



Semiconductor Device Type: ML (D5X) 016 QFN 4x4x0.9mm Matte Tin			Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials			JEDEC 97 Product Marking and/or Pkg. Labeling e3	
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	(mg) Total	Mold Compound	% of Total Weight		
Silica, fused	60676-86-0	Mold Compound	42.075	17.545	420,750	19.49	Silica, fused	60676-86-0	90.00	46.75
Epoxy Resin	Trade Secret	Mold Compound	2.267	0.945	22,674		Epoxy Resin	Trade Secret	4.85	
Phenolic Resin	Trade Secret	Mold Compound	2.267	0.945	22,674		Phenolic Resin	Trade Secret	4.85	
Carbon Black	1333-86-4	Mold Compound	0.140	0.058	1,403		Carbon Black	1333-86-4	0.30	
			Total:				100.00			
Copper	7440-50-8	Lead Frame	38.511	16.059	385,112	16.81	Lead Frame	7440-50-8	95.54	40.31
Iron	7439-89-6	Lead Frame	0.947	0.395	9,473		Iron	7439-89-6	2.35	
Silver	7440-22-4	Lead Frame	0.768	0.320	7,679		Silver	7440-22-4	1.91	
Zinc	7440-66-6	Lead Frame	0.050	0.021	504		Zinc	7440-66-6	0.13	
Phosphorous	7723-14-0	Lead Frame	0.033	0.014	333		Phosphorous	7723-14-0	0.08	
			Total:			100.00				
Acrylate resins Proprietary	Trade Secret	Die Attach	1.022	0.426	10,218	0.55	Die Attach	7440-22-4	78.00	1.31
Treated silica	Trade Secret	Die Attach	0.236	0.098	2,358		Acrylate resins Proprietary	Trade Secret	18.00	
Heterocyclic organic compound	Trade Secret	Die Attach	0.026	0.011	262		Treated silica	Trade Secret	2.00	
Silicon	7440-21-3	Chip (Die)	7.890	3.290	78,900		Heterocyclic organic compound	Trade Secret	2.00	
			Total:				100.00			
Copper	7440-50-8	Wire Bond Copper Palladium coated (CuPd)	0.776	0.324	7,762	3.29	Chip (Die)	7440-21-3	100.00	7.89
Palladium	7440-05-3	Wire Bond Copper Palladium coated (CuPd)	0.014	0.006	138		Total			
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	2.950	1.230	29,500					
TOTALS:			100.000	41.700	1,000,000					
0.0417 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/										
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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										
						1.23	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	% of Total Weight	2.95
							Tin	7440-31-5	100.00	
						Total			100.00	
						41.700				100.000