



Semiconductor Device Type: AB (F8X) 003 TO-220 Matte Tin				Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			JEDEC 97 Product Marking and/or Pkg. Labeling e3
Basic Substance	CAS Number	Contained In Sub-Component	% Total Weight	mg/part	ppm	536.44	(mg) Total	Mold Compound	% of Total Weight	28.38
Fused Silica	60676-86-0	Mold Compound	24.974	472.066	249,744		Fused Silica	60676-86-0	88.00	
Epoxy Resin 1	Trade Secret	Mold Compound	0.922	17.434	9,224		Epoxy Resin 1	Trade Secret	3.25	
Epoxy Resin 2	Trade Secret	Mold Compound	0.851	16.093	8,514		Epoxy Resin 2	Trade Secret	3.00	
Phenol Resin	Trade Secret	Mold Compound	1.277	24.140	12,771		Phenol Resin	Trade Secret	4.50	
Carbon Black	1333-86-4	Mold Compound	0.071	1.341	710		Carbon Black	1333-86-4	0.25	
Misc.	Trade Secret	Mold Compound	0.284	5.364	2,838		Undeclared	Trade Secret	1.00	
Copper	7440-50-8	Lead Frame	68.874	1301.860	688,742		Total 100.00			
Tin	7440-31-5	Lead Frame	0.116	2.193	1,160	1329.38	(mg) Total	Lead Frame	% of Total Weight	70.33
Silver	7440-22-4	Lead Frame	1.340	25.325	13,398		Copper	7440-50-8	97.93	
Silver (Ag)	7440-22-4	Die Attach	0.063	1.187	628		Tin	7440-31-5	0.17	
Proprietary Resin	Trade Secret	Die Attach	0.015	0.280	148		Silver	7440-22-4	1.91	
Proprietary Curing agent & Hardener	Trade Secret	Die Attach	0.002	0.045	24		Total 100.00			
Silicon	7440-21-3	Chip (Die)	0.600	11.341	6,000	1.51	(mg) Total	Die Attach	% of Total Weight	0.08
Gold	7440-57-5	Wire Bond	0.050	0.945	500		Silver (Ag)	7440-22-4	78.50	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.560	10.585	5,600		Proprietary Resin	Trade Secret	18.50	
TOTALS:			100.000	1,890.200	1,000,000	Total 100.00				
1.8902 g Total Mass										
This semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 2015) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption (zero)										
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and/or analytical test data.										
If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.										
Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL IQTM family of databases to obtain a test report at http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/										
The protective "tubes" in which the specific product is shipped are made from polyvinyl chloride (PVC) plastic. "Window envelopes" used to hold the packing slip on the outer box and certain "reels" may be made from PVC plastic.										
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Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at http://echa.europa.eu/web/guest/candidate-list-table										
						10.59	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	0.56
							Tin	7440-31-5	100.00	
						Total 100.00				
						0.95	(mg) Total	Wire Bond	% of Total Weight	0.05
							Doped Silicon	7440-21-3	100.00	
						Total 100.00				
						11.34	Total (mg)	Chip (Die)	% of Total Weight	0.6
							Doped Gold	7440-57-5	100.00	
						Total 100.00				
						1.890.200				100.000