



Semiconductor Device Type: ST (D8X) 016 TSSOP 4.4mm 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	22.50	(mg) Total	Mold Compound	% of Total Weight	34.62	
Silica, vitreous (or fused)	60676-86-0	Mold Compound	29.427	19,128	294,270		Silica, vitreous (or fused)	60676-86-0	85.00		
Epoxy Resin	Trade Secret	Mold Compound	3.012	1,958	30,119		Epoxy Resin	Trade Secret	8.70		
Phenolic Resin	Trade Secret	Mold Compound	2.077	1,350	20,772		Phenolic Resin	Trade Secret	6.00		
Carbon Black	1333-86-4	Mold Compound	0.104	0.068	1,039		Carbon Black	1333-86-4	0.30		
Copper	7440-50-8	Lead Frame	44.468	28,904	444,680		Total 100.00				
Nickel	7440-02-0	Lead Frame	1.186	0.771	11,859	30.35	(mg) Total	Lead Frame	% of Total Weight	46.69	
Silver	7440-22-4	Lead Frame	0.779	0.507	7,793		Copper	7440-50-8	95.24		
Silicon	7440-21-3	Lead Frame	0.210	0.137	2,101		Nickel	7440-02-0	2.54		
Magnesium	7439-95-4	Lead Frame	0.047	0.030	467		Silver	7440-22-4	1.67		
Silver	7440-22-4	Die Attach	2.472	1.607	24,716		Silicon	7440-21-3	0.45		
Epoxy resin	Trade Secret	Die Attach	0.668	0.434	6,680		Magnesium	7439-95-4	0.10		
Metal oxide	Trade Secret	Die Attach	0.100	0.065	1,002		Total 100.00				
Gamma-butyrolactone	96-48-0	Die Attach	0.100	0.065	1,002	2.17	(mg) Total	Die Attach	% of Total Weight	3.34	
Silicon	7440-21-3	Chip (Die)	12.340	8,021	123,400		Copper	7440-50-8	74.00		
Gold	7440-57-5	Wire Bond	0.610	0.397	6,100		Epoxy resin	Trade Secret	20.00		
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.400	1.560	24,000		Metal oxide	Trade Secret	3.00		
TOTALS:			100.000	65.000	1,000,000		Gamma-butyrolactone	96-48-0	3.00		
0.0650 g Total Mass							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/											
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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											
							8.02	Total (mg)	Chip (Die)	% of Total Weight	12.34
								Doped Silicon	7440-21-3	100.00	
							Total 100.00				
							0.40	(mg) Total	Wire Bond	% of Total Weight	0.61
								Doped Gold	7440-57-5	100.00	
							Total 100.00				
							1.56	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	2.4
								Tin	7440-31-5	100.00	
							Total 100.00				
							65.000				100.000