	Termination Base Alloy: Copper Alloy (Cu)	Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)	JEDEC 97 Product Marking and/or Pkg. Labeling e3

Semiconductor Device Type: ST (G2X) 020 TSSOP 4.4mm Matte Tin

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Silica, vitreous (or fused)	60676-86-0	Mold Compound	40.562	31.638	405,620
Epoxy Resin	Trade Secret	Mold Compound	4.152	3.238	41,516
Phenolic Resin	Trade Secret	Mold Compound	2.863	2.233	28,632
Carbon Black	1333-86-4	Mold Compound	0.143	0.112	1,432
Copper	7440-50-8	Lead Frame	40.725	31.766	407,251
Nickel	7440-02-0	Lead Frame	1.086	0.847	10,861
Silver	7440-22-4	Lead Frame	0.714	0.557	7,137
Silicon	7440-21-3	Lead Frame	0.192	0.150	1,924
Magnesium	7439-95-4	Lead Frame	0.043	0.033	428
Silver	7440-22-4	Die Attach	1.317	1.027	13,172
Epoxy resin	Trade Secret	Die Attach	0.356	0.278	3,560
Metal oxide	Trade Secret	Die Attach	0.053	0.042	534
Gamma-butyrolactone	96-48-0	Die Attach	0.053	0.042	534
Silicon	7440-21-3	Chip (Die)	4.690	3.658	46,900
Gold	7440-57-5	Wire Bond	0.540	0.421	5,400
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.510	1.958	25,100
		TOTALS:	100.000	78.000	1,000,000

0.0780 g Total Mass

37.22	(mg) Total	Mold Compound	% ot Total Weight	47.72
	Silica, vitreous (or fused)	60676-86-0	85.00	
	Epoxy Resin	Trade Secret	8.70	
	Phenolic Resin	Trade Secret	6.00	
	Carbon Black	1333-86-4	0.30	
		Total	100.00	

33.35	(mg) Total	Lead Frame	% of Total Weight	42.76
	Copper	7440-50-8	95.24	
	Nickel	7440-02-0	2.54	
	Silver	7440-22-4	1.67	
	Silicon	7440-21-3	0.45	
	Magnesium	7439-95-4	0.10	
		Total	100.00	

1.39	(mg) Total	Die Attach	% of Total Weight	1.78
	Silver	7440-22-4	74.00	
	Epoxy resin	Trade Secret	20.00	
	Metal oxide	Trade Secret	3.00	
	Gamma-butyrolactone	96-48-0	3.00	
		Total	100.00	

3.66	Total (mg)	Chip (Die)	% of Total Weight	4.69
	Doped Silicon	7440-21-3	100.00	
		Total	100.00	

0.42	(mg) Total	Wire Bond	% of Total Weight	0.54
	Doped Gold	7440-57-5	100.00	
		Total	100.00	

1.96	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	2.51
	Tin	7440-31-5	100.00	
		Total	100.00	

78.000	100.000

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