



Microchip

Package Material Content Declaration

Package Description	32-Lead, 7.0 x 7.0 mm Body, 4.5 mm Exposed Pad, 0.65 mm Pitch, Quad Flat No Lead Package (VQFN)						
Lead Finish	Matte Tin (Sn)	Package Code / GPC		T5B / ZUX			
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	45.195	97.4	974000	35.65	356487
	Iron (Fe)	7439-89-6	1.114	2.4	24000	0.88	8784
	Phosphorous (P)	7723-14-0	0.046	0.1	1000	0.04	366
	Zinc (Zn)	7440-66-6	0.046	0.1	1000	0.04	366
Sub-Total			46.402	100.0	1000000	36.60	366003
Integrated Circuit	Silicon (Si)	7440-21-3	7.760	100.0	1000000	6.12	61210
Sub-Total			7.760	100.0	1000000	6.12	61210
Die Attach	Silver (Ag)	7440-22-4	0.432	79.7	797000	0.34	3404
	Isobornyl Acrylate	5888-33-5	0.037	6.9	69000	0.03	295
	Isobornyl Methacrylate	7534-94-3	0.037	6.9	69000	0.03	295
	Dicyclopentylidimethylene Diacrylate	42594-17-2	0.032	5.9	59000	0.03	252
	Bis(.alpha.,.alpha.-Dimethylbenzyl) Peroxide	80-43-3	0.003	0.6	6000	0.00	26
Sub-Total			0.541	100.0	1000000	0.43	4270
Die Pad Plating	Silver (Ag)	7440-22-4	1.041	100.0	1000000	0.82	8207
Sub-Total			1.041	100.0	1000000	0.82	8207
Bond Wire	Gold (Au)	7440-57-5	0.254	100.0	1000000	0.20	2002
Sub-Total			0.254	100.0	1000000	0.20	2002
Encapsulation	Silica Fused	60676-86-0	63.123	92.0	920000	49.79	497894
	Epoxy Resin A	Proprietary	2.607	3.8	38000	2.06	20565
	Phenol Resin B	Proprietary	2.607	3.8	38000	2.06	20565
	Carbon Black	1333-86-4	0.274	0.4	4000	0.22	2165
Sub-Total			68.612	100.0	1000000	54.12	541189
Terminal Plating	Tin (Sn)	7440-31-5	2.170	100.0	1000000	1.71	17118
Sub-Total			2.170	100.0	1000000	1.71	17118
Total			126.780			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>.