Semiconductor Device Type: (C2A) 128_PQFP14x20x34_MatteTin			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
		"Contained In"								
Basic Substance	CAS Number	Sub-Component	% Total Weight	mg/part	ppm	1440.03	(mg) Total	Mold Compound	% ot Total Weight	81.75
Fused Silica	60676-86-0	Mold Compound	73.575	1296.024	735,750		Fused Silica	60676-86-0	90.00	
Epoxy Resin	Trade Secret	Mold Compound	4.333	76.321	43,328		Epoxy Resin	Trade Secret	5.30	
Phenol Resin	Trade Secret	Mold Compound	3.679	64.801	36,788		Phenol Resin	Trade Secret	4.50	
Carbon Black	1333-86-4	Mold Compound	0.164	2.880	1,635		Carbon Black	1333-86-4	0.20	
Copper	7440-50-8	Lead Frame	15.715	276.816	157,148			Total	100.00	
Nickel	7440-02-0	Lead Frame	0.419	7.382	4,191	290.65	(mg) Total	Lead Frame	% of Total Weight	16.50
Silver	7440-22-4	Lead Frame	0.275	4.851	2.754		Copper	7440-50-8	95.24	
Silicon	7440-21-3	Lead Frame	0.074	1,308	743		Nickel	7440-02-0	2.54	
Magnesium	7439-95-4	Lead Frame	0.017	0.291	165		Silver	7440-22-4	1.67	
Silver	7440-22-4	Die Attach	0.077	1.356	770		Silicon	7440-21-3	0.45	
Acrylic Resin	Trade secret	Die Attach	0.014	0.247	140		Magnesium	7439-95-4	0.10	
Epoxy Resin	Trade secret	Die Attach	0.009	0.159	90			Total		
Silicon	7440-21-3	Chip (Die)	0.750	13.211	7.500	1.76	(mg) Total	Die Attach	% of Total Weight	0.10
Gold	7440-57-5	Wire Bond	0.100	1.762	1,000	1.70	Silver	7440-22-4	77.00	0.10
Tin	7440-31-5	Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	0.800	14.092	8.000		Acrylic Resin	Trade secret	14.00	
	1440 01 0	Totals	100.000	1,761.500	1,000,000		Epoxy Resin	Trade secret	9.00	
			100.000	1,701.500	1,000,000		Epoxy Resin	Trade secret		
1.7615 g Total Mass his 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)										
d 2002/53/EC (End-of-Life Vehicles (ELV) without exemption		. 2002/08/20 (2: 04/14/1/ 2000) a Dirocaro 201/10/20 (0.0,000,20 (0		13.21	Total (mg)	Chip (Die)		
mpliance with the above FLI Directives has been verified	and a final second of the stress is a second							omp (bie)	% of Total Weight	0.75
mphanes man the above Lo Directives has been vermed	via internal design contro	ols, supplier declarations, and /or analytical test data.					Doped Silicon	7440-21-3	% of Total Weight 100.00	0.75
a chemical substance is absent from the list above, the ch corporated's knowledge and belief as of the date of this do	hemical substance is NOT	an intentional ingredient in the semiconductor device an					Doped Silicon	,	100.00	0.75
chemical substance is absent from the list above, the ch orporated's knowledge and belief as of the date of this do we the threshold of regulatory concern for any regulatory ding compounds used by Microchip meet the UL94 V0 fi	hemical substance is NOT locument, there is no crea ry scheme world-wide. lammability standard for	an intentional ingredient in the semiconductor device an dible reason to believe that the unavoidable impurity conc	entration of the che	mical substar		1.76	Doped Silicon (mg) Total	7440-21-3	100.00	0.10
a chemical substance is absent from the list above, the ch corporated's knowledge and belief as of the date of this de low the threshold of regulatory concern for any regulatory olding compounds used by Microchip meet the UL94 V0 fit br//ul.com/global/eng/pages/offerings/industries/chemica e protective "tubes" in which the specific product is ship	hemical substance is NOT locument, there is no cred ry scheme world-wide. lammability standard for als/plastics/	an intentional ingredient in the semiconductor device an dible reason to believe that the unavoidable impurity conc plastics. You can access the UL iQTM family of databases	entration of the che	mical substar ort at	nce, if any, is not	1.76		7440-21-3 Total	100.00 100.00	
a chemical substance is absent from the list above, the ch	hemical substance is NOT locument, there is no crec y scheme world-wide. lammability standard for als/plastics/ opped are made from polyv on in this form concerning its knowledge and belief, piled based on the ranges nation may not have been to f anticipated significan	an intentional ingredient in the semiconductor device an dible reason to believe that the unavoidable impurity conc 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 provided in Material Safety Data Sheets provided by raw provided by subcontract assemblers and raw material su	entration of the che to obtain a test rep hold the packing sli Incorporated's sem ncorporated cannot material suppliers. If opliers. Information	mical substar ort at p on the outer liconductor de guarantee the Supplier inform is provided o	nce, if any, is not r box and certain evices in their e completeness mation is often nily as estimates	1.76	(mg) Total	7440-21-3 Total Wire Bond	100.00 100.00 % of Total Weight 100.00	
a chemical substance is absent from the list above, the ch corporated's knowledge and belief as of the date of this dd low the threshold of regulatory concern for any regulatory obling compounds used by Microchip meet the UL94 V0 fi p://ul.com/global/eng/pages/offerings/industries/chemical e protective "tubes" in which the specific product is ship lels' may be made from PVC plastic. crochip Technology Incorporated believes the information ginal packing materials is true and correct to the best of i d accuracy of data in this form because it has been compi bected from disclosure as trade secrets and some inform the average weight of these parts and the average weight tetrals contained within silicon devices (silicon IC) in the crochip Technology Incorporated ones not provide any w ovided by Microchip Technology Incorporated and its sub der acknowledgement, and invoices.	hemical substance is NOT locument, there is no crec y scheme world-wide. lammability standard for las/plastics/ opped are made from polyv en in this form concerning its knowledge and belief, olied based on the ranges nation may not have been to of anticipated significan e finished parts. varranty, express or impli bsidiaries are contained i	an intentional ingredient in the semiconductor device and fible reason to believe that the unavoidable impurity conce- plastics. You can access the UL iQTM family of databases inyl chloride (PVC) plastic. "Window envelopes" used to b substances restricted by RoHS in Microchip Technology as of the date listed in this form. Microchip Technology in provided in Material Safety Data Sheets provided by raw provided by subcontract assemblers and raw material su t toxic metals components. These estimates do not include ed, 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 hold the packing sli Incorporated's sem ncorporated cannot material suppliers. 1 ppliers. Information de trace levels of do ation. The exclusive se are provided in M	mical substar ort at p on the outer niconductor du guarantee the Supplier inform is provided o pants, metals, e, limited prod licrochip's qu	nce, if any, is not r box and certain evices in their e completeness mation is often only as estimates , and non-metal luct warranties otations, sales	1.76	(mg) Total	7440-21-3 Total Wire Bond 7440-57-5	100.00 100.00 % of Total Weight 100.00	
chemical substance is absent from the list above, the ch corporated's knowledge and belief as of the date of this dd low the threshold of regulatory concern for any regulatory iding compounds used by Microchip meet the UL94 V0 ft p://ul.com/global/eng/pages/offerings/industries/chemical e protective "tubes" in which the specific product is ship lels" may be made from PVC plastic. crochip Technology Incorporated believes the information ginal packing materials is true and correct to the best of i d accuracy of data in this form because it has been comp otected from disclosure as trade secrets and some inform the average weight of these parts and the average weight terials contained within silicon devices (silicon IC) in the crochip Technology Incorporated does not provide any w svided by Microchip Technology Incorporated and its sub fer acknowledgement, and invoices.	hemical substance is NOT locument, there is no crec y scheme world-wide. lammability standard for als/plastics/ oped are made from polyy on in this form concerning its knowledge and belief, olied based on the ranges hation may not have been t of anticipated significan a finished parts. varranty, express or impli bsidiaries are contained i changes to Material Contr	an intentional ingredient in the semiconductor device an dible reason to believe that the unavoidable impurity conc plastics. You can access the UL iQTM family of databases inyl chloride (PVC) plastic. "Window envelopes" used to u substances restricted by RoHS in Microchip Technology as of the date listed in this form. Microchip Technology provided in Material Safety Data Sheets provided by raw provided by subcontract assemblers and raw material su t toxic metals components. These estimates do not inclu- ed, with respect to the information provided in this declar	entration of the che to obtain a test rep hold the packing sli Incorporated's sem ncorporated cannot material suppliers. S ppliers. Information de trace levels of do ation. The exclusive se are provided in M direct or indirect, cc	mical substar ort at p on the outer hiconductor dr guarantee the Supplier inforr is provided o pants, metals, e, limited prod icrochip's qu	nce, if any, is not r box and certain evices in their e completeness mation is often only as estimates , and non-metal luct warranties totations, sales or otherwise,		(mg) Total	7440-21-3 Total Wire Bond 7440-57-5 Total Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour 7440-31-5	100.00 100.00 % of Total Weight 100.00 100.00 % of Total Weight 100.00	0.10
chemical substance is absent from the list above, the ch orporated's knowledge and belief as of the date of this dd low the threshold of regulatory concern for any regulatory lding compounds used by Microchip meet the UL94 V0 fl p://ul.com/global/eng/pages/offerings/industries/chemical e protective "tubes" in which the specific product is ship els" may be made from PVC plastic. crochip Technology Incorporated believes the information ginal packing materials is true and correct to the best of i d accuracy of data in this form because it has been compi hected from disclosure as trade secrets and some inform the average weight of these parts and the average weight tetrials contained within silicon devices (silicon IC) in the crochip Technology Incorporated does not provide any w voided by Microchip Technology Incorporated and its sub fer acknowledgement, and invoices. crochip disclaims any duty to notify users of updates or c freed by users or third parties as a result of the users' rel	hemical substance is NOT locument, there is no crecy y scheme world-wide. lammability standard for Jals/plastics/ opped are made from polyv on in this form concerning its knowledge and belief, jeled based on the ranges nation may not have been to f anticipated significan e finished parts. varranty, express or impli bsidiaries are contained i changes to Material Contr liance on the information	an intentional ingredient in the semiconductor device and fible reason to believe that the unavoidable impurity conce- plastics. You can access the UL iQTM family of databases inyl chloride (PVC) plastic. "Window envelopes" used to be substances restricted by RoHS in Microchip Technology as of the date listed in this form. Microchip Technology is provided in Material Safety Data Sheets provided by raw provided by subcontract assemblers and raw material su t toxic metals components. These estimates do not include ed, with respect to the information provided in this declar in Microchip's standard terms and conditions of sale. The ent Declarations and shall not be liable for any damages, in Material Content Declarations (MCD) or independent th	entration of the che to obtain a test rep hold the packing sli Incorporated's sem ncorporated cannot material suppliers. S ppliers. Information de trace levels of do ation. The exclusive se are provided in M direct or indirect, cc	mical substar ort at p on the outer hiconductor dr guarantee the Supplier inforr is provided o pants, metals, e, limited prod icrochip's qu	nce, if any, is not r box and certain evices in their e completeness mation is often only as estimates , and non-metal luct warranties totations, sales or otherwise,		(mg) Total Gold (mg) Total	7440-21-3 Total Wire Bond 7440-57-5 Total Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour	100.00 100.00 % of Total Weight 100.00 100.00 % of Total Weight 100.00	0.10