Compliant with IEC 62474/ D9.00

Compliant to IEC 61249-2-21:2003

MICROCHIP (201) AND THE RESERVE OF THE PROPERTY OF THE PROPERT			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
Semiconductor Device Type:		(CAA) 048 LQFP 07x07x1.6mm MatteTin								e3
Basic Substance	CAS Number	Sub-Component	% Total Weight	mg/part	ppm	131.99	(mg) Total	Mold Compound	% ot Total Weight	84.88
Silica, vitreous (or fused)	60676-86-0	Mold Compound	72.148	112.190	721.480		Silica, vitreous (or fused)	60676-86-0	85.00	
Epoxy Resin	Trade Secret	Mold Compound	7.385	11.483	73,846		Epoxy Resin	Trade Secret	8.70	1
Phenolic Resin	Trade Secret	Mold Compound	5.093	7.919	50,928		Phenolic Resin	Trade Secret	6.00	1
Carbon Black	1333-86-4	Mold Compound	0.255	0.396	2,546		Carbon Black	1333-86-4	0.30	
Copper	7440-50-8	Lead Frame	9.448	14.691	94,479			Total	100.00	Ī
Nickel	7440-02-0	Lead Frame	0.252	0.392	2,520	15.43	(mg) Total	Lead Frame	% of Total Weight	9.92
Silver	7440-22-4	Lead Frame	0.166	0.257	1,656		Copper	7440-50-8	95.24	
Silicon	7440-21-3	Lead Frame	0.045	0.069	446		Nickel	7440-02-0	2.54]
Magnesium	7439-95-4	Lead Frame	0.010	0.015	99		Silver	7440-22-4	1.67]
Silver	7440-22-4	Die Attach	0.447	0.694	4,466		Silicon	7440-21-3	0.45	
Acrylic Resin	Trade secret	Die Attach	0.081	0.126	812		Magnesium	7439-95-4	0.10]
Epoxy Resin	Trade secret	Die Attach	0.052	0.081	522			Total	100.00	
Silicon	7440-21-3	Chip (Die)	0.820	1.275	8,200	0.90	(mg) Total	Die Attach	% of Total Weight	0.58
Gold	7440-57-5	Wire Bond	0.330	0.513	3,300		Silver	7440-22-4	77.00	
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	3.470	5.396	34,700		Acrylic Resin	Trade secret	14.00	
		TOTALS:	100.000	155.500	1,000,000		Epoxy Resin	Trade secret	9.00	
	0.1555	g Total Mass						Total	100.00	ī
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.						1.28	Total (mg)	Object (Die)		
		als supplier declarations and for analytical test data			-			Chip (Die)	% of Total Weight	0.82
a chemical substance is absent from the list above the chemical			ud to the best of Mir	rachin Tachu	- alogy		Doped Silicon	7440-21-3	100.00]
corporated's knowledge and belief as of the date of this documen low the threshold of regulatory concern for any regulatory schem	substance is NOT nt, there is no cred ne world-wide.	an intentional ingredient in the semiconductor device are lible reason to believe that the unavoidable impurity cond	entration of the che	mical substar]
corporated's knowledge and belief as of the date of this documen low the threshold of regulatory concern for any regulatory schem olding compounds used by Microchip meet the UL94 V0 flammabi	substance is NOT nt, there is no cred ne world-wide. vility standard for p	an intentional ingredient in the semiconductor device are lible reason to believe that the unavoidable impurity cond	entration of the che	mical substar		0.51		7440-21-3	100.00	
a chemical substance is absent from the list above, the chemical corporated's knowledge and belief as of the date of this documen slow the threshold of requlatory concern for any regulatory schemolding compounds used by Microchip meet the UL94 V0 flammabitp://lul.com/global/eng/pages/offerings/industries/chemicals/plastine protective "tubes" in which the specific product is shipped are eels' may be made from PVC plastic.	substance is NOT nt, there is no creo ne world-wide. illity standard for picts/ e made from polyv	an intentional ingredient in the semiconductor device ar lible reason to believe that the unavoidable impurity cond plastics. You can access the UL iQTM family of databased inyl chloride (PVC) plastic. "Window envelopes" used to	entration of the che to obtain a test rep hold the packing sli	emical substar ort at p on the oute	r box and certain	0.51	Doped Silicon	7440-21-3 Total	100.00	
corporated's knowledge and belief as of the date of this documen slow the threshold of regulatory concern for any regulatory schem olding compounds used by Microchip meet the UL94 V0 flammabi tp://ul.com/global/eng/pages/offerings/industries/chemicals/plasti ne protective "tubes" in which the specific product is shipped are	substance is NOT nt, there is no cree ne world-wide. iility standard for plics/ e made from polyv s form concerning wledge and belief, sed on the ranges any not have been cipated significan	an intentional ingredient in the semiconductor device at lible reason to believe that the unavoidable impurity con- plastics. You can access the UL iQTM family of databases inyl chloride (PVC) plastic. "Window envelopes" used to substances restricted by RoHS in Microchip Technology as of the date listed in this form. Microchip Technology la provided in Material Safety Data Sheets provided by raw provided by subcontract assemblers and raw material st.	entration of the che to obtain a test rep hold the packing sli Incorporated's sem mocorporated cannot material suppliers.	emical substar ort at p on the outer niconductor de guarantee the Supplier inform is provided of	r box and certain evices in their e completeness mation is often only as estimates	0.51	Doped Silicon (mg) Total	7440-21-3 Total Wire Bond 7440-57-5 Total	100.00 100.00 % of Total Weight	0.33
corporated's knowledge and belief as of the date of this documen ellow the threshold of regulatory concern for any regulatory schem olding compounds used by Microchip meet the UL94 V0 flammably tp://lul.com/global/eng/pages/offerings/industries/chemicals/plastine protective "tubes" in which the specific product is shipped are eels' may be made from PVC plastic. icrochip Technology Incorporated believes the information in this iginal packing materials is true and correct to the best of its know ad accuracy of data in this form because it has been compiled bas rotected from disclosure as trade secrets and some information in the average weight of these parts and the average weight of antic	substance is NOT nt, there is no crec ne world-wide. illity standard for icits! e made from polyv is form concerning wledge and belief, sed on the ranges say not have been cipated significan id parts. r, express or impli- es are contained in	an intentional ingredient in the semiconductor device allible reason to believe that the unavoidable impurity conciplastics. You can access the UL iQTM family of databases inyl chloride (PVC) plastic. "Window envelopes" used to substances restricted by RoHS in Microchip Technology as of the date listed in this form. Microchip Technology as of the date listed in this form. Microchip Technology as of the date listed in this form succeeding the provided by raw provided by subcontract assemblers and raw material sut toxic metals components. These estimates do not inclued, with respect to the information provided in this declar in Microchip's standard terms and conditions of sale. The	entration of the che is to obtain a test rep shold the packing sli Incorporated's sem material suppliers. Information de trace levels of do vation. The exclusive se are provided in N	ort at p on the outer niconductor di guarantee the Supplier infori is provided ci pants, metals e, limited prod licrochip's qu	r box and certain evices in their e completeness mation is often only as estimates , and non-metal duct warranties lotations, sales	0.51	Doped Silicon (mg) Total	7440-21-3 Total Wire Bond 7440-57-5	100.00 100.00 % of Total Weight	0.33
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