Semiconductor Device Type: OS (L9X) 005 TSOT Matte Tin

Basic Substance	CAS Number	"Contained In" Sub-Component	Termination Base Alloy: Copper Alloy (Cu) % Total Weight	mg/part	ppm
Silica, vitreous	60676-86-0	Mold Compound	53.057	6.791	530,570
Epoxy Resin (No bromine, No diantimony trioxide)	Trade Secret	Mold Compound	3.823	0.489	38,232
Phenolic Resin (No Br / CL SbO3, No diantimony trioxide)	Trade Secret	Mold Compound	3.823	0.489	38,232
Epoxy, Cresol Novolac	29690-82-2	Mold Compound	1.529	0.196	15,293
Carbon Black	1333-86-4	Mold Compound	0.187	0.024	1,873
Copper	7440-50-8	Lead Frame	25.585	3.275	255,849
Iron	7439-89-6	Lead Frame	0.629	0.081	6,293
Silver	7440-22-4	Lead Frame	0.510	0.065	5,102
Zinc	7440-66-6	Lead Frame	0.033	0.004	335
Phosphorous	7723-14-0	Lead Frame	0.022	0.003	221
Silver (Ag)	7440-22-4	Die Attach	1.531	0.196	15,308
Proprietary Resin	Trade Secret	Die Attach	0.361	0.046	3,608
Proprietary Curing agent & Hardener	Trade Secret	Die Attach	0.059	0.007	585
Silicon	7440-21-3	Chip (Die)	5.340	0.684	53,400
Gold	7440-57-5	Wire Bond	0.400	0.051	4,000
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	3.110	0.398	31,100
		TOTALS:	**100.000**	**12.800**	**1,000,000**

0.0128 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

Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)				JEDEC 97 Product Marking and/or Pkg. Labeling e3
7.99	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**62.42**
	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**	
3.43	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**26.78**
	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**	
0.25	**(mg) Total**	**Die Attach**	**% of Total Weight**	**1.95**
	Silver (Ag)	7440-22-4	78.50	
	Proprietary Resin	Trade Secret	18.50	
	Proprietary Curing agent & Hardener	Trade Secret	3.00	
		Total	**100.00**	
0.68	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**5.34**
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.05	**(mg) Total**	**Wire Bond**	**% of Total Weight**	**0.4**
	Doped Gold	7440-57-5	100.00	
		Total	**100.00**	
0.40	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**3.11**
	Tin	7440-31-5	100.00	
		Total	**100.00**	
12.800				**100.000**