MICROCHIP

Semiconductor Device Type: TF, F, OE, SO, SL (D9X) 016 SOIC .300in 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	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Silica, vitreous	60676-86-0	Mold Compound	59.662	261.317	596,615
Epoxy Resin (No bromine, No diantimony trioxide)	Trade Secret	Mold Compound	4.299	18.830	42,991
Phenolic Resin (No Br / CL SbO3, No diantimony trioxide)	Trade Secret	Mold Compound	4.299	18.830	42,991
Epoxy, Cresol Novolac	29690-82-2	Mold Compound	1.720	7.532	17,197
Carbon Black	1333-86-4	Mold Compound	0.211	0.922	2,106
Copper	7440-50-8	Lead Frame	25.499	111.685	254,990
Iron	7439-89-6	Lead Frame	0.627	2.747	6,272
Silver	7440-22-4	Lead Frame	0.508	2.227	5,084
Zinc	7440-66-6	Lead Frame	0.033	0.146	334
Phosphorous	7723-14-0	Lead Frame	0.022	0.096	220
Silver	7440-22-4	Die Attach	0.370	1.621	3,700
Epoxy resin	Trade Secret	Die Attach	0.100	0.438	1,000
Metal oxide	Trade Secret	Die Attach	0.015	0.066	150
Gamma-butyrolactone	96-48-0	Die Attach	0.015	0.066	150
Silicon	7440-21-3	Chip (Die)	1.850	8.103	18,500
Gold	7440-57-5	Wire Bond	0.090	0.394	900
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.680	2.978	6,800
		TOTALS:	**100.000**	**438.000**	**1,000,000**

0.4380 g Total Mass

307.43	(mg) Total	Mold Compound	% ot Total Weight	70.19
	Silica, vitreous	60676-86-0	85.00	
	Epoxy Resin	Trade Secret	6.13	
	Phenolic Resin	Trade Secret	6.13	
	Epoxy, Cresol Novolac	29690-82-2	2.45	
	Carbon Black	1333-86-4	0.30	
		Total	**100.00**	
116.90	(mg) Total	Lead Frame	% of Total Weight	26.69
	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**	
2.19	(mg) Total	Die Attach	% of Total Weight	0.5
	Silver	7440-22-4	74.00	
	Epoxy resin	Trade Secret	20.00	
	Metal oxide	Trade Secret	3.00	
	Gamma-butyrolactone	96-48-0	3.00	
		Total	**100.00**	
8.10	Total (mg)	Chip (Die)	% of Total Weight	1.85
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.39	(mg) Total	Wire Bond	% of Total Weight	0.09
	Doped Gold	7440-57-5	100.00	
		Total	**100.00**	
2.98	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	0.68
	Tin	7440-31-5	100.00	
		Total	**100.00**	
438.000				100.000

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.

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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