



Semiconductor Device Type: P (Q2X) 028 PDIP .600in 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	79.35	
Fused Silica	60676-86-0	Mold Compound	57.132	2323.387	571.320	Fused Silica	60676-86-0	72.00		
Metal Hydro Oxide	Trade Secret	Mold Compound	8.729	354.962	87.285	Metal Hydro Oxide	Trade Secret	11.00		
Epoxy Resin	Trade Secret	Mold Compound	5.555	225.885	55.545	Epoxy Resin	Trade Secret	7.00		
Phenol Resin	Trade Secret	Mold Compound	5.555	225.885	55.545	Phenol Resin	Trade Secret	7.00		
SiO2	14808-60-7	Mold Compound	1.984	80.673	19.838	SiO2	14808-60-7	2.50		
Carbon Black	1333-86-4	Mold Compound	0.397	16.135	3.968	Carbon Black	1333-86-4	0.50		
Copper	7440-50-8	Lead Frame Tape	9.984	406.006	99.837					
Iron	7439-89-6	Lead Frame Tape	0.246	9.987	2.456					
Silver	7440-22-4	Lead Frame Tape	0.199	8.096	1.991					
Zinc	7440-66-6	Lead Frame Tape	0.013	0.531	1.31					
Phosphorous	7723-14-0	Lead Frame Tape	0.009	0.351	86					
Polyimide	25038-81-7	Lead Frame Tape	0.215	8.743	2,150					
Poly - ethylene - terephthalate	25038-59-9	Lead Frame Tape	0.190	7.727	1,900					
NBR	9003-18-3	Lead Frame Tape	0.035	1.423	350					
Bismaleimide	79922-55-7	Lead Frame Tape	0.030	1.220	300					
Phenol resin	28453-20-5 / 9016-83-5	Lead Frame Tape	0.030	1.220	300					
Silver	7440-22-4	Die Attach	0.550	22.375	5,502					
Epoxy Resin	9003-36-5	Die Attach	0.110	4.474	1,100					
Diluent	3101-60-8	Die Attach	0.055	2.236	550					
Phenolic hardener	Trade secret	Die Attach	0.022	0.894	220					
Amine type hardener	827-43-0	Die Attach	0.011	0.448	110					
Dicyandiamide	461-58-5	Die Attach	0.002	0.073	18					
Silicon	7440-21-3	Chip (Die)	7.500	305.003	75,000					
Copper	7440-50-8	Wire Bond palladium coated copper (CuPd)	0.197	7.991	1,965					
Palladium	7440-05-3	Wire Bond palladium coated copper (CuPd)	0.004	0.142	35					
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	1.250	50.834	12,500					
TOTALS:			100.000	4,066.700	1,000,000					
4.0667 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/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.										
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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										
						326.93	(mg) Total	Mold Compound	% of Total Weight	79.35
							Fused Silica	60676-86-0	72.00	
							Metal Hydro Oxide	Trade Secret	11.00	
							Epoxy Resin	Trade Secret	7.00	
							Phenol Resin	Trade Secret	7.00	
							SiO2	14808-60-7	2.50	
							Carbon Black	1333-86-4	0.50	
							Total	100.00		
						424.97	(mg) Total	Lead Frame	% of Total Weight	10.45
							Copper	7440-50-8	95.54	
							Iron	7439-89-6	2.35	
							Silver	7440-22-4	1.91	
							Zinc	7440-66-6	0.13	
							Phosphorous	7723-14-0	0.08	
							Total	100.00		
						20.33	(mg) Total	Lead Frame Tape	% of Total Weight	0.5
							Polyimide	25038-81-7	43.00	
							Poly - ethylene - terephthalate	25038-59-9	38.00	
							NBR	9003-18-3	7.00	
							Bismaleimide	79922-55-7	6.00	
							Phenol resin	28453-20-5 / 9016-83-5	6.00	
							Total	100.00		
						30.50	(mg) Total	Die Attach	% of Total Weight	0.75
							Silver	7440-22-4	73.36	
							Epoxy Resin	9003-36-5	14.67	
							Diluent	3101-60-8	7.33	
							Phenolic hardener	Trade secret	2.93	
							Amine type hardener	827-43-0	1.47	
							Dicyandiamide	461-58-5	0.24	
							Total	100.00		
						305.00	Total (mg)	Chip (Die)	% of Total Weight	7.5
							Doped Silicon	7440-21-3	100.00	
							Total	100.00		
						8.13	(mg) Total	Wire Bond palladium coated copper (CuPd)	% of Total Weight	0.2
							Copper	7440-50-8	98.25	
							Palladium	7440-05-3	1.75	
							Total	100.00		
						50.83	(mg) Total	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1	% of Total Weight	1.25
							Tin	7440-31-5	100.00	
							Total	100.00		
						4,066.700				100.000