

**PART INFORMATION**

Mfg Item Number	MCF5208CAB166
Mfg Item Name	QFP 160 28*28*3.3 FCIR

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-03-03
Response Document ID	002RA1.6
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e3
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	MCF5208CAB166
Mfg Item Name	QFP 160 28*28*3.3 FCIR
Version	ALL
Weight	5.830350
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	4.974						g				
Die Encapsulant		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.0003482	g	7	0.0007	5	0.0005
Die Encapsulant		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.0000497	g	1	0.0001	0	0
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.16857609	g	31881	3.1881	27198	2.7198
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.01585711	g	3188	0.3188	2719	0.2719
Die Encapsulant		Lead/Lead Compounds	Lead	7439-92-1		0.0000497	g	1	0.0001	0	0
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.01585711	g	3188	0.3188	2719	0.2719
Die Encapsulant		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.29072035	g	58448	5.8448	49863	4.9863
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		4.48294458	g	903286	90.3286	770629	77.0629
Lead Frame Plating	0.19265						g				
Lead Frame Plating		Lead/Lead Compounds	Lead	7439-92-1		0.00003853	g	200	0.02	6	0.0006
Lead Frame Plating		Metals	Tin, metal	7440-31-5		0.19261147	g	999800	99.98	33036	3.3036
Copper Lead Frame	0.6531						g				
Copper Lead Frame		Metals	Copper, metal	7440-50-8		0.629559	g	963955	96.3955	107979	10.7979
Copper Lead Frame		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00053881	g	825	0.0825	92	0.0092
Copper Lead Frame		Metals	Iron, metal	7439-89-6		0.01534785	g	23500	2.35	2632	0.2632
Copper Lead Frame		Lead/Lead Compounds	Lead	7439-92-1		0.00011103	g	170	0.017	19	0.0019
Copper Lead Frame		Metals	Silver, metal	7440-22-4		0.006531	g	10000	1	1120	0.112
Copper Lead Frame		Metals	Tin, metal	7440-31-5		0.00019593	g	300	0.03	33	0.0033
Copper Lead Frame		Metals	Zinc, metal	7440-66-6		0.00081638	g	1250	0.125	140	0.014
Bonding Wire	0.0045						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.0045	g	1000000	100	771	0.0771
Silicon Semiconductor Die	0.0005						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00001	g	20000	2	1	0.0001
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.00049	g	980000	98	84	0.0084
Organic Substrate	0.0051						g				
Organic Substrate		Metals	Copper, metal	7440-50-8		0.0016575	g	325000	32.5	284	0.0284
Organic Substrate		Solvents, additives, and other materials	Other inorganic compounds	-		0.0007905	g	155000	15.5	135	0.0135
Organic Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.001326	g	260000	26	227	0.0227
Organic Substrate		Plastics/polymers	Other Non-halogenated Epoxy resins	-		0.001326	g	260000	26	227	0.0227
Non-Conductive Epoxy/Adhesive	0.0005						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	4,4'-dihydroxy-3,3',5,5'-tetramethylbiphenyl diglycidyl ether	85954-11-6		0.000045	g	90000	9	7	0.0007
Non-Conductive Epoxy/Adhesive		Plastics/polymers	4,4'-isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.000005	g	10000	1	0	0
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.00015	g	300000	30	25	0.0025
Non-Conductive Epoxy/Adhesive		Glass	Dimethyl silicone polymer with silica	67762-90-7		0.00015	g	300000	30	25	0.0025
Non-Conductive Epoxy/Adhesive		Solvents, additives, and other materials	Proprietary Material-Other Bismaleimides	-		0.00005	g	100000	10	8	0.0008
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Methacrylic acid, polymer with 2,2-bis(p-(2,3-epoxypropoxy)phenyl)propane	26875-67-2		0.00005	g	100000	10	8	0.0008
Non-Conductive Epoxy/Adhesive		Plastics/polymers	2-Propanoic acid, 2-methyl-, 1,1'-(2,2-dimethyl-1,3-propanediyl) ester	1985-51-9		0.00005	g	100000	10	8	0.0008

## LINKS

MCD LINK	
NXP website	<a href="http://www.nxp.com">http://www.nxp.com</a>
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ROHS-DECLARATION.pdf</a>
China RoHS	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/china-rohs:ENV_CHINA_ROHS_STRATEGY</a>
REACH signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-REACH-STATEMENT.pdf</a>
ELV signed letter	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-ELV-STATEMENT.pdf</a>
Conflict Minerals statement	<a href="http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf">http://www.nxp.com/files/corporate/doc/support_info/NXP-STATEMENT-CONFLICT-MINERALS.pdf</a>
NXP ENVIRONMENTAL INFORMATION	
Environmental Compliance website	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization:ABUENVPRFPRDX</a>
FAQ	<a href="http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ">http://www.nxp.com/about/corporate-responsibility/environmental-compliance-organization/eco-product-faqs:ENVIRON_FAQ</a>
Technical Service Request	<a href="http://www.nxp.com/support/sales-and-support:SUPPORTHOME">http://www.nxp.com/support/sales-and-support:SUPPORTHOME</a>
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	<a href="http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf">http://www.NXP.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf</a>

IPC1752 XML LINKS

[http://www.freescale.com/mcdfs/MCF5208CAB166\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MCF5208CAB166_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MCF5208CAB166\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MCF5208CAB166_IPC1752A.xml)