

PART INFORMATION

Mfg Item Number	MMA6901KQ
Mfg Item Name	QFN16EP 6SQ*1.98P1.0

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2012-12-17
Response Document ID	6170K50010S530A1.10
Contact Name	Freescale Semiconductor Inc
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Authorized Representative	Daniel Binyon
Representative Title	EPP Customer Response
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Representative Email	eppanlst@freescale.com
URL for Additional Information	www.freescale.com

DECLARATION

EU RoHS	Yes
Pb Free	No
HalogenFree	No
Plating Indicator	e3
EU RoHS Exemption(s)	7c-l

MANUFACTURING

Mfg Item Number	MMA6901KQ
Mfg Item Name	QFN16EP 6SQ*1.98P1.0
Version	ALL
Weight	0.176800
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	4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemptions in this part	7c-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
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	0.0969						g				
Die Encapsulant		Plastics/polymers	Other Epoxy resins	-		0.001373	g	14166	1.4166	7765	0.7765
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.003187	g	32886	3.2886	18026	1.8026
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.000172	g	1771	0.1771	972	0.0972
Die Encapsulant		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.001226	g	12649	1.2649	6934	0.6934
Die Encapsulant		Plastics/polymers	1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde and phenol	25917-04-8		0.003187	g	32886	3.2886	18026	1.8026
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.087755	g	905642	90.5642	496361	49.6361
Copper Lead Frame	0.0547						g				
Copper Lead Frame		Metals	Copper, metal	7440-50-8		0.05273	g	963955	96.3955	298250	29.825
Copper Lead Frame		Solvents, additives, and other materials	Phosphorus	7723-14-0		0.000045	g	825	0.0825	254	0.0254
Copper Lead Frame		Metals	Iron, metal	7439-89-6		0.001285	g	23500	2.35	7268	0.7268
Copper Lead Frame		Metals	Lead, metallic lead and lead alloys	7439-92-1		0.000099	g	170	0.017	50	0.005
Copper Lead Frame		Metals	Silver, metal	7440-22-4		0.000547	g	10000	11	3023	0.3023
Copper Lead Frame		Metals	Tin, metal	7440-31-5		0.000016	g	300	0.03	90	0.009
Copper Lead Frame		Metals	Zinc, metal	7440-66-6		0.000088	g	1250	0.125	384	0.0384
Bonding Wire	0.0002						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0002	g	1000000	100	1131	0.1131
Lead Frame Plating	0.0024						g				
Lead Frame Plating		Metals	Lead, metallic lead and lead alloys	7439-92-1		0	g	200	0.02	0	0
Lead Frame Plating		Metals	Tin, metal	7440-31-5		0.0024	g	999800	99.98	13574	1.3574
Epoxy Die Attach	0.0002						g				
Epoxy Die Attach		Solvents, additives, and other materials	Proprietary Material-Other organic silicon compounds	-		0.000045	g	224972	22.4972	254	0.0254
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.000155	g	775028	77.5028	876	0.0876
Non-Conductive Epoxy/Adhesive	0.0022						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Polytetrafluoroethylene	9002-84-0		0.001043	g	474500	47.45	5899	0.5899
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.000616	g	280000	28	3484	0.3484
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Proprietary Material-Other Organic Peroxides	-		0.00004	g	18000	1.8	226	0.0226
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Proprietary Material-Other Bismaleimides	-		0.000462	g	210000	21	2613	0.2613
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Proprietary Material-Functionalized Ester	-		0.000039	g	17500	1.75	220	0.022
Silicon Semiconductor Die	0.008						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00016	g	20000	2	904	0.0904
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.00794	g	980000	98	44343	4.4343
Pb Glass Frit Semiconductor Di	0.0122						g				
Pb Glass Frit Semiconductor Di		Metals	Lead titanium oxide (PbTiO3)	12060-00-3	7c-I	0.000127	g	10381	1.0381	718	0.0718
Pb Glass Frit Semiconductor Di		Glass	Fibrous-glass-wool	65997-17-3		0.000121	g	9943	0.9943	684	0.0684
Pb Glass Frit Semiconductor Di		Solvents, additives, and other materials	2,2,4-trimethyl-1,3-pentanediol-1-monoisobutyrate	25265-77-4		0.000121	g	9943	0.9943	684	0.0684
Pb Glass Frit Semiconductor Di		Glass	Silicon, doped	-		0.011831	g	969733	96.9733	66917	6.6917

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](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

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/MMA6901KQ_IPC1752_v09.xml

http://www.freescale.com/mcdfs/MMA6901KQ_IPC1752_v11.xml

http://www.freescale.com/mcdfs/MMA6901KQ_IPC1752A.xml