



			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials			JEDEC 97 Product Marking and/or Pkg. Labeling e3		
Semiconductor Device Type: MG / NG (P9X) 016 QFN 3x3x0.9mm Matte Tin											
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	13.79	(mg) Total	Mold Compound	% of Total Weight	63.82	
Silica, fused	60676-86-0	Mold Compound	57.438	12.407	574,380		Silica, fused	60676-86-0	90.00		
Epoxy Resin	Trade Secret	Mold Compound	3.095	0.669	30,953		Epoxy Resin	Trade Secret	4.85		
Phenolic Resin	Trade Secret	Mold Compound	3.095	0.669	30,953		Phenolic Resin	Trade Secret	4.85		
Carbon Black	1333-86-4	Mold Compound	0.191	0.041	1,915		Carbon Black	1333-86-4	0.30		
Copper	7440-50-8	Lead Frame	22.289	4.814	222,889		Total			100.00	
Iron	7439-89-6	Lead Frame	0.548	0.118	5,483	5.04	(mg) Total	Lead Frame	% of Total Weight	23.33	
Silver	7440-22-4	Lead Frame	0.444	0.096	4,444		Copper	7440-50-8	95.54		
Zinc	7440-66-6	Lead Frame	0.029	0.006	292		Iron	7439-89-6	2.35		
Phosphorous	7723-14-0	Lead Frame	0.019	0.004	192		Silver	7440-22-4	1.91		
Silver	7440-22-4	Die Attach	0.273	0.059	2,730		Zinc	7440-66-6	0.13		
Acrylate resins Proprietary	Trade Secret	Die Attach	0.063	0.014	630		Phosphorous	7723-14-0	0.08		
Treated silica	Trade Secret	Die Attach	0.007	0.002	70		Total			100.00	
Heterocyclic organic compound	Trade Secret	Die Attach	0.007	0.002	70	0.08	(mg) Total	Die Attach	% of Total Weight	0.35	
Silicon	7440-21-3	Chip (Die)	5.350	1.156	53,500		Silver	7440-22-4	78.00		
Copper	7440-50-8	Wire Bond Copper Palladium coated (CuPd)	1.808	0.390	18,078		Acrylate resins Proprietary	Trade Secret	18.00		
Palladium	7440-05-3	Wire Bond Copper Palladium coated (CuPd)	0.032	0.007	322		Treated silica	Trade Secret	2.00		
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	5.310	1.147	53,100		Heterocyclic organic compound	Trade Secret	2.00		
TOTALS:			100.000	21.600	1,000,000		Total			100.00	
0.0216 g Total Mass						1.16	Total (mg)	Chip (Die)	% of Total Weight	5.35	
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)							Doped Silicon	7440-21-3	100.00		
						Total			100.00		
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.						0.40	(mg) Total	Wire Bond Copper Palladium coated (CuPd)	% of Total Weight	1.84	
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.							Copper	7440-50-8	98.25		
							Palladium	7440-05-3	1.75		
						Total			100.00		
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/						1.15	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	5.31	
							Tin	7440-31-5	100.00		
						Total			100.00		
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.						21.600					100.000
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											