fe	7439-89-6	0.07%	0.25	744
				Cu	7440-50-8	82.47%	277	824,724
die attach	high temperature solder	0.63%	2.11	Pb	7439-92-1	0.58%	1.95	5,806
				Sn	7440-31-5	0.03%	0.104	310
				Ag	7440-22-4	0.02%	0.056	167
encapsulation*	EMC	13.7%	46	SiO_2	14808-60-7	9.31%	31.28	93,131
				epoxy resin	29690-82-2	2.74%	9.2	27,392
				phenol resin	9003-35-4	1.37%	4.6	13,696
				Sb_2O_3	1309-64-4	0.14%	0.46	1,370
				Br	7726-95-6	0.14%	0.46	1,370
	EMC GREEN	13.7%	46	silica (fused)	60676-86-0	10.55%	35.42	105,457
				epoxy resin	29690-82-2	1.37%	4.6	13,696
				phenol resin	9003-35-4	1.33%	4.46	13,279
				carbon black	1333-86-4	0.04%	0.14	417
				aluminum hydroxide	1309-42-8	0.41%	1.38	4,109
plating**	tin/lead process	2.89%	9.71	Sn	7440-31-5	2.31%	7.77	23,134
				Pb	7439-92-1	0.58%	1.94	5,776
	matte tin	2.89%	9.71	Sn	7440-31-5	2.89%	9.71	28,910
ink	N/A	0.01%	0.05	2-propenic acid	53192-18-0	0.01%	0.021	63
				Al	7429-90-5	0.002%	0.006	18
				silica	112945-52-5	0.0003%	0.001	3
				methanone	947-19-3	0.0003%	0.001	3
				isoamyl 4-benzoate	21245-01-2	0.01%	0.017	51

Glass Case

Device average mass . . . . . . 335 mg (+/-10%)

Component	Material	Material (%wt)	Material (mg)	Substance	CAS No.	Substance (%wt)	Substance (mg)	Substance (ppm)
active device	doped Si	0.024%	0.08	Si	7440-21-3	0.017%	0.058	174
				Ag	7440-22-4	0.007%	0.022	66
leadframe	dumet	12.24%	41	Ni	7440-02-0	5.753%	19.271	57,525
				Fe	7439-89-6	4.529%	15.171	45,286
				Cu	7440-50-8	1.958%	6.561	19,584
	metal alloy	68.68%	230.08	Fe	7439-89-6	48.077%	161.058	480,769
				Cu	7440-50-8	20.604%	69.026	206,044
encapsulation	glass	16.63%	55.7	PbO	1317-36-8	9.977%	33.422	99,768
				SiO_2	14808-60-7	6.651%	22.282	66,512
plating**	tin/lead process	2.4%	8.04	Sn	7440-31-5	1.92%	6.43	19,190
				Pb	7439-92-1	0.48%	1.61	4,805
	matte tin	2.4%	8.04	Sn	7440-31-5	2.4%	8.04	23,995
ink	N/A	0.028%	0.089	tributyl-phosphate	126-73-8	0.017%	0.056	168
				carbon black	1333-86-4	0.004%	0.013	38
				phenol	108-95-2	0.001%	0.001	14
				Proprietary	--	0.006%	0.019	58

*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.