



 MICROCHIP			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	
Semiconductor Device Type: CEA 64 LQFP 10x10x1.4mm Matte Tin										
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	245.39	(mg) Total	Mold Compound	% of Total Weight	68.05
Fused Silica	60676-86-0	Mold Compound	57.570	207.599	575,703		Fused Silica	60676-86-0	84.60	
Epoxy Resin	Trade Secret	Mold Compound	4.015	14.478	40,150		Epoxy Resin	Trade Secret	5.90	
Metal Hydroxide	Trade Secret	Mold Compound	3.879	13.987	38,789		Metal Hydroxide	Trade Secret	5.70	
Phenol Resin	Trade Secret	Mold Compound	2.450	8.834	24,498		Phenol Resin	Trade Secret	3.60	
Carbon Black	1333-86-4	Mold Compound	0.136	0.491	1,361		Carbon Black	1333-86-4	0.20	
Copper	7440-50-8	Lead Frame	26.172	94.377	261,722		Total			100.00
Nickel	7440-02-0	Lead Frame	0.698	2.517	6,980	99.09	(mg) Total	Lead Frame	% of Total Weight	27.48
Silicon	7440-21-3	Lead Frame	0.124	0.446	1,237		Copper	7440-50-8	95.24	
Magnesium	7439-95-4	Lead Frame	0.027	0.099	275		Nickel	7440-02-0	2.54	
Silver	7440-22-4	Die Attach	0.231	0.833	2,310		Silicon	7440-21-3	0.45	
Acrylic Resin	Trade secret	Die Attach	0.042	0.151	420		Magnesium	7439-95-4	0.10	
Epoxy Resin	Trade secret	Die Attach	0.027	0.097	270		Total			100.00
Silicon	7440-21-3	Chip (Die)	2.510	9.051	25,100	1.08	(mg) Total	Die Attach	% of Total Weight	0.3
Gold	7440-57-5	Wire Bond	0.260	0.938	2,600		Silver	7440-22-4	77.00	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.400	5.048	14,000		Acrylic Resin	Trade secret	14.00	
		TOTALS:	100.000	360.600	1,000,000		Epoxy Resin	Trade secret	9.00	
0.3606g 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 2000/53/EC and 2016/774/EU (End-of-Life Vehicles (ELV) without exemption (zero))						9.05	Total (mg)	Chip (Die)	% of Total Weight	2.51
							Doped Silicon	7440-21-3	100.00	
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and for 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.						0.94	(mg) Total	Wire Bond	% of Total Weight	0.26
							Gold	7440-57-5	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/										
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.										
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							Tin	7440-31-5	100.00	
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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										
						360.60				100.00