

**MICROCHIP****Package Material Content Declaration**

Package Description	24-Pad, 4 x 4 x 0.9 mm Body Size, 0.50 mm Pitch, Very Thin Quad Flat No Lead Package (VQFN)						
Lead Finish	Matte Tin (Sn)			Package Code / GPC		RLB / ZHA	
J-STD-609 Category	e3			Termination Base Alloy:		Copper	
Package Material Declaration							
Material	Substance	CAS #	Weight (mg)	Homogeneous Material		Package	
				Percentage	ppm	Percentage	ppm
Leadframe	Copper (Cu)	7440-50-8	15.917	97.4	974000	38.46	384550
	Iron (Fe)	7439-89-6	0.392	2.4	24000	0.95	9476
	Phosphorous (P)	7723-14-0	0.016	0.1	1000	0.04	395
	Zinc (Zn)	7440-66-6	0.016	0.1	1000	0.04	395
Sub-Total			16.341	100.0	1000000	39.48	394816
Integrated Circuit	Silicon (Si)	7440-21-3	3.179	100.0	1000000	7.68	76813
Sub-Total			3.179	100.0	1000000	7.68	76813
Die Attach	Fused Silica	60676-86-0	0.046	67.1	671000	0.11	1106
	Epoxy Resin	120206-26-0	0.012	17.0	170000	0.03	280
	Bisphenol A Glycidylether	25068-38-6	0.009	13.5	135000	0.02	223
	Additive	461-58-5	0.002	2.4	24000	0.00	40
Sub-Total			0.068	100.0	1000000	0.16	1648
Die Pad Plating	Silver (Ag)	7440-22-4	0.366	100.0	1000000	0.89	8853
Sub-Total			0.366	100.0	1000000	0.89	8853
Bond Wire	Copper (Cu)	7440-50-8	0.072	97.6	976000	0.17	1734
	Palladium (Pd)	7440-05-3	0.002	2.4	24000	0.00	43
Sub-Total			0.074	100.0	1000000	0.18	1777
Encapsulation	Silica (Amorphous)	60676-86-0	18.578	90.2	902000	44.89	448860
	Epoxy Resin A	Proprietary	0.639	3.1	31000	1.54	15426
	Epoxy Resin B	Proprietary	0.639	3.1	31000	1.54	15426
	Phenol Resin	Proprietary	0.639	3.1	31000	1.54	15426
	Carbon Black	1333-86-4	0.103	0.5	5000	0.25	2488
Sub-Total			20.597	100.0	1000000	49.76	497627
Terminal Plating	Tin (Sn)	7440-31-5	0.764	100.0	1000000	1.85	18466
Sub-Total			0.764	100.0	1000000	1.85	18466
Total			41.390			100.00	1000000

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>.