



Semiconductor Device Type: PF (E5X) 100 TQFP 14x14x1mm 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	Sub-Component	% Total Weight	mg/part	ppm	(mg) Total	Mold Compound	% of Total Weight					
Silica, vitreous (or fused)	60676-86-0	Mold Compound	58.089	288.702	580.890	339.65	Silica, vitreous (or fused) 60676-86-0	85.00	68.34				
Epoxy Resin	Trade Secret	Mold Compound	5.946	29.550	59.456					Epoxy Resin Trade Secret	8.70		
Phenolic Resin	Trade Secret	Mold Compound	4.100	20.379	41.004							Phenolic Resin Trade Secret	6.00
Carbon Black	1333-86-4	Mold Compound	0.205	1.019	2.050								
			<b>Total</b>									<b>100.00</b>	
Copper	7440-50-8	Lead Frame	26.156	129.995	261.559	133.44	(mg) Total	Lead Frame	% of Total Weight				
Tin	7440-31-5	Lead Frame	0.067	0.334	671					Copper 7440-50-8	97.42		
Silver	7440-22-4	Lead Frame	0.511	2.542	5,115	Tin 7440-31-5	0.25						
Zinc	7440-66-6	Lead Frame	0.048	0.240	483	Silver 7440-22-4	1.91						
Chromium	7440-47-3	Lead Frame	0.067	0.334	671	Zinc 7440-66-6	0.18						
Silver (Ag)	7440-22-4	Die Attach	0.481	2.393	4,814	Chromium 7440-47-3	0.25						
ANHYDRIDE	Trade Secret	Die Attach	0.052	0.259	522	<b>Total</b>			<b>100.00</b>				
EPOXY RESIN	Trade Secret	Die Attach	0.046	0.231	464	2.88	(mg) Total	Die Attach	% of Total Weight				
Silicon	7440-21-3	Chip (Die)	2.710	13.469	27,100					Silver (Ag) 7440-22-4	83.00		
Gold	7440-57-5	Wire Bond	0.420	2.087	4,200	ANHYDRIDE Trade Secret	9.00						
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.100	5.467	11,000			EPOXY RESIN Trade Secret	8.00				
			<b>TOTALS:</b>			<b>100.000</b>	<b>497.000</b>	<b>1,000,000</b>					
<b>0.4970 g Total Mass</b>													
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 <a href="http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/">http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/</a>													
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.													
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.													
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.													
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.													
Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>													
						13.47	Total (mg)	Chip (Die)	% of Total Weight	2.71			
							Doped Silicon	7440-21-3	100.00				
								<b>Total</b>	<b>100.00</b>				
						2.09	(mg) Total	Wire Bond	% of Total Weight	0.42			
							Doped Gold	7440-57-5	100.00				
								<b>Total</b>	<b>100.00</b>				
						5.47	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	1.1			
							Tin	7440-31-5	100.00				
								<b>Total</b>	<b>100.00</b>				
						<b>497.000</b>				<b>100.000</b>			