

 Package Material Content Declaration							
Package Description	28-Lead, 8 x 13.4 mm, Plastic Thin Small Outline Package, Type I (TSOP)						
Lead Finish	Matte Tin (Sn)	Package Code / GPC		NKB / TBB			
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	45.905	96.2	962000	19.78	197777
	Nickel (Ni)	7440-02-0	1.432	3.0	30000	0.62	6168
	Silicon (Si)	7440-21-3	0.286	0.6	6000	0.12	1234
	Magnesium (Mg)	7439-95-4	0.095	0.2	2000	0.04	411
Sub-Total			47.718	100.0	1000000	20.56	205589
Integrated Circuit	Silicon (Si)	7440-21-3	7.645	100.0	1000000	3.29	32936
Sub-Total			7.645	100.0	1000000	3.29	32936
Die Attach	Silver (Ag)	7440-22-4	0.376	72.1	721000	0.16	1621
	Epoxy Resin	9003-36-5	0.102	19.5	195000	0.04	439
	t-Butyl Phenyl Glycidyl Ether	3101-60-8	0.034	6.5	65000	0.01	146
	Butyl Cellosolve Acetate	112-07-2	0.004	0.8	8000	0.00	18
	Phenolic Resin	92-88-6	0.004	0.8	8000	0.00	18
	Dicyandiamide	461-58-5	0.002	0.3	3000	0.00	7
Sub-Total			0.522	100.0	1000000	0.22	2249
Die Pad Plating	Silver (Ag)	7440-22-4	0.770	100.0	1000000	0.33	3318
Sub-Total			0.770	100.0	1000000	0.33	3318
Bond Wire	Gold (Au)	7440-57-5	0.311	100.0	1000000	0.13	1341
Sub-Total			0.311	100.0	1000000	0.13	1341
Encapsulation	Silica (Amorphous) A	60676-86-0	119.701	69.2	692000	51.57	515724
	Silica (Amorphous) B	7631-86-9	24.390	14.1	141000	10.51	105083
	Epoxy Resin	Proprietary	15.741	9.1	91000	6.78	67819
	Phenol Resin	Proprietary	12.282	7.1	71000	5.29	52914
	Carbon Black	1333-86-4	0.865	0.5	5000	0.37	3726
Sub-Total			172.979	100.0	1000000	74.53	745266
Terminal Plating	Tin (Sn)	7440-31-5	2.159	100.0	1000000	0.93	9301
Sub-Total			2.159	100.0	1000000	0.93	9301
Total			232.104			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/offering/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>.