



 MICROCHIP			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: MQ (P8X) 020 QFN 5x5x0.9mm Matte Tin											
Basic Substance		CAS Number	"Contained In" Sub-Component		% Total Weight	mg/part	ppm	35.52 (mg) Total	Mold Compound	% of Total Weight	52.91
Silica, fused		60676-86-0	Mold Compound		47.619	31.967	476,190	Epoxy Resin (NLP # 500-033-5)	Silica, fused	60676-86-0	90.00
Epoxy Resin (NLP # 500-033-5)		Trade Secret	Mold Compound		2.566	1.723	25,661		Epoxy Resin (NLP # 500-033-5)	Trade Secret	4.85
Phenolic Resin		Trade Secret	Mold Compound		2.566	1.723	25,661		Phenolic Resin	Trade Secret	4.85
Carbon Black		1333-86-4	Mold Compound		0.159	0.107	1,587		Carbon Black	1333-86-4	0.30
Copper		7440-50-8	Lead Frame		35.362	23.738	353,616	Total 100.00			
Tin		7440-31-5	Lead Frame		0.091	0.061	908	24.37 (mg) Total	Lead Frame	% of Total Weight	36.3
Silver		7440-22-4	Lead Frame		0.692	0.464	6,915	Copper	Copper	7440-50-8	97.42
Zinc		7440-66-6	Lead Frame		0.065	0.044	653		Tin	7440-31-5	0.25
Chromium		7440-47-3	Lead Frame		0.091	0.061	908		Silver	7440-22-4	1.91
Silver		7440-22-4	Die Attach		1.412	0.948	14,118		Zinc	7440-66-6	0.18
Acrylate resins Proprietary		Trade Secret	Die Attach		0.326	0.219	3,258		Chromium	7440-47-3	0.25
Treated silica		Trade Secret	Die Attach		0.036	0.024	362	Total 100.00			
Heterocyclic organic compound		Trade Secret	Die Attach		0.036	0.024	362	1.22 (mg) Total	Die Attach	% of Total Weight	1.81
Silicon		7440-21-3	Chip (Die)		4.160	2.793	41,600	Heterocyclic organic compound	Silver	7440-22-4	78.00
Gold		7440-57-5	Wire Bond		0.540	0.363	5,400		Acrylate resins Proprietary	Trade Secret	18.00
Tin		7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour		4.280	2.873	42,800		Treated silica	Trade Secret	2.00
											2.00
TOTALS:						100.000	67.130	1,000,000	Total 100.00		
0.06713 g Total Mass											
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.											
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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											
						67.130					
						100.000					