MICROCHIP

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

Semiconductor Device Type: EB (F4X) 003 DDPAK Matte Tin

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Fused Silica	60676-86-0	Mold Compound	34.505	478.823	345,048
Epoxy Resin 1	Trade Secret	Mold Compound	1.274	17.684	12,743
Epoxy Resin 2	Trade Secret	Mold Compound	1.176	16.324	11,763
Phenol Resin	Trade Secret	Mold Compound	1.764	24.485	17,645
Carbon Black	1333-86-4	Mold Compound	0.098	1.360	980
Undeclared	Trade Secret	Mold Compound	0.392	5.441	3,921
Copper	7440-50-8	Lead Frame	58.494	811.716	584,936
Tin	7440-31-5	Lead Frame	0.099	1.368	986
Silver	7440-22-4	Lead Frame	1.138	15.790	11,379
Silver (Ag)	7440-22-4	Die Attach	0.086	1.198	864
Proprietary Resin	Trade Secret	Die Attach	0.020	0.282	204
Proprietary Curing agent & Hardener	Trade Secret	Die Attach	0.003	0.046	33
Silicon	7440-21-3	Chip (Die)	0.270	3.747	2,700
Gold	7440-57-5	Wire Bond	0.070	0.971	700
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.610	8.465	6,100
		TOTALS:	**100.000**	**1,387.700**	**1,000,000**

1.3877 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 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

544.12	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**39.21**
	Fused Silica	60676-86-0	88.00	
	Epoxy Resin 1	Trade Secret	3.25	
	Epoxy Resin 2	Trade Secret	3.00	
	Phenol Resin	Trade Secret	4.50	
	Carbon Black	1333-86-4	0.25	
	Undeclared	Trade Secret	1.00	
		Total	**100.00**	
828.87	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**59.73**
	Copper	7440-50-8	97.93	
	Tin	7440-31-5	0.17	
	Silver	7440-22-4	1.91	
		Total	**100.00**	
1.53	**(mg) Total**	**Die Attach**	**% of Total Weight**	**0.11**
	Silver (Ag)	7440-22-4	78.50	
	Proprietary Resin	Trade Secret	18.50	
	Proprietary Curing agent & Hardener	Trade Secret	3.00	
		Total	**100.00**	
3.75	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**0.27**
	Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.97	**(mg) Total**	**Wire Bond**	**% of Total Weight**	**0.07**
	Gold	7440-57-5	100.00	
		Total	**100.00**	
8.46	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**0.61**
	Tin	7440-31-5	100.00	
		Total	**100.00**	
1,387.700				**100.000**