

**PART INFORMATION**

Mfg Item Number	MC34708VMR2
Mfg Item Name	MAPBGA 206 13SQ*1.61 P.8

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2014-08-20
Response Document ID	0099K10745D079M1.1
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	MC34708VMR2
Mfg Item Name	MAPBGA 206 13SQ*1.61 P.8
Version	ALL
Weight	0.345600
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	<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	0.0021						g				
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00154737	g	736842	73.6842	4477	0.4477
Epoxy Die Attach		Plastics/polymers	Proprietary Material-Di-ester resin	-		0.00022105	g	105263	10.5263	639	0.0639
Epoxy Die Attach		Solvents, additives, and other materials	Proprietary Material-Functionalized Ester	-		0.00022105	g	105263	10.5263	639	0.0639
Epoxy Die Attach		Plastics/polymers	Other Non-halogenated Epoxy resins	-		0.00011053	g	62632	6.2632	319	0.0319
Bonding Wire	0.0038						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0038	g	1000000	100	10995	1.0995
Solder Balls - Lead Free	0.0705						g				
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00035335	g	5012	0.5012	1022	0.1022
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00070669	g	10024	1.0024	2044	0.2044
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.06943996	g	984964	98.4964	20925	20.925
Organic Substrate	0.195						g				
Organic Substrate		Pigments and Dyes	Proprietary Material-Other azo dyes	-		0.00006338	g	325	0.0325	183	0.0183
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.00816855	g	41890	4.189	23635	2.3635
Organic Substrate		Metals	Copper, metal	7440-50-8		0.10596843	g	543428	54.3428	306637	30.6637
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00197886	g	10148	1.0148	5725	0.5725
Organic Substrate		Solvents, additives, and other materials	Other inorganic compounds	-		0.0196016	g	100521	10.0521	56717	5.6717
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.00593639	g	30443	3.0443	17177	1.7177
Organic Substrate		Glass	Proprietary Material-Other glass compounds (without lead, chromium, cadmium or mercury)	-		0.01517744	g	77833	7.7833	43916	4.3916
Organic Substrate		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00126653	g	6495	0.6495	3664	0.3664
Organic Substrate		Solvents, additives, and other materials	Proprietary Material-Other Aromatic carbonyl compounds	-		0.00079151	g	4059	0.4059	2290	0.229
Organic Substrate		Plastics/polymers	Other acrylic resins	-		0.0012474	g	6332	0.6332	3572	0.3572
Organic Substrate		Solvents, additives, and other materials	Proprietary Material-Other aliphatic amine compounds	-		0.00012675	g	650	0.065	366	0.0366
Organic Substrate		Solvents, additives, and other materials	3-methoxy-3-methyl-1-butyl acetate	103429-90-9		0.00449592	g	23056	2.3056	13009	1.3009
Organic Substrate		Plastics/polymers	Proprietary Material-Other Non-halogenated Epoxy resins	-		0.0301899	g	154820	15.482	87355	8.7355
Die Encapsulant, Halogen-free	0.0658						g				
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.00018988	g	3024	0.3024	575	0.0575
Die Encapsulant, Halogen-free		Metals	Magnesium Aluminum Hydroxide Carbonate	11097-69-9		0.00331566	g	50390	5.039	9593	0.9593
Die Encapsulant, Halogen-free		Plastics/polymers	Phenol, polymer with formaldehyde	9003-35-4		0.00132626	g	20156	2.0156	3837	0.3837
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.00132626	g	20156	2.0156	3837	0.3837
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.05631718	g	855884	85.5884	162954	16.2954
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other Non-halogenated Epoxy resins	-		0.00331566	g	50390	5.039	9593	0.9593
Silicon Semiconductor Die	0.0084						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000168	g	20000	2	486	0.0486
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.008232	g	980000	98	23819	2.3819

## LINKS

### MCD LINK

Freescale website <http://www.freescale.com>

### GENERAL ENVIRONMENTAL COMPLIANCE LINKS

RoHS signed letter [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/ENV\\_ROHS\\_Freescale\\_Response.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ROHS_Freescale_Response.pdf)

China RoHS <http://www.freescale.com/chinarohs>

REACH signed letter [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/ENV\\_REACH\\_Freescale\\_Response.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_REACH_Freescale_Response.pdf)

ELV signed letter [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/ENV\\_ELV\\_Freescale\\_Reponse.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ELV_Freescale_Reponse.pdf)

Conflict Minerals statement [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/ENV\\_CONFLICT\\_METAL\\_Freescale\\_Response.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_CONFLICT_METAL_Freescale_Response.pdf)

### FREESCALE ENVIRONMENTAL INFORMATION

EPP website <http://www.freescale.com/epp>

FAQ [http://www.freescale.com/webapp/sps/site/overview.jsp?code=ENVIRON\\_FAQ](http://www.freescale.com/webapp/sps/site/overview.jsp?code=ENVIRON_FAQ)

Technical Service Request [https://www.freescale.com/webapp/servicerequest.create\\_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod](https://www.freescale.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod)

### LINKS TO BLANK IPC1752 FORMS

Blank IPC1752 v1.1 Form [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/IPC-1752-2\\_v1.1\\_MCD\\_Template.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf)

IPC1752 XML LINKS

[http://www.freescale.com/mcdfs/MC34708VMR2\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MC34708VMR2_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MC34708VMR2\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MC34708VMR2_IPC1752A.xml)