



Semiconductor Device Type: Y9X 48 VQFN 7x7x1.0mm 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	63.22	(mg) Total	Mold Compound	% of Total Weight	52.42
Silica Fused	60676-86-0	Mold Compound	46.271	55.803	462,711			Silica Fused	60676-86-0	88.27
Epoxy Resin	Trade Secret	Mold Compound	3.271	3.945	32,710			Epoxy Resin	Trade Secret	6.24
Phenol Resin	Trade Secret	Mold Compound	2.721	3.281	27,206			Phenol Resin	Trade Secret	5.19
Carbon Black	1333-86-4	Mold Compound	0.157	0.190	1,573			Carbon Black	1333-86-4	0.30
Copper	7440-50-8	Lead Frame	35.951	43.357	359,508					
Iron	7439-89-6	Lead Frame	0.884	1.066	8,843					
Silver	7440-22-4	Lead Frame	0.717	0.865	7,169					
Zinc	7440-66-6	Lead Frame	0.047	0.057	470					
Phosphorous	7723-14-0	Lead Frame	0.031	0.037	310					
Silver	7440-22-4	Die Attach	0.839	1.012	8,393					
Acrylic Resin	Trade secret	Die Attach	0.153	0.184	1,526					
Epoxy Resin	Trade secret	Die Attach	0.098	0.118	981					
Silicon	7440-21-3	Chip (Die)	7.860	9.479	78,600					
Copper	7440-50-8	Wire Bond Copper palladium coated (CuPd)	0.324	0.391	3,242					
Palladium	7440-05-3	Wire Bond Copper palladium coated (CuPd)	0.006	0.007	58					
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.670	0.808	6,700					
TOTALS:			100.000	120.600	1,000,000					
0.1206 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 2000/53/EC and 2016/774/EU (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										
						45.38	(mg) Total	Lead Frame	% of Total Weight	37.63
								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
						1.31	(mg) Total	Die Attach	% of Total Weight	1.09
								Silver	7440-22-4	77.00
								Acrylic Resin	Trade secret	14.00
								Epoxy Resin	Trade secret	9.00
								Total		100.00
						9.48	Total (mg)	Chip (Die)	% of Total Weight	7.86
								Doped Silicon	7440-21-3	100.00
								Total		100.00
						0.40	(mg) Total	Wire Bond Copper palladium coated (CuPd)	% of Total Weight	0.33
								Copper	7440-50-8	98.25
								Palladium	7440-05-3	1.75
								Total		100.00
						0.81	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	0.67
								Tin	7440-31-5	100.00
								Total		100.00
						120.600				100.000