

**PART INFORMATION**

Mfg Item Number	MC9328MX1CVH15
Mfg Item Name	MAPBGA 256 14*14*1.6P0.8

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2015-01-01
Response Document ID	5296K10634D007A1.9
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	No
Plating Indicator	e0
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	MC9328MX1CVH15
Mfg Item Name	MAPBGA 256 14*14*1.6P0.8
Version	ALL
Weight	0.504800
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	240 C
Max Time at Peak Temperature	30 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%
Die Encapsulant	0.2667						g				
Die Encapsulant		Antimony/Antimony Compounds	Antimony pentoxide	1314-60-9		0.0026883	g	1008	0.1008	532	0.0532
Die Encapsulant		Antimony/Antimony Compounds	Antimony trioxide	1309-64-4		0.00188184	g	7056	0.7056	3727	0.3727
Die Encapsulant		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00107533	g	4032	0.4032	2130	0.213
Die Encapsulant		Flame Retardants	Other brominated flame retardants	-		0.00268834	g	10080	1.008	5325	0.5325
Die Encapsulant		Plastics/polymers	Other epoxy resins	-		0.02688496	g	100806	10.0806	53258	5.3258
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0008065	g	3024	0.3024	1597	0.1597
Die Encapsulant		Lead/Lead Compounds	Lead	7439-92-1		0.0000187	g	7	0.0007	3	0.0003
Die Encapsulant		Metals	Magnesium Aluminum Hydroxide Carbonate	11097-69-9		0.00188184	g	7056	0.7056	3727	0.3727
Die Encapsulant		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.00268834	g	10080	1.008	5325	0.5325
Die Encapsulant		Plastics/polymers	Other phenolic resins	-		0.01344248	g	50403	5.0403	2629	2.629
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.21507967	g	806448	80.6448	426084	42.6084
Non-Conductive Epoxy/Adhesive	0.0026						g				
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	4,4'-Diamino-3,3'-diethyl-diphenylmethane	19900-65-3		0.00055914	g	215054	21.5054	1107	0.1107
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00139785	g	537634	53.7634	2769	0.2769
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8		0.00008387	g	32258	3.2258	166	0.0166
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.00055914	g	215054	21.5054	1107	0.1107
Solder Balls - Low Lead	0.067						g				
Solder Balls - Low Lead		Lead/Lead Compounds	Lead	7439-92-1		0.02412	g	360000	36	47781	4.7781
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.00134	g	20000	2	2654	0.2654
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.04154	g	620000	62	82290	8.229
Organic Substrate	0.1286						g				
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.00712161	g	55378	5.5378	14107	1.4107
Organic Substrate		Metals	Copper, metal	7440-50-8		0.03075225	g	239131	23.9131	60919	6.0919
Organic Substrate		Plastics/polymers	Other Epoxy resins	-		0.00977591	g	76018	7.6018	19365	1.9365
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00010352	g	805	0.0805	205	0.0205
Organic Substrate		Solvents, additives, and other materials	Other halogenated organic compounds	-		0.00004925	g	383	0.0383	97	0.0097
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.00092579	g	7199	0.7199	1833	0.1833
Organic Substrate		Plastics/polymers	BT Resin (CAS# 13676-54-5/25722-66-1) [Brominated Compound]	-		0.03411874	g	265309	26.5309	67588	6.7588
Organic Substrate		Plastics/polymers	Other polymers	-		0.00114595	g	8911	0.8911	2270	0.227
Organic Substrate		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.04406998	g	346866	34.6866	88365	8.8365
Bonding Wire	0.0058						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0058	g	1000000	100	11489	1.1489
Silicon Semiconductor Die	0.0341						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000682	g	20000	2	1351	0.1351
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.033418	g	980000	98	66200	6.62

## 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/MC9328MX1CVH15\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MC9328MX1CVH15_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MC9328MX1CVH15\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MC9328MX1CVH15_IPC1752A.xml)