Compliant with IEC 62474/ D9.00

Compliant to IEC 61249-2-21:2003

Semiconductor Device Type: Z7X (Z2X) TQFP 128 14x14x1mm 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
Silica Fused	60676-86-0	Mold Compound	58.982	328.825	589,820
Epoxy Resin	Trade Secret	Mold Compound	4.170	23.245	41,696
Phenol Resin	Trade Secret	Mold Compound	3.468	19.334	34,680
Carbon Black	1333-86-4	Mold Compound	0.200	1.118	2,005
Copper	7440-50-8	Lead Frame	25.738	143.488	257,378
Iron	7439-89-6	Lead Frame	0.633	3.529	6,331
Silver	7440-22-4	Lead Frame	0.513	2.861	5,132
Zinc	7440-66-6	Lead Frame	0.034	0.188	337
Phosphorous	7723-14-0	Lead Frame	0.022	0.124	222
Silver	7440-22-4	Die Attach	0.056	0.312	560
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane andphenol	9003-36-5	Die Attach	0.013	0.070	126
Phenol formaldehyde resin	9003-35-4	Die Attach	0.001	0.008	14
Silicon	7440-21-3	Chip (Die)	4.760	26.537	47,600
Gold	7440-57-5	Wire Bond	0.250	1.394	2,500
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.160	6.467	11,600
		TOTALS:	**100.000**	**557.500**	**1,000,000**
	0.5575	**g Total Mass**			

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 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 the 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

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

372.52	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**66.82**
	Silica Fused	60676-86-0	88.27	
	Epoxy Resin	Trade Secret	6.24	
	Phenol Resin	Trade Secret	5.19	
	Carbon Black	1333-86-4	0.30	
		Total	**100.00**	
150.19	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**26.94**
	Copper	7440-50-8	95.54	
	Iron	7439-89-6	2.35	
	Silver	7440-22-4	1.91	
	Zinc	7440-66-6	0.13	
	Phosphorous	7723-14-0	0.08	
		Total	**100.00**	
0.39	**(mg) Total**	**Die Attach**	**% of Total Weight**	**0.07**
	Silver	7440-22-4	80.00	
	Formaldehyde, oligomeric rea	9003-36-5	18.00	
	Phenol formaldehyde resin	9003-35-4	2.00	
		Total	**100.00**	
26.54	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**4.76**
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
1.39	**(mg) Total**	**Wire Bond**	**% of Total Weight**	**0.25**
	Gold	7440-57-5	100.00	
		Total	**100.00**	
6.47	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**1.16**
	Tin	7440-31-5	100.00	
		Total	**100.00**	
557.50				100.00