



Semiconductor Device Type: 3CX 20 MQFN 5x5x1.0mm Matte Tin			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			J-STD-609A Product Marking and/or Pkg. Labeling e3	
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	34.57	(mg) Total	Mold Compound	% of Total Weight	49.95
Silica, fused	60676-86-0	Mold Compound	44.955	31.109	449,550		Silica, fused	60676-86-0	90.00	
Epoxy Resin	Trade Secret	Mold Compound	2.423	1.676	24,226		Epoxy Resin	Trade Secret	4.85	
Phenolic Resin	Trade Secret	Mold Compound	2.423	1.676	24,226		Phenolic Resin	Trade Secret	4.85	
Carbon Black	1333-86-4	Mold Compound	0.150	0.104	1,499		Carbon Black	1333-86-4	0.30	
Copper	7440-50-8	Lead Frame	42.025	29.081	420,248		Total 100.00			
Tin	7440-31-5	Lead Frame	0.108	0.075	1,079	29.85	(mg) Total	Lead Frame	% of Total Weight	43.14
Silver	7440-22-4	Lead Frame	0.822	0.569	8,218		Copper	7440-50-8	97.42	
Zinc	7440-66-6	Lead Frame	0.078	0.054	777		Tin	7440-31-5	0.25	
Chromium	7440-47-3	Lead Frame	0.108	0.075	1,079		Silver	7440-22-4	1.91	
SiO2 Filler	Trade Secret	Die Attach	0.711	0.492	7,107		Zinc	7440-66-6	0.18	
Epoxy Resin	Trade Secret	Die Attach	0.359	0.248	3,588		Chromium	7440-47-3	0.25	
Acrylic Copolymer	Trade Secret	Die Attach	0.215	0.149	2,153		Total 100.00			
Phenol Resin	Trade Secret	Die Attach	0.215	0.149	2,153	1.04	(mg) Total	Die Attach	% of Total Weight	1.5
Silicon	7440-21-3	Chip (Die)	2.710	1.875	27,100		SiO2 Filler	Trade Secret	47.38	
Gold	7440-57-5	Wire Bond	0.250	0.173	2,500		Epoxy Resin	Trade Secret	23.92	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.450	1.695	24,500		Acrylic Copolymer	Trade Secret	14.35	
TOTALS:			100.000	69.200	1,000,000		Phenol Resin	Trade Secret	14.35	
0.0692 g Total Mass							Total 100.00			
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)						1.88	Total (mg)	Chip (Die)	% of Total Weight	2.71
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.							Doped Silicon	7440-21-3	100.00	
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.							Total 100.00			
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/						0.17	(mg) Total	Wire Bond	% of Total Weight	0.25
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.							Gold	7440-57-5	100.00	
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.							Total 100.00			
Microchip Technology Incorporated does not provide any warranty, express or implied, with respect to the information provided in this declaration. The exclusive, limited product warranties provided by Microchip Technology Incorporated and its subsidiaries are contained in Microchip's standard terms and conditions of sale. These are provided in Microchip's quotations, sales order acknowledgement, and invoices.						1.70	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	2.45
Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.							Tin	7440-31-5	100.00	
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							Total 100.00			

69.20

100.00