



Semiconductor Device Type: (J5A) 004 VDFN 2.0x2.5mm NiPdAu

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Silica, fused	60676-86-0	Mold Compound	38.331	4.715	383,310
Epoxy Resin	Trade Secret	Mold Compound	2.066	0.254	20,656
Phenolic Resin	Trade Secret	Mold Compound	2.066	0.254	20,656
Carbon Black	1333-86-4	Mold Compound	0.128	0.016	1,278
Copper	7440-50-8	Lead Frame	46.032	5.662	460,318
Iron	7439-89-6	Lead Frame	1.110	0.137	11,101
Zinc	7440-66-6	Lead Frame	0.059	0.007	591
Phosphorous	7723-14-0	Lead Frame	0.039	0.005	390
Silica Fused	60676-86-0	Die Attach	1.104	0.136	11,044
Epoxy Resin	120206-26-0	Die Attach	0.327	0.040	3,268
Poly(Bisphenol A-co-epichlorohydrin)	25068-38-6	Die Attach	0.249	0.031	2,488
Silicon	7440-21-3	Chip (Die)	6.610	0.813	66,100
Gold	7440-57-5	Wire Bond	0.570	0.070	5,700
Nickel	7440-02-0	Plating on external leads (pins)	1.179	0.145	11,790
Palladium	7440-05-3	Plating on external leads (pins)	0.066	0.008	655
Gold	7440-57-5	Plating on external leads (pins)	0.066	0.008	655
TOTALS:			100.000	12.300	1,000,000

0.0123 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 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.

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.

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.

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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>

Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			J-STD-609A Product Marking and/or Pkg. Labeling e4															
			5.24	(mg) Total	Mold Compound	% of Total Weight 42.59															
			<table border="1"> <tr> <td>Silica, fused</td> <td>60676-86-0</td> <td>90.00</td> </tr> <tr> <td>Epoxy Resin</td> <td>Trade Secret</td> <td>4.85</td> </tr> <tr> <td>Phenolic Resin</td> <td>Trade Secret</td> <td>4.85</td> </tr> <tr> <td>Carbon Black</td> <td>1333-86-4</td> <td>0.30</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Silica, fused	60676-86-0	90.00	Epoxy Resin	Trade Secret	4.85	Phenolic Resin	Trade Secret	4.85	Carbon Black	1333-86-4	0.30	Total		100.00	
Silica, fused	60676-86-0	90.00																			
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Phenolic Resin	Trade Secret	4.85																			
Carbon Black	1333-86-4	0.30																			
Total		100.00																			
			5.81	(mg) Total	Lead Frame	% of Total Weight 47.24															
			<table border="1"> <tr> <td>Copper</td> <td>7440-50-8</td> <td>97.44</td> </tr> <tr> <td>Iron</td> <td>7439-89-6</td> <td>2.35</td> </tr> <tr> <td>Zinc</td> <td>7440-66-6</td> <td>0.13</td> </tr> <tr> <td>Phosphorous</td> <td>7723-14-0</td> <td>0.08</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Copper	7440-50-8	97.44	Iron	7439-89-6	2.35	Zinc	7440-66-6	0.13	Phosphorous	7723-14-0	0.08	Total		100.00	
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Phosphorous	7723-14-0	0.08																			
Total		100.00																			
			0.21	(mg) Total	Die Attach	% of Total Weight 1.68															
			<table border="1"> <tr> <td>Silica Fused</td> <td>60676-86-0</td> <td>65.74</td> </tr> <tr> <td>Epoxy Resin</td> <td>120206-26-0</td> <td>19.45</td> </tr> <tr> <td>Poly(Bisphenol A-co-epichlorohydrin)</td> <td>25068-38-6</td> <td>14.81</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Silica Fused	60676-86-0	65.74	Epoxy Resin	120206-26-0	19.45	Poly(Bisphenol A-co-epichlorohydrin)	25068-38-6	14.81	Total		100.00				
Silica Fused	60676-86-0	65.74																			
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Total		100.00																			
			0.81	Total (mg)	Chip (Die)	% of Total Weight 6.61															
			<table border="1"> <tr> <td>Doped Silicon</td> <td>7440-21-3</td> <td>100.00</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Doped Silicon	7440-21-3	100.00	Total		100.00										
Doped Silicon	7440-21-3	100.00																			
Total		100.00																			
			0.07	(mg) Total	Wire Bond	% of Total Weight 0.57															
			<table border="1"> <tr> <td>Gold</td> <td>7440-57-5</td> <td>100.00</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Gold	7440-57-5	100.00	Total		100.00										
Gold	7440-57-5	100.00																			
Total		100.00																			
			0.16	(mg) Total	Plating on external leads (pins)	% of Total Weight 1.31															
			<table border="1"> <tr> <td>Nickel</td> <td>7440-02-0</td> <td>90.00</td> </tr> <tr> <td>Palladium</td> <td>7440-05-3</td> <td>5.00</td> </tr> <tr> <td>Gold</td> <td>7440-57-5</td> <td>5.00</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total</td> <td>100.00</td> </tr> </table>			Nickel	7440-02-0	90.00	Palladium	7440-05-3	5.00	Gold	7440-57-5	5.00	Total		100.00				
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Total		100.00																			

12.30

100.00