



Semiconductor Device Type: SO (G5X) 020 SOIC .300in 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	(mg) Total	Mold Compound	% of Total Weight			
Silica, vitreous	60676-86-0	Mold Compound	61.064	330.967	610.640	389.37	Silica, vitreous	60676-86-0	85.00		
Epoxy Resin (No bromine, No diantimony trioxide)	Trade Secret	Mold Compound	4.400	23.849	44.002		Epoxy Resin	Trade Secret	6.13		
Phenolic Resin (No Br / CL SbO3, No diantimony trioxide)	Trade Secret	Mold Compound	4.400	23.849	44.002		Phenolic Resin	Trade Secret	6.13		
Epoxy, Cresol Novolac	29690-82-2	Mold Compound	1.760	9.540	17.601		Epoxy, Cresol Novolac	29690-82-2	2.45		
Carbon Black	1333-86-4	Mold Compound	0.216	1.168	2.155		Carbon Black	1333-86-4	0.30		
			TOTALS:				Total			100.00	
Copper	7440-50-8	Lead Frame	24.735	134.062	247.347	140.32	(mg) Total		Lead Frame	% of Total Weight	25.89
Iron	7439-89-6	Lead Frame	0.608	3.298	6.084		Copper	7440-50-8	95.54		
Silver	7440-22-4	Lead Frame	0.493	2.673	4.932		Iron	7439-89-6	2.35		
Zinc	7440-66-6	Lead Frame	0.032	0.175	324		Silver	7440-22-4	1.91		
Phosphorous	7723-14-0	Lead Frame	0.021	0.116	214		Zinc	7440-66-6	0.13		
Silver	7440-22-4	Die Attach	0.252	1.364	2,516		Phosphorous	7723-14-0	0.08		
Epoxy resin	Trade Secret	Die Attach	0.068	0.369	680	Total			100.00		
Metal oxide	Trade Secret	Die Attach	0.010	0.055	102	1.84	(mg) Total		Die Attach	% of Total Weight	0.34
Gamma-butyrolactone	96-48-0	Die Attach	0.010	0.055	102		Silver	7440-22-4	74.00		
Silicon	7440-21-3	Chip (Die)	1.150	6.233	11,500		Epoxy resin	Trade Secret	20.00		
Gold	7440-57-5	Wire Bond	0.100	0.542	1,000		Metal oxide	Trade Secret	3.00		
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.680	3.686	6,800		Gamma-butyrolactone	96-48-0	3.00		
			TOTALS:				Total			100.00	
0.5420 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)						6.23	Total (mg)		Chip (Die)	% of Total Weight	1.15
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.							Dope Silicon		7440-21-3	100.00	
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.						Total		100.00			
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/						0.54	(mg) Total		Wire Bond	% of Total Weight	0.1
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.							Dope Gold		7440-57-5	100.00	
Microchip Technology Incorporated believes the information in this form concerning substances restricted by RoHS in Microchip Technology Incorporated's semiconductor devices in their original packing materials is true and correct to the best of its knowledge and belief, as of the date listed in this form. Microchip Technology Incorporated cannot guarantee the completeness and accuracy of data in this form because it has been compiled based on the ranges provided in Material Safety Data Sheets provided by raw material suppliers. Supplier information is often protected from disclosure as trade secrets and some information may not have been provided by subcontract assemblers and raw material suppliers. Information is provided only as estimates of the average weight of these parts and the average weight of anticipated significant toxic metals components. These estimates do not include trace levels of dopants, metals, and non-metal materials contained within silicon devices (silicon IC) in the finished parts.						Total		100.00			
Microchip Technology Incorporated does not provide any warranty, express or implied, with respect to the information provided in this declaration. The exclusive, limited product warranties provided by Microchip Technology Incorporated and its subsidiaries are contained in Microchip's standard terms and conditions of sale. These are provided in Microchip's quotations, sales order acknowledgement, and invoices.						3.69	(mg) Total		Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	0.68
Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.							Tin		7440-31-5	100.00	
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						Total		100.00			
						542.000		100.000			