



Semiconductor Device Type: S2AF / S2AE (4BX) 008 SOIJ/SOIC .208in NiPdAu			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			JEDEC 97 Product Marking and/or Pkg. Labeling e4			
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	89.96	(mg) Total	Mold Compound	% of Total Weight	66.29		
Silica, vitreous	60676-86-0	Mold Compound	56.347	76.462	563,465			Silica, vitreous	60676-86-0	85.00		
Epoxy Resin (No bromine, No diantimony trioxide)	Trade Secret	Mold Compound	4.060	5.510	40,603			Epoxy Resin	Trade Secret	6.13		
Phenolic Resin (No Br / CL SbO3, No diantimony trioxide)	Trade Secret	Mold Compound	4.060	5.510	40,603			Phenolic Resin	Trade Secret	6.13		
Epoxy, Cresol Novolac	29690-82-2	Mold Compound	1.624	2.204	16,241			Epoxy, Cresol Novolac	29690-82-2	2.45		
Carbon Black	1333-86-4	Mold Compound	0.199	0.270	1,989			Carbon Black	1333-86-4	0.30		
Copper	7440-50-8	Lead Frame	26.540	36.015	265,403			<b>Total 100.00</b>				
Iron	7439-89-6	Lead Frame	0.653	0.886	6,528	37.70	(mg) Total	Lead Frame	% of Total Weight	27.78		
Silver	7440-22-4	Lead Frame	0.529	0.718	5,292			Copper	7440-50-8	95.54		
Zinc	7440-66-6	Lead Frame	0.035	0.047	347			Iron	7439-89-6	2.35		
Phosphorous	7723-14-0	Lead Frame	0.023	0.031	229			Silver	7440-22-4	1.91		
Silver	7440-22-4	Die Attach	0.163	0.221	1,628			Zinc	7440-66-6	0.13		
Epoxy resin	Trade Secret	Die Attach	0.044	0.060	440			Phosphorous	7723-14-0	0.08		
Metal oxide	Trade Secret	Die Attach	0.007	0.009	66			<b>Total 100.00</b>				
Gamma-butyrolactone	96-48-0	Die Attach	0.007	0.009	66	0.30	(mg) Total	Die Attach	% of Total Weight	0.22		
Silicon	7440-21-3	Chip (Die)	5.410	7.341	54,100			Silver	7440-22-4	74.00		
Gold	7440-57-5	Wire Bond	0.150	0.204	1,500			Epoxy resin	Trade Secret	20.00		
Nickel	7440-02-0	Plating on external leads (pins)(PPF)	0.142	0.192	1,418			Metal oxide	Trade Secret	3.00		
Palladium	7440-05-3	Plating on external leads (pins)(PPF)	0.008	0.010	75			Gamma-butyrolactone	96-48-0	3.00		
Gold	7440-57-5	Plating on external leads (pins)(PPF)	0.001	0.001	8			<b>Total 100.00</b>				
<b>0.1357 g Total Mass</b>			<b>TOTALS:</b>	<b>100.000</b>	<b>135.700</b>	<b>1,000,000</b>	7.34	Total (mg)	Chip (Die)	% of Total Weight	5.41	
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
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.						<b>Total 100.00</b>						
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.						0.20	(mg) Total	Wire Bond	% of Total Weight	0.15		
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>						Doped Gold					7440-57-5	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.						<b>Total 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.						0.20	(mg) Total	Plating on external leads (pins)(PPF)	% of Total Weight	0.15		
Microchip Technology Incorporated does not provide any warranty, express or implied, with respect to the information provided in this declaration. The exclusive, limited product warranties provided by Microchip Technology Incorporated and its subsidiaries are contained in Microchip's standard terms and conditions of sale. These are provided in Microchip's quotations, sales order acknowledgement, and invoices.						Nickel					7440-02-0	94.50
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.						Palladium					7440-05-3	5.00
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>						Gold					7440-57-5	0.50
						<b>Total 100.00</b>						

135.70

100.00