MICROCHIP

Semiconductor Device Type: MS and UA (A3X) 008 MSOP 3x3mm Matte Tin

Termination Base Alloy: Copper Alloy (Cu)

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	69.354	17.755	693,542
Epoxy Resin	Trade Secret	Mold Compound	6.121	1.567	61,207
Phenolic Resin	Trade Secret	Mold Compound	4.078	1.044	40,778
Carbon Black	1333-86-4	Mold Compound	0.247	0.063	2,474
Copper	7440-50-8	Lead Frame	10.031	2.568	100,314
Iron	7439-89-6	Lead Frame	0.247	0.063	2,468
Silver	7440-22-4	Lead Frame	0.200	0.051	2,000
Zinc	7440-66-6	Lead Frame	0.013	0.003	131
Phosphorous	7723-14-0	Lead Frame	0.009	0.002	87
Silver (Ag)	7440-22-4	Die Attach	0.563	0.144	5,625
Modified Epoxy Resin	13561-08-5	Die Attach	0.105	0.027	1,050
Diglycidylether of bisphenol-F	54208-63-8	Die Attach	0.056	0.014	563
Modified Amine	827-43-0	Die Attach	0.026	0.007	263
Silicon	7440-21-3	Chip (Die)	7.500	1.920	75,000
Copper	7440-50-8	Wire Bond palladium coated copper (CuPd)	0.197	0.050	1,965
Palladium	7440-05-3	Wire Bond palladium coated copper (CuPd)	0.004	0.001	35
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.250	0.320	12,500
		TOTALS:	**100.000**	**25.600**	**1,000,000**

0.0256 g Total Mass

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

20.43	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**79.8**
	Silica, vitreous	60676-86-0	86.91	
	Epoxy Resin	Trade Secret	7.67	
	Phenolic Resin	Trade Secret	5.11	
	Carbon Black	1333-86-4	0.31	
		Total	**100.00**	
2.69	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**10.5**
	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**	
0.19	**(mg) Total**	**Die Attach**	**% of Total Weight**	**0.75**
	Silver (Ag)	7440-22-4	75	
	Modified Epoxy Resin	13561-08-5	14	
	Diglycidylether of bisphenol-F	54208-63-8	8	
	Modified Amine	827-43-0	4	
		Total	**100.00**	
1.92	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**7.5**
	Doped Silicon	7440-21-3	100	
		Total	**100.00**	
0.05	**(mg) Total**	**Wire Bond - Copper, palladium coated (CuPd)**	**% of Total Weight**	**0.2**
	Copper	7440-50-8	98	
	Palladium	7440-05-3	2	
		Total	**100.00**	
0.32	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**1.25**
	Tin	7440-31-5	100.00	
		Total	**100.00**	
25.600				**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