

**PART INFORMATION**

Mfg Item Number	MC13892JVKR2
Mfg Item Name	MAPBGA 139 7*7*0.7P0.5

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2015-08-28
Response Document ID	6434K11274D002A1.18
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	MC13892JVKR2
Mfg Item Name	MAPBGA 139 7*7*0.7P0.5
Version	ALL
Weight	0.167250
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%
Die Encapsulant	0.0621						g				
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.00191864	g	30896	3.0896	11471	1.1471
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.00191864	g	30896	3.0896	11471	1.1471
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.00019189	g	3090	0.309	1147	0.1147
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.00019189	g	3090	0.309	1147	0.1147
Die Encapsulant		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.00351747	g	56642	5.6642	21031	2.1031
Die Encapsulant		Glass	Silica, vitreous	60876-86-0		0.05436147	g	875386	87.5386	325048	32.5048
Bonding Wire	0.0005						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0005	g	1000000	100	2989	0.2989
Solder Balls - Lead Free	0.0151						g				
Solder Balls - Lead Free		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00000098	g	65	0.0065	5	0.0005
Solder Balls - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000048	g	32	0.0032	2	0.0002
Solder Balls - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00000038	g	25	0.0025	2	0.0002
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00007141	g	4729	0.4729	426	0.0426
Solder Balls - Lead Free		Metals	Iron, metal	7439-89-6		0.00000005	g	33	0.0033	2	0.0002
Solder Balls - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.00000406	g	269	0.0269	24	0.0024
Solder Balls - Lead Free		Nickel (external applications only)	Nickel	7440-02-0		0.00000053	g	35	0.0035	3	0.0003
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.0001401	g	9278	0.9278	837	0.0837
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.01488059	g	985470	98.547	88972	8.8972
Solder Balls - Lead Free		Metals	Germanium	7440-56-4		0.00000097	g	64	0.0064	5	0.0005
Organic Substrate, Halogen-free	0.0341						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.00070966	g	20811	2.0811	4243	0.4243
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.01512369	g	443510	44.351	90425	9.0425
Organic Substrate, Halogen-free		Plastics/polymers	Epikote 862	28064-14-4		0.00259296	g	76040	7.604	15503	1.5503
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00010946	g	3210	0.321	654	0.0654
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.00063709	g	18683	1.8683	3809	0.3809
Organic Substrate, Halogen-free		Plastics/polymers	Phenol, polymer with formaldehyde	9003-35-4		0.00140161	g	41103	4.1103	8380	0.838
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.00858485	g	251755	25.1755	51329	5.1329
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.00073584	g	21579	2.1579	4399	0.4399
Organic Substrate, Halogen-free		Metals	Aluminum Hydroxide	21645-51-2		0.00420484	g	123309	12.3309	25141	2.5141
Non-Conductive Epoxy/Adhesive	0.001						g				
Non-Conductive Epoxy/Adhesive		Glass	Silicon dioxide	7631-86-9		0.0006	g	600000	60	3587	0.3587
Non-Conductive Epoxy/Adhesive		Glass	Dimethyl silicone polymer with silica	67762-90-7		0.00005	g	50000	5	298	0.0298
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Other Bismaleimides	-		0.0002	g	200000	20	1195	0.1195
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	3-(trimethoxysilyl)propyl methacrylate	2530-85-0		0.00005	g	50000	5	298	0.0298
Non-Conductive Epoxy/Adhesive		Plastics/polymers	1-Methoxy-2-propyl acetate	108-65-6		0.0001	g	100000	10	597	0.0597
Silicon Semiconductor Die	0.05445						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.001089	g	20000	2	6511	0.6511
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.053361	g	980000	98	319049	31.9049

## 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/MC13892JVKR2\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MC13892JVKR2_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MC13892JVKR2\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MC13892JVKR2_IPC1752A.xml)