MICROCHIP

Semiconductor Device Type: **CFA** **64 LQFP 10x10x1.4mm Matte Tin**

Termination Base Alloy: Copper Alloy (Cu)

J-STD-609A Product Marking and/or Pkg. Labeling e3

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Fused Silica	60676-86-0	Mold Compound	57.883	213.184	578,833
Epoxy Resin	Trade Secret	Mold Compound	4.037	14.867	40,368
Metal Hydroxide	Trade Secret	Mold Compound	3.900	14.363	38,999
Phenol Resin	Trade Secret	Mold Compound	2.463	9.072	24,631
Carbon Black	1333-86-4	Mold Compound	0.137	0.504	1,368
Copper	7440-50-8	Lead Frame	24.020	88.465	240,198
Nickel	7440-02-0	Lead Frame	0.641	2.359	6,406
Silver	7440-22-4	Lead Frame	0.421	1.550	4,209
Silicon	7440-21-3	Lead Frame	0.113	0.418	1,135
Magnesium	7439-95-4	Lead Frame	0.025	0.093	252
Silver	7440-22-4	Die Attach	1.155	4.254	11,550
Acrylic Resin	Trade secret	Die Attach	0.210	0.773	2,100
Epoxy Resin	Trade secret	Die Attach	0.135	0.497	1,350
Silicon	7440-21-3	Chip (Die)	2.900	10.681	29,000
Gold	7440-57-5	Wire Bond	0.260	0.958	2,600
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.700	6.261	17,000
		TOTALS:	**100.000**	**368.300**	**1,000,000**
	0.3683 g Total Mass				

Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)

251.99	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**68.42**
	Fused Silica	60676-86-0	84.60	
	Epoxy Resin	Trade Secret	5.90	
	Metal Hydroxide	Trade Secret	5.70	
	Phenol Resin	Trade Secret	3.60	
	Carbon Black	1333-86-4	0.20	
		Total	**100.00**	
92.89	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**25.22**
	Copper	7440-50-8	95.24	
	Nickel	7440-02-0	2.54	
	Silver	7440-22-4	1.67	
	Silicon	7440-21-3	0.45	
	Magnesium	7439-95-4	0.10	
		Total	**100.00**	
5.52	**(mg) Total**	**Die Attach**	**% of Total Weight**	**1.5**
	Silver	7440-22-4	77.00	
	Acrylic Resin	Trade secret	14.00	
	Epoxy Resin	Trade secret	9.00	
		Total	**100.00**	
10.68	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**2.9**
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.96	**(mg) Total**	**Wire Bond**	**% of Total Weight**	**0.26**
	Gold	7440-57-5	100.00	
		Total	**100.00**	
6.26	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**1.7**
	Tin	7440-31-5	100.00	
		Total	**100.00**	
368.30				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)

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 http://ul.com/global/eng/pages/offerings/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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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