

PART INFORMATION		
Mfg Item Number	SPC5644AF0MMG1R	
Mfg Item Name	MAPBGA 208 17*17*0.8P1.0	
SUPPLIER		
Company Name	Freescale Semiconductor Inc	
Company Unique ID	14-141-7928	
Response Date	2018-04-25	
Response Document ID	5253K00090D202A1.29	
Contact Name	Freescale Semiconductor Inc	
Contact Title	Product Technical Support	
Contact Phone	1-800-521-6274	
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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	Yes	
Pb Free	Yes	
HalogenFree	Yes	
Plating Indicator	e2	
EU RoHS Exemption(s)		
MANUFACTURING		
Mfg Item Number	SPC5644AF0MMG1R	
Mfg Item Name	MAPBGA 208 17*17*0.8P1.0	
Version	ALL	
Weight	0.828900	
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	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

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%		ARTICLEPPM	ARTICLE%
Non-Conductive Epoxy/Adhesive	0.0027						g					
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0002025	g	75000	7.5		244	0.0244
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.00054	g	200000	20		651	0.0651
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.0002025	g	75000	7.5		244	0.0244
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.00054	g	200000	20		651	0.0651
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.001215	g	450000	45		1465	0.1465
Solder Balls - Pb Free, Sn/Ag	0.1703						g					
Solder Balls - Pb Free, Sn/Ag		Metals	Silver, metal	7440-22-4		0.0059605	g	35000	3.5		7190	0.719
Solder Balls - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5		0.1643395	g	965000	96.5		198262	19.8262
Die Encapsulant, Halogen-free	0.4784						g					
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.028704	g	60000	6		34629	3.4629
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.004784	g	10000	1		5771	0.5771
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other inorganic compounds.	-		0.009568	g	20000	2		11543	1.1543
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.02392	g	50000	5		28857	2.8857
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.411424	g	860000	86		496363	49.6363
Organic Substrate	0.1313						g					
Organic Substrate		Solvents, additives, and other materials	Acrylonitrile/Butadiene copolymer, carboxyl terminated (2674)	68891-46-3		0.00063575	g	4842	0.4842		766	0.0766
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.00590098	g	44942	4.4942		7119	0.7119
Organic Substrate		Metals	Copper, metal	7440-50-8		0.0556561	g	423685	42.3685		67144	6.7144
Organic Substrate		Plastics/polymers	4,4'-dihydroxy-3,3',5,5'-tetramethylbiphenyl diglycidyl ether	85954-11-6		0.00338308	g	25766	2.5766		4081	0.4081
Organic Substrate		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.03140145	g	239158	23.9158		37883	3.7883
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00025275	g	1925	0.1925		304	0.0304
Organic Substrate		Silicon	Silicon	7440-21-3		0.00007589	g	578	0.0578		91	0.0091
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.00256219	g	19514	1.9514		3091	0.3091
Organic Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.02395385	g	182436	18.2436		28898	2.8898
Organic Substrate		Plastics/polymers	Other acrylic resins	-		0.00448665	g	34171	3.4171		5412	0.5412
Organic Substrate		Plastics/polymers	Other acrylic/epoxy resin mixture	-		0.00299141	g	22783	2.2783		3608	0.3608
Bonding Wire, PdCu	0.0062						g					
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.0060822	g	981000	98.1		7337	0.7337
Bonding Wire, PdCu		Metals	Gold, metal	7440-57-5		0.0000062	g	1000	0.1		7	0.0007
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.0001116	g	18000	1.8		134	0.0134
Silicon Semiconductor Die	0.04						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.0008	g	20000	2		965	0.0965
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.0392	g	980000	98		47291	4.7291

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

IPC1752 XML LINKS

http://www.freescale.com/mcds/SPC5644AF0MMG1R_IPC1752_v11.xml

http://www.freescale.com/mcds/SPC5644AF0MMG1R_IPC1752A.xml