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PART INFORMATION

Mfg Item Number

Mfg Item Name

PBGA 620 29\*29\*1.2P1.0

SUPPLIER Company Name Freescale Semiconductor Inc Company Unique ID 14-141-7928 2017-09-18 Response Date Response Document ID 5203K11038D039A1.26 Contact Name Freescale Semiconductor Inc Contact Title Product Technical Support **Contact Phone** 1-800-521-6274 Contact Email support@freescale.com **Authorized Representative** Daniel Binyon Representative Title **EPP Customer Response** Representative Phone 512-895-3406

Representative Email eppanlst@freescale.com
URL for Additional Information www.freescale.com

EU RoHS
Pb Free
Yes
HalogenFree
Yes
Plating Indicator
EU RoHS Exemption(s)

MANUFACTURING Mfg Item Number MPC8315ECVRAGDA Mfg Item Name PBGA 620 29\*29\*1.2P1.0 Version ALL Weight 4.272900 UoM Unit Volume EACH J-STD-020 MSL Rating 3 Peak Processing Temperature 260 C Max Time at Peak Temperature 40 seconds Number of Processing Cycles



RoHS							
RoHS Directive	2011/65/EU						
RoHS Definition	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) of homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material of Cadmium						
RoHS Legal Definition	Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2011/65/EU and implemented by the laws of the European Union member states) of the part(s) identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a RoHS restricted substance) in excess of the applicable quantity limit identified below. If a homogeneous material within the part(s) contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Suppliers liability and the Companys remedies for issues that arise regarding information the Su						
RoHS Declaration	1 - Item(s) do not contain RoHS restricted substances per the definition above						
Supplier Acceptance	Accepted						
Signature	Daniel Binyon						
Exemption List Version	2012/51/EU						
List of Freescale Accepted Exemptions	6(a): Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight						
	6(b): Lead as an alloying element in aluminium containing up to 0.4% lead by weight						
	6(c): Copper alloy containing up to 4% lead by weight						
	7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)						
	7(b): Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications						
	7(c)-I: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound						
	7(c)-II: Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher						
	7(c)-III: Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC						
	7(c)-IV: Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors						
	15: Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages						



Homogeneous Material	Weight	SubstanceClass	Substance	CAS Exemptio	n SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Epoxy Die Attach	0.0093					g	1			
Epoxy Die Attach		Solvents, additives, and other materials	1,3,5-Triazine-2,4-diamine, 6-[2-(2-methyl-1H-imidazol-1-yl)ethyl]	38668-46-1	0.00007859	g	8451	0.8451	18	0.0018
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5	0.00120508	g	129579	12.9579	282	0.0282
Epoxy Die Attach		Plastics/polymers	4,4'-Dihydroxydiphenyl	92-88-6	0.00007859	g	8451	0.8451	18	0.0018
Epoxy Die Attach		Metals	Silver, metal	7440-22-4	0.00793774	g	853519	85.3519	1857	0.1857
Solder Balls - Pb Free, Sn/Ag	0.5135					g				
Solder Balls - Pb Free, Sn/Ag		Metals	Silver, metal	7440-22-4	0.0179725	g	35000	3.5	4206	0.4206
Solder Balls - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5	0.4955275	g	965000	96.5	115969	11.5969
Non-Conductive Epoxy/Adhesive	0.0059					g				
Ion-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Carbon Black	1333-86-4	0.000059	g	10000	1	13	0.0013
Ion-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	0.002655	g	450000	45	621	0.0621
Ion-Conductive Epoxy/Adhesive		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7	0.000059	g	10000	1	13	0.0013
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0	0.00118	g	200000	20	276	0.0276
Non-Conductive Epoxy/Adhesive		Glass	Other silica compounds	-	0.00118	g	200000	20	276	0.0276
Non-Conductive Epoxy/Adhesive		Glass	Dimethyl silicone polymer with silica	67762-90-7	0.000472	q	80000	8	110	0.011
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Dimethyl,methyl hydrogen siloxane	68037-59-2	0.000295	a	50000	5	69	0.0069
Organic Substrate, Halogen-fre	1.4314					a				
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Other acrylates	-	0.01793401	a	12529	1.2529	4197	0.4197
Organic Substrate, Halogen-fre		Metals	Aluminum Oxides (Al2O3)	1344-28-1	0.09329865	a	65180	6.518	21834	2.1834
Organic Substrate, Halogen-fre		Metals	Barium	7440-39-3	0.01612043	a	11262	1.1262	3772	0.3772
Organic Substrate, Halogen-fre		Metals	Copper, metal	7440-50-8	0.87623007	a	612149	61.2149	205066	20.5066
Organic Substrate, Halogen-fre		Plastics/polymers	2,2'-[(1-methylethylidene)bis(4,1- phenyleneoxymethylene)]bisoxirane	1675-54-3	0.0017549	g	1226	0.1226	410	0.041
Organic Substrate, Halogen-fre		Metals	Gold, metal	7440-57-5	0.0022702	g	1586	0.1586	531	0.0531
Organic Substrate, Halogen-fre		Nickel (external applications only)	Nickel	7440-02-0	0.01345373	g	9399	0.9399	3148	0.3148
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Other organic Silicon Compounds		0.00048954	g	342	0.0342	114	0.0114
Organic Substrate, Halogen-fre		Glass	Fibrous-glass-wool	65997-17-3	0.20104156	g	140451	14.0451	47050	4.705
Organic Substrate, Halogen-fre		Glass	Silicon dioxide	7631-86-9	0.11476965	g	80180	8.018	26859	2.6859
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-	0.01513706	g	10575	1.0575	3542	0.3542
Organic Substrate, Halogen-fre		Plastics/polymers	Other Non-halogenated Epoxy resins	-	0.0789002	g	55121	5.5121	18465	1.8465
Silicon Semiconductor Die	0.03					g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-	0.0006	g	20000	2	140	0.014
Silicon Semiconductor Die		Glass	Silicon, doped	-	0.0294	g	980000	98	6880	0.688
Heat Spreader	1.1178					g				
Heat Spreader		Metals	Copper, metal	7440-50-8	1.1178	g	1000000	100	261619	26.1619
Die Encapsulant, Halogen-free	1.1467					q				
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	_	0.068802	a	60000	6	16101	1.6101
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4	0.011467	a	10000	1	2683	0.2683
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other inorganic compounds.	-	0.022934	a	20000	2	5367	0.5367
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-	0.057335	a	50000	5	13418	1.3418
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0	0.986162	g	860000	86	230794	23.0794
Bonding Wire, Copper	0.0183	0.003	Cilicul, Villedus	000.000	0.00102	g	550000		200704	20.07 04
Bonding Wire, Copper	0.0100	Metals	Copper, metal	7440-50-8	0.017751	9	970000	97	4154	0.4154
		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	7440-00-0	0.000549	g	30000	2	128	0.0128
Bonding Wire, Copper		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).		0.000549	9	30000	3	120	0.0120



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