



Semiconductor Device Type: Z8X 144 TQFP 20x20x1.0mm Matte Tin			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			J-STD-609A Product Marking and/or Pkg. Labeling e3	
Basic Substance	CAS Number	Sub-Component "Contained In"	% Total Weight	mg/part	ppm	(mg) Total	Mold Compound	% of Total Weight		
Silica, vitreous	60676-86-0	Mold Compound	44.646	452.841	446.457	521.05	Silica, vitreous	60676-86-0	86.91	
Epoxy Resin	Trade Secret	Mold Compound	3.940	39.964	39.401		Epoxy Resin	Trade Secret	7.67	
Phenolic Resin	Trade Secret	Mold Compound	2.625	26.625	26.250		Phenolic Resin	Trade Secret	5.11	
Carbon Black	1333-86-4	Mold Compound	0.159	1.615	1.592		Carbon Black	1333-86-4	0.31	
Copper	7440-50-8	Lead Frame	42.390	429.962	423.900		Total			100.00
Iron	7439-89-6	Lead Frame	1.043	10.576	10.427	450.04	(mg) Total			44.37
Silver	7440-22-4	Lead Frame	0.845	8.573	8.452		Copper	7440-50-8	95.54	
Zinc	7440-66-6	Lead Frame	0.055	0.563	0.555		Iron	7439-89-6	2.35	
Phosphorous	7723-14-0	Lead Frame	0.037	0.371	0.366		Silver	7440-22-4	1.91	
Silver	7440-22-4	Die Attach	0.590	5.988	5.904		Zinc	7440-66-6	0.13	
Epoxy Resin	9003-36-5	Die Attach	0.210	2.126	2.096	Phosphorous	7723-14-0	0.08		
Silicon	7440-21-3	Chip (Die)	1.970	19.982	19.700	Total			100.00	
Gold	7440-57-5	Wire Bond	0.360	3.651	3.600	8.11	(mg) Total			0.80
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.130	11.462	11.300		Silver	7440-22-4	73.80	
TOTALS:			100.000	1,014.300	1,000,000	Total			100.00	
1.0143 g Total Mass						19.98	Total			1.97
							Doped Silicon	7440-21-3	100.00	
						Total			100.00	
						3.65	(mg) Total			0.36
							Gold	7440-57-5	100.00	
						Total			100.00	
						11.46	(mg) Total			1.13
							Tin	7440-31-5	100.00	
						Total			100.00	

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>