

Material Composition Specification

TO-220FP-2 Case



Device average mass 1.561 g
 Fluctuation margin +/-10%

Component	Material	Material		Substance	CAS No.	Substance		
		(%wt)	(mg)			(%wt)	(mg)	(ppm)
active device	doped Si	0.41%	6.4	Si	7440-21-3	0.41%	6.4	4,100
leadframe	Cu alloy	45.1%	704	Cu	7440-50-8	45.04%	703	450,352
				Fe	7439-89-6	0.06%	1	641
die attach	high temperature solder	1.06%	17	Pb	7439-92-1	0.98%	15.25	9,769
				Sn	7440-31-5	0.05%	0.83	532
				Ag	7440-22-4	0.03%	0.42	269
encapsulation*	EMC	52.76%	823.55	silica	7631-86-9	38.51%	601.20	385,138
				epoxy resin	29690-82-2	12.13%	189.41	121,339
				Sb ₂ O ₃	1309-64-4	1.06%	16.47	10,551
				TBBA	79-94-7	1.06%	16.47	10,551
	EMC GREEN	52.76%	823.55	silica (fused)	7631-86-9	42.05%	656.38	420,487
				epoxy resin	29690-82-2	5.28%	82.35	52,755
				phenol resin	9003-35-4	5.28%	82.35	52,755
				carbon black	1333-86-4	0.16%	2.47	1,582
plating**	tin/lead process	0.68%	10.55	Sn	7440-31-5	0.54%	8.44	5,407
				Pb	7439-92-1	0.14%	2.11	1,352
	matte tin	0.68%	10.55	Sn	7440-31-5	0.68%	10.55	6,758

*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.

R1 (16-July 2018)