MICROCHIP

Semiconductor Device Type:		(NZA) 024 VQFN 4x4x0.9mm Matte Tin	Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials				J-STD-609A Product Marking and/or Pkg. Labeling e3
Basic Substance	**CAS Number**	**"Contained In" Sub-Component**	**% Total Weight**	**mg/part**	**ppm**	**20.84**	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**53.84**
Silica Fused	60676-86-0	Mold Compound	47.525	18.392	475,246		Silica Fused	60676-86-0	88.27	
Epoxy Resin	Trade Secret	Mold Compound	3.360	1.300	33,596		Epoxy Resin	Trade Secret	6.24	
Phenol Resin	Trade Secret	Mold Compound	2.794	1.081	27,943		Phenol Resin	Trade Secret	5.19	
Carbon Black	1333-86-4	Mold Compound	0.162	0.063	1,615		Carbon Black	1333-86-4	0.30	
Copper	7440-50-8	Lead Frame	39.572	15.314	395,716			**Total**	**100.00**	
Iron	7439-89-6	Lead Frame	0.973	0.377	9,734	**16.03**	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**41.42**
Silver	7440-22-4	Lead Frame	0.789	0.305	7,891		Copper	7440-50-8	95.54	
Zinc	7440-66-6	Lead Frame	0.052	0.020	518		Iron	7439-89-6	2.35	
Phosphorous	7723-14-0	Lead Frame	0.034	0.013	342		Silver	7440-22-4	1.91	
Silver	7440-22-4	Die Attach	0.100	0.039	1,001		Zinc	7440-66-6	0.13	
Acrylic Resin	Trade secret	Die Attach	0.018	0.007	182		Phosphorous	7723-14-0	0.08	
Epoxy Resin	Trade secret	Die Attach	0.012	0.005	117			**Total**	**100.00**	
Silicon	7440-21-3	Chip (Die)	1.660	0.642	16,600	**0.05**	**(mg) Total**	**Die Attach**	**% of Total Weight**	**0.13**
Silver	7440-22-4	Wire Bond	0.506	0.196	5,057		Silver	7440-22-4	77.00	
Palladium	7440-05-3	Wire Bond	0.012	0.005	117		Acrylic Resin	Trade secret	14.00	
Gold	7440-57-5	Wire Bond	0.003	0.001	26		Epoxy Resin	Trade secret	9.00	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.430	0.940	24,300			**Total**	**100.00**	
		TOTALS:	**100.000**	**38.700**	**1,000,000**	**0.64**	**Total (mg)**	**Chip (Die)**	**% of Total Weight**	**1.66**
0.0387 g Total Mass							Doped Silicon	7440-21-3	100.00	
								Total	**100.00**	
						0.20	**(mg) Total**	**Wire Bond**	**% of Total Weight**	**0.52**
							Silver	7440-22-4	97.25	
							Palladium	7440-05-3	2.25	
							Gold	7440-57-5	0.50	
								Total	**100.00**	
						0.94	**(mg) Total**	**Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour**	**% of Total Weight**	**2.43**
							Tin	7440-31-5	100.00	
								Total	**100.00**	
						38.700				**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