



Semiconductor Device Type: 006_UDFN_1.6x1.6x0.6_NiPdAu (HKA)

Basic Substance	CAS Number	"Contained In" Sub-Component	Termination Base Alloy: Copper Alloy (Cu)		
			% Total Weight	mg/part	ppm
Silica, fused	60676-86-0	Mold Compound	38.943	1.713	389,430
Epoxy Resin	Trade Secret	Mold Compound	2.099	0.092	20,986
Phenolic Resin	Trade Secret	Mold Compound	2.099	0.092	20,986
Carbon Black	1333-86-4	Mold Compound	0.130	0.006	1,298
Copper	7440-50-8	Lead Frame	39.027	1.717	390,270
Iron	7439-89-6	Lead Frame	0.923	0.041	9,225
Phosphorous	7723-14-0	Lead Frame	0.100	0.004	1,003
Zinc (Metal)	7440-66-6	Lead Frame	0.060	0.003	602
Silver	7440-22-4	Die Attach	3.559	0.157	35,594
Epoxy resin	68475-94-5	Die Attach	0.962	0.042	9,620
Copper(II) oxide	1317-38-0	Die Attach	0.144	0.006	1,443
Gamma-butyrolactone	96-48-0	Die Attach	0.144	0.006	1,443
Silicon	7440-21-3	Chip (Die)	9.670	0.425	96,700
Gold	7440-57-5	Wire Bond	1.120	0.049	11,200
Nickel	7440-02-0	Plating on external leads (pins)	0.918	0.040	9,180
Palladium	7440-05-3	Plating on external leads (pins)	0.051	0.002	510
Gold	7440-57-5	Plating on external leads (pins)	0.051	0.002	510
TOTALS:			100.000	4.400	1,000,000

0.0044 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.

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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>

Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			J-STD-609A Product Marking and/or Pkg. Labeling e4	
1.90	(mg) Total	Mold Compound	% of Total Weight	43.27
		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
1.76	(mg) Total	Lead Frame	% of Total Weight	40.11
		Copper	7440-50-8	97.30
		Iron	7439-89-6	2.30
		Phosphorous	7723-14-0	0.25
		Zinc (Metal)	7440-66-6	0.15
		Total		100.00
0.21	(mg) Total	Die Attach	% of Total Weight	4.81
		Silver	7440-22-4	74.00
		Epoxy resin	68475-94-5	20.00
		Copper(II) oxide	1317-38-0	3.00
		Gamma-butyrolactone	96-48-0	3.00
		Total		100.00
0.43	Total (mg)	Chip (Die)	% of Total Weight	9.67
		Doped Silicon	7440-21-3	100.00
		Total		100.00
0.05	(mg) Total	Wire Bond	% of Total Weight	1.12
		Gold	7440-57-5	100.00
		Total		100.00
0.04	(mg) Total	Plating on external leads (pins)	% of Total Weight	1.02
		Nickel	7440-02-0	90.00
		Palladium	7440-05-3	5.00
		Gold	7440-57-5	5.00
		Total		100.00
4.40				100.00