



Semiconductor Device Type: AT / AV (B8X) 005 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	526.92	(mg) Total	Mold Compound	% of Total Weight	26.56
Fused Silica	60676-86-0	Mold Compound	23.373	463.693	233,728		Fused Silica	60676-86-0	88.00	
Epoxy Resin 1	Trade Secret	Mold Compound	0.863	17.125	8,632		Epoxy Resin 1	Trade Secret	3.25	
Epoxy Resin 2	Trade Secret	Mold Compound	0.797	15.808	7,968		Epoxy Resin 2	Trade Secret	3.00	
Phenol Resin	Trade Secret	Mold Compound	1.195	23.712	11,952		Phenol Resin	Trade Secret	4.50	
Carbon Black	1333-86-4	Mold Compound	0.066	1.317	664		Carbon Black	1333-86-4	0.25	
Misc.	Trade Secret	Mold Compound	0.266	5.269	2,656		Undeclared	Trade Secret	1.00	
Copper	7440-50-8	Lead Frame	70.627	1401.171	706,271					
Tin	7440-31-5	Lead Frame	0.119	2.361	1,190					
Silver	7440-22-4	Lead Frame	1.374	27.257	13,739	1430.79	(mg) Total	Lead Frame	% of Total Weight	72.12
Silver (Ag)	7440-22-4	Die Attach	0.071	1.402	707		Copper	7440-50-8	97.93	
Proprietary Resin	Trade Secret	Die Attach	0.017	0.330	167		Tin	7440-31-5	0.17	
Proprietary Curing agent & Hardener	Trade Secret	Die Attach	0.003	0.054	27		Silver	7440-22-4	1.91	
Silicon	7440-21-3	Chip (Die)	0.620	12.300	6,200	1.79	(mg) Total	Die Attach	% of Total Weight	0.09
Gold	7440-57-5	Wire Bond	0.040	0.794	400		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	0.570	11.308	5,700		Proprietary Resin	Trade Secret	18.50	
<b>TOTALS:</b>			<b>100.000</b>	<b>1,983.900</b>	<b>1,000.000</b>		Proprietary Curing agent & Hardener	Trade Secret	3.00	
<b>1.9839 g Total Mass</b>										
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 <a href="http://ul.com/global/eng/pages/offerings/industries/chemicals/plastics/">http://ul.com/global/eng/pages/offerings/industries/chemicals/plastics/</a>										
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 <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>										
						12.30	Total (mg)	Chip (Die)	% of Total Weight	0.62
							Doped Silicon	7440-21-3	100.00	
							Total		100.00	
						0.79	(mg) Total	Wire Bond	% of Total Weight	0.04
							Doped Gold	7440-57-5	100.00	
							Total		100.00	
						11.31	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	0.57
							Tin	7440-31-5	100.00	
							Total		100.00	
						1,983.900				100.000