

**PART INFORMATION**

Mfg Item Number	MPC8358ZQAGDGA
Mfg Item Name	PBGA-PGE 668 29SQ1.2P1.0

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-09-18
Response Document ID	5042K11213D016A1.36
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

**DECLARATION**

EU RoHS	No
Pb Free	No
HalogenFree	Yes
Plating Indicator	e0
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	MPC8358ZQAGDGA
Mfg Item Name	PBGA-PGE 668 29SQ1.2P1.0
Version	ALL
Weight	6.069200
UoM	g
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	3

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 Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Suppliers Standard Terms and Conditions of Sale applicable to such part(s) shall apply.
RoHS Declaration	3 - Item(s) does not contain RoHS restricted substances per the definition above except for lead in solders and selected exemptions, if any
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemption List Version	2012/51/EU
List of Freescale Accepted Exemptions	<p>6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight</p> <p>6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight</p> <p>6(c) : Copper alloy containing up to 4% lead by weight</p> <p>7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)</p> <p>7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications</p> <p>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</p> <p>7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher</p> <p>7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC</p> <p>7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors</p> <p>15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages</p>

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Epoxy Die Attach	0.0093						g				
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	12	0.0012
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00120508	g	129579	12.9579	198	0.0198
Epoxy Die Attach		Plastics/polymers	4,4'-Dihydroxydiphenyl	92-88-6		0.00007859	g	8451	0.8451	12	0.0012
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00793774	g	853519	85.3519	1307	0.1307
Solder Balls - Low Lead	0.646						g				
Solder Balls - Low Lead		Lead/Lead Compounds	Lead	7439-92-1		0.23256	g	360000	36	38318	3.8318
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.01292	g	20000	2	2128	0.2128
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.40052	g	620000	62	65992	6.5992
Non-Conductive Epoxy/Adhesive	0.0059						g				
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.000059	g	10000	1	9	0.0009
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.002955	g	450000	45	437	0.0437
Non-Conductive Epoxy/Adhesive		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.000059	g	10000	1	9	0.0009
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.00118	g	200000	20	194	0.0194
Non-Conductive Epoxy/Adhesive		Glass	Other silica compounds	-		0.00118	g	200000	20	194	0.0194
Non-Conductive Epoxy/Adhesive		Glass	Dimethyl silicone polymer with silica	67762-90-7		0.000472	g	80000	8	77	0.0077
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Dimethyl methyl hydrogen siloxane	68037-69-2		0.000295	g	50000	5	48	0.0048
Organic Substrate, Halogen-free	3.1						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.0687322	g	22172	2.2172	11324	1.1324
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		2.0668878	g	666739	66.6739	340574	34.0574
Organic Substrate, Halogen-free		Plastics/polymers	2,2'-(1-methyl ethylene)bis(4,1-phenyleneoxyethylene)bisoxirane	1675-54-3		0.0073315	g	2365	0.2365	1207	0.1207
Organic Substrate, Halogen-free		Plastics/polymers	Poly[o-cresyl glycidyl ether]-co-formaldehyde	20690-82-2		0.0035739	g	65669	6.5669	33542	3.3542
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.0046841	g	1511	0.1511	771	0.0771
Organic Substrate, Halogen-free		Solvents, additives, and other materials	1-cyanoguanidine	461-58-5		0.0009331	g	301	0.0301	153	0.0153
Organic Substrate, Halogen-free		Solvents, additives, and other materials	1,1'-(methylene)di-p-phenylene)bismaleimide	13676-54-5		0.0610731	g	19701	1.9701	10062	1.0062
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.0277357	g	8947	0.8947	4569	0.4569
Organic Substrate, Halogen-free		Plastics/polymers	4,4'-isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25088-38-6		0.2035739	g	65669	6.5669	33542	3.3542
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.325717	g	105070	10.507	53607	5.3607
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.1291956	g	41676	4.1676	21287	2.1287
Organic Substrate, Halogen-free		Metals	Copper phthalocyanine	147-14-8		0.0005611	g	181	0.0181	92	0.0092
Heat Spreader	1.1178						g				
Heat Spreader		Metals	Copper, metal	7440-50-8		1.1178	g	1000000	100	184175	18.4175
Die Encapsulant, Halogen-free	1.1419						g				
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.068514	g	60000	6	11298	1.1298
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.011419	g	10000	1	1881	0.1881
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other inorganic compounds.	-		0.022938	g	20000	2	3762	0.3762
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.067095	g	50000	5	9407	0.9407
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.982034	g	860000	86	161806	16.1806
Bonding Wire, Copper	0.0183						g				
Bonding Wire, Copper		Metals	Copper, metal	7440-50-8		0.017751	g	970000	97	2924	0.2924
Bonding Wire, Copper		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.000549	g	30000	3	90	0.009
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	98	0.0098
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.0294	g	980000	98	4844	0.4844

## LINKS

MCD LINK	
NXP website	<a href="http://www.nxp.com">http://www.nxp.com</a>
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf</a>
China RoHS	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY</a>
REACH signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf</a>
ELV signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf</a>
Conflict Minerals statement	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf</a>
NXP ENVIRONMENTAL INFORMATION	
Environmental Compliance website	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX</a>
FAQ	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ</a>
Technical Service Request	<a href="http://www.nxp.com/support/sales-and-support:SUPPORTHOME">http://www.nxp.com/support/sales-and-support:SUPPORTHOME</a>
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	<a href="http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf">http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf</a>

IPC1752 XML LINKS

[http://www.freescale.com/mcdfs/MPC8358ZQAGDGA\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MPC8358ZQAGDGA_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MPC8358ZQAGDGA\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MPC8358ZQAGDGA_IPC1752A.xml)