



Semiconductor Device Type: MG / NG (P9X) 016 QFN 3x3x0.9mm Matte Tin				Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials			JEDEC 97 Product Marking and/or Pkg. Labeling e3
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
								<b>Total</b>		<b>100.00</b>
Copper	7440-50-8	Lead Frame	22.289	4.814	222,889	5.04	(mg) Total	Lead Frame	% of Total Weight	23.33
Iron	7439-89-6	Lead Frame	0.548	0.118	5,483			Copper	7440-50-8	95.54
Silver	7440-22-4	Lead Frame	0.444	0.096	4,444			Iron	7439-89-6	2.35
Zinc	7440-66-6	Lead Frame	0.029	0.006	292			Silver	7440-22-4	1.91
Phosphorous	7723-14-0	Lead Frame	0.019	0.004	192			Zinc	7440-66-6	0.13
Silver	7440-22-4	Die Attach	0.273	0.059	2,730			Phosphorous	7723-14-0	0.08
Acrylate resins Proprietary	Trade Secret	Die Attach	0.063	0.014	630			<b>Total</b>		<b>100.00</b>
Treated silica	Trade Secret	Die Attach	0.007	0.002	70	0.08	(mg) Total	Die Attach	% of Total Weight	0.35
Heterocyclic organic compound	Trade Secret	Die Attach	0.007	0.002	70			Silver	7440-22-4	78.00
Silicon	7440-21-3	Chip (Die)	5.350	1.156	53,500			Acrylate resins Proprietary	Trade Secret	18.00
Copper	7440-50-8	Wire Bond Copper Palladium coated (CuPd)	1.808	0.390	18,078			Treated silica	Trade Secret	2.00
Palladium	7440-05-3	Wire Bond Copper Palladium coated (CuPd)	0.032	0.007	322			Heterocyclic organic compound	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			<b>Total</b>		<b>100.00</b>
<b>TOTALS:</b>			<b>100.000</b>	<b>21.600</b>	<b>1,000,000</b>	1.16	Total (mg)	Chip (Die)	% of Total Weight	5.35
<b>0.0216 g Total Mass</b>								Doped Silicon	7440-21-3	100.00
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)								<b>Total</b>		<b>100.00</b>
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
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 <a href="http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/">http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/</a>								Palladium	7440-05-3	1.75
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.								<b>Total</b>		<b>100.00</b>
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.						1.15	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	5.31
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Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.								<b>Total</b>		<b>100.00</b>
Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>						21.600				100.000