

**PART INFORMATION**

Mfg Item Number	MCF5214CVF66
Mfg Item Name	MAPBGA 256 17*17*0.8P1.0

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2012-07-26
Response Document ID	5246K00022D036A1.20
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	MCF5214CVF66
Mfg Item Name	MAPBGA 256 17*17*0.8P1.0
Version	ALL
Weight	0.814500
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	2002/95/EC
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 2002/95/EC 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	2 - Item(s) contain RoHS restricted substances above the limits and is not under exemptions
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemptions in this part	
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

SubPart	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	REACHPPM	REACH%
Die Encapsulant	0.342						g				
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.010566	g	30896	3.0896	12972	1.2972
Die Encapsulant		Metals	Arsenic, metal	7440-38-2		0	g	1	0.0001	0	0
Die Encapsulant		Metals	Cadmium, metal	7440-43-9		0	g	1	0.0001	0	0
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.010566	g	30896	3.0896	12972	1.2972
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.001057	g	3090	0.309	1297	0.1297
Die Encapsulant		Metals	Lead, metallic lead and lead alloys	7439-92-1		0	g	1	0.0001	0	0
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.001057	g	3090	0.309	1297	0.1297
Die Encapsulant		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.019372	g	56642	5.6642	23783	2.3783
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.299382	g	875383	87.5383	367577	36.7577
Organic Substrate, Halogen-free	0.2073						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.010543	g	50860	5.086	12944	1.2944
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.066059	g	318661	31.8661	81104	8.1104
Organic Substrate, Halogen-free		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.013973	g	67405	6.7405	17155	1.7155
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.002951	g	14236	1.4236	3623	0.3623
Organic Substrate, Halogen-free		Metals	Nickel, metal	7440-02-0		0.026614	g	128383	12.8383	32675	3.2675
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.03647	g	175931	17.5931	44775	4.4775
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Proprietary Material-Other Aromatic carbonyl compounds	-		0.001652	g	7969	0.7969	2028	0.2028
Organic Substrate, Halogen-free		Glass	Silica, crystalline - tridymite	15468-32-3		0.049038	g	236555	23.6555	60206	6.0206
Solder Balls - Low Lead	0.1491						g				
Solder Balls - Low Lead		Metals	Lead, metallic lead and lead alloys	7439-92-1		0.053676	g	360000	36	65900	6.59
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.002982	g	20000	2	3661	0.3661
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.092442	g	620000	62	113496	11.3496
Non-Conductive Epoxy/Adhesive	0.0105						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.000788	g	75000	7.5	967	0.0967
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.0021	g	200000	20	2578	0.2578
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.000788	g	75000	7.5	967	0.0967
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.0021	g	200000	20	2578	0.2578
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.004724	g	450000	45	5799	0.5799
Non-Conductive Epoxy/Adhesive	0.0105						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.000788	g	75000	7.5	967	0.0967
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.0021	g	200000	20	2578	0.2578
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.000788	g	75000	7.5	967	0.0967
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.0021	g	200000	20	2578	0.2578
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.004724	g	450000	45	5799	0.5799
Bonding Wire	0.0018						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0018	g	1000000	100	2209	0.2209
Silicon Semiconductor Die	0.0933						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.001866	g	20000	2	2290	0.229
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.091434	g	980000	98	112258	11.2258

## 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 v0.9 Form [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/IPC-1752-2\\_v0.9\\_MCD\\_Template.pdf](http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v0.9_MCD_Template.pdf)

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/mcds/MCF5214CVF66\\_IPC1752\\_v09.xml](http://www.freescale.com/mcds/MCF5214CVF66_IPC1752_v09.xml)

[http://www.freescale.com/mcds/MCF5214CVF66\\_IPC1752\\_v11.xml](http://www.freescale.com/mcds/MCF5214CVF66_IPC1752_v11.xml)

[http://www.freescale.com/mcds/MCF5214CVF66\\_IPC1752A.xml](http://www.freescale.com/mcds/MCF5214CVF66_IPC1752A.xml)