



Semiconductor Device Type: PVA 048 VQFN 7x7x0.9 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	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	(mg) Total	Mold Compound	% of Total Weight	
Silica Fused	60676-86-0	Mold Compound	44.824	58.808	448,235	66.62	60676-86-0	88.27	50.78
Epoxy Resin	Trade Secret	Mold Compound	3.169	4.157	31,687				
Phenol Resin	Trade Secret	Mold Compound	2.635	3.458	26,355				
Carbon Black	1333-86-4	Mold Compound	0.152	0.200	1,523				
Copper	7440-50-8	Lead Frame	41.463	54.400	414,633				
Iron	7439-89-6	Lead Frame	1.020	1.338	10,199				
Silver	7440-22-4	Lead Frame	0.827	1.085	8,268	56.94	7440-50-8	95.54	
Zinc	7440-66-6	Lead Frame	0.054	0.071	543				
Phosphorous	7723-14-0	Lead Frame	0.036	0.047	358				
Silver	7440-22-4	Die Attach	1.428	1.874	14,280				
Epoxy Resin	Trade secret	Die Attach	0.272	0.357	2,720				
Silicon	7440-21-3	Chip (Die)	1.350	1.771	13,500				
Gold	7440-57-5	Wire Bond	0.450	0.590	4,500	2.23	7440-22-4	84	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.320	3.044	23,200				
TOTALS:			100.000	131.200	1,000,000				
0.1312g Total Mass									
<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) without exemption (zero)</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/offering/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>									
									Total
						Total (mg)		1.77	1.35
						Doped Silicon		7440-21-3	100
						Total		100.00	
						(mg) Total		0.59	0.45
						Wire Bond		7440-57-5	100.00
						Total		100.00	
						(mg) Total		3.04	2.32
						Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour		7440-31-5	100.00
						Total		100.00	

131.20

100.00