



Semiconductor Device Type: (DDA) 003 SOT-223 Matte Tin			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials			J-STD-609A Product Marking and/or Pkg. Labeling e3	
Basic Substance	CAS Number		% Total Weight	mg/part	ppm	59.57	(mg) Total	Mold Compound	% of Total Weight	48.43
Silica, vitreous	60676-86-0	Mold Compound	41.166	50.634	411.655	59.57	(mg) Total	Silica, vitreous	60676-86-0	85.00
Epoxy Resin	Trade Secret	Mold Compound	2.966	3.649	29.663			Epoxy Resin	Trade Secret	6.13
Phenolic Resin	Trade Secret	Mold Compound	2.966	3.649	29.663			Phenolic Resin	Trade Secret	6.13
Epoxy, Cresol Novolac	29690-82-2	Mold Compound	1.187	1.459	11.865			Epoxy, Cresol Novolac	29690-82-2	2.45
Carbon Black	1333-86-4	Mold Compound	0.145	0.179	1,453			Carbon Black	1333-86-4	0.30
Copper	7440-50-8	Lead Frame	44.415	54.631	444,154			Total 100.00		
Iron	7439-89-6	Lead Frame	1.093	1.344	10,925	57.18	(mg) Total	Lead Frame		
Silver	7440-22-4	Lead Frame	0.886	1.089	8,856			Copper	7440-50-8	95.54
Zinc	7440-66-6	Lead Frame	0.058	0.071	581			Iron	7439-89-6	2.35
Phosphorous	7723-14-0	Lead Frame	0.038	0.047	384			Silver	7440-22-4	1.91
Lead	7439-92-1	Die Attach	1.822	2.241	18,223			Zinc	7440-66-6	0.13
Tin	7440-31-5	Die Attach	0.099	0.121	985			Phosphorous	7723-14-0	0.08
Silver	7440-22-4	Die Attach	0.049	0.061	493	Total 100.00				
Silicon	7440-21-3	Chip (Die)	1.490	1.833	14,900	2.42	(mg) Total	Die Attach		
Copper	7440-50-8	Wire Bond	0.068	0.083	676			Lead	7439-92-1	92.50
Gold	7440-57-5	Wire Bond	0.012	0.015	124			Tin	7440-31-5	5.00
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.540	1.894	15,400	Silver	7440-22-4	2.50	Total 100.00	
TOTALS:			100.000	123.000	1,000,000				1.97	
0.1230 g Total Mass						1.83	Total (mg)	Chip (Die)		
<p>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) using EU-RoHS application exemption 7(a): Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead.</p> <p>Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and/or analytical test data.</p> <p>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.</p> <p>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/offerings/industries/chemicals/plastics/</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>										
						0.10	(mg) Total	Wire Bond		
							(mg) Total	Copper	7440-50-8	84.54
								Gold	7440-57-5	15.46
						1.89	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1		
									100.00	
									123.000	100.000