

PART INFORMATION

Mfg Item Number	MCIMX281AVM4B
Mfg Item Name	MAPBGA 289 14*14*1.4 P.8

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2015-07-31
Response Document ID	005PK00159D005A1.19
Contact Name	Freescale Semiconductor Inc
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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	e1
EU RoHS Exemption(s)	

MANUFACTURING

Mfg Item Number	MCIMX281AVM4B
Mfg Item Name	MAPBGA 289 14*14*1.4 P.8
Version	ALL
Weight	0.465400
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%
Non-Conductive Epoxy/Adhesive	0.0007						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0000525	g	75000	7.5	112	0.0112
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.00014	g	200000	20	300	0.03
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.0000525	g	75000	7.5	112	0.0112
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.00014	g	200000	20	300	0.03
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.000315	g	450000	45	676	0.0676
Solder Balls - Lead Free	0.0715						g				
Solder Balls - Lead Free		Metals	Aluminum, metal	7429-90-5		0.0000036	g	5	0.0005	0	0
Solder Balls - Lead Free		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00000579	g	81	0.0081	12	0.0012
Solder Balls - Lead Free		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000272	g	38	0.0038	5	0.0005
Solder Balls - Lead Free		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00000279	g	39	0.0039	5	0.0005
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00036308	g	5078	0.5078	780	0.078
Solder Balls - Lead Free		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00000286	g	40	0.004	6	0.0006
Solder Balls - Lead Free		Metals	Iron, metal	7439-89-6		0.00000243	g	34	0.0034	5	0.0005
Solder Balls - Lead Free		Lead/Lead Compounds	Lead	7439-92-1		0.00001602	g	224	0.0224	34	0.0034
Solder Balls - Lead Free		Nickel (external applications only)	Nickel	7440-02-0		0.00000279	g	39	0.0039	5	0.0005
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00064557	g	9029	0.9029	1387	0.1387
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.07045037	g	985320	98.532	151375	15.1375
Solder Balls - Lead Free		Metals	Zinc, metal	7440-66-6		0.00000043	g	6	0.0006	0	0
Solder Balls - Lead Free		Metals	Germanium	7440-56-4		0.00000479	g	67	0.0067	10	0.001
Bonding Wire, Copper	0.002						g				
Bonding Wire, Copper		Metals	Copper, metal	7440-50-8		0.00194	g	970000	97	4168	0.4168
Bonding Wire, Copper		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00006	g	30000	3	128	0.0128
Silicon Semiconductor Die	0.013						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00026	g	20000	2	558	0.0558
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.01274	g	980000	98	27374	2.7374
Die Encapsulant, Halogen-free	0.2628						g				
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.015768	g	60000	6	33880	3.388
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.002628	g	10000	1	5646	0.5646
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other inorganic compounds	-		0.005256	g	20000	2	11293	1.1293
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.01314	g	50000	5	28233	2.8233
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.226008	g	860000	86	485646	48.5646
Organic Substrate	0.1154						g				
Organic Substrate		Solvents, additives, and other materials	Other aromatic amines and their salts	-		0.00002446	g	212	0.0212	52	0.0052
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.00082765	g	7172	0.7172	1778	0.1778
Organic Substrate		Metals	Copper, metal	7440-50-8		0.05402393	g	468145	46.8145	116080	11.608
Organic Substrate		Plastics/polymers	Other Epoxy resins	-		0.0063581	g	54903	5.4903	13613	1.3613
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00195961	g	16981	1.6981	4210	0.421
Organic Substrate		Metals	Talc	14807-96-6		0.0041694	g	3613	0.3613	895	0.0895
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.01529096	g	132504	13.2504	32855	3.2855
Organic Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.02815945	g	244016	24.4016	60505	6.0505
Organic Substrate		Glass	Silicon dioxide	7631-86-9		0.00464081	g	40215	4.0215	9971	0.9971
Organic Substrate		Solvents, additives, and other materials	Other Aromatic carbonyl compounds	-		0.0011551	g	1344	0.1344	333	0.0333
Organic Substrate		Metals	Copper phthalocyanine	147-14-8		0.00000727	g	63	0.0063	15	0.0015
Organic Substrate		Solvents, additives, and other materials	Quinacridone pigment	1047-16-1		0.00000727	g	63	0.0063	15	0.0015
Organic Substrate		Solvents, additives, and other materials	3-methoxy-3-methyl-1-butyl acetate	103429-90-9		0.00090739	g	7863	0.7863	1949	0.1949
Organic Substrate		Plastics/polymers	Epoxy Resin	115254-47-2		0.00263608	g	22843	2.2843	5664	0.5664
Organic Substrate		Solvents, additives, and other materials	1,2,4-Trimethylbenzene	95-63-6		0.00000727	g	63	0.0063	15	0.0015

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

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

REACH signed letter 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

Conflict Minerals statement 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

Technical Service Request 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

IPC1752 XML LINKS

http://www.freescale.com/mcdfs/MCIMX281AVM4B_IPC1752_v11.xml

http://www.freescale.com/mcdfs/MCIMX281AVM4B_IPC1752A.xml