

**PART INFORMATION**

Mfg Item Number	MPC8541EPXAQF
Mfg Item Name	FCPBGA 783 29SQ*3.7P1.0

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-01-19
Response Document ID	5279K10967D022M1.4
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	No
Pb Free	No
HalogenFree	Yes
Plating Indicator	e0
EU RoHS Exemption(s)	15

**MANUFACTURING**

Mfg Item Number	MPC8541EPXAQF
Mfg Item Name	FCPBGA 783 29SQ*3.7P1.0
Version	ALL
Weight	4.311200
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	3
Peak Processing Temperature	245 C
Max Time at Peak Temperature	30 seconds
Number of Processing Cycles	3

<b>RoHS</b>	
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
	15:Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages
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%
Underfill	0.0319						g				
Underfill		Solvents, additives, and other materials	Methylhexahydrophthalic anhydride	2550-51-0		0.00481897	g	151065	15.1065	1117	0.1117
Underfill		Plastics/polymers	1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17567-23-2		0.00177667	g	55695	5.5695	412	0.0412
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6		0.00177667	g	55695	5.5695	412	0.0412
Underfill		Plastics/polymers	Elastomer Modified Diglycidyl Ether	68809-14-8		0.00177667	g	55695	5.5695	412	0.0412
Underfill		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.02082372	g	652781	65.2781	4830	0.483
Underfill		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.0009273	g	29069	2.9069	215	0.0215
Solder Balls - Low Lead	0.5406						g				
Solder Balls - Low Lead		Lead/Lead Compounds	Lead	7439-92-1		0.194616	g	360000	36	45141	4.5141
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.010812	g	20000	2	2507	0.2507
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.335172	g	620000	62	77744	7.7744
Bonding Agent	0.0299						g				
Bonding Agent		Metals	Aluminum, metal	7429-90-5		0.025415	g	850000	85	5895	0.5895
Bonding Agent		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.004485	g	150000	15	1040	0.104
Cap/Cover	1.0927						g				
Cap/Cover		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00000328	g	3	0.0003	0	0
Cap/Cover		Metals	Chromium, metal	7440-47-3		0.00000328	g	3	0.0003	0	0
Cap/Cover		Metals	Copper, metal	7440-50-8		1.07315487	g	982113	98.2113	248946	24.8946
Cap/Cover		Lead/Lead Compounds	Lead	7439-92-1		0.00000328	g	3	0.0003	0	0
Cap/Cover		Metals	Magnesium, metal	7439-95-4		0.00150246	g	1375	0.1375	348	0.0348
Cap/Cover		Mercury/Mercury Compounds	Mercury	7439-97-6		0.00000328	g	3	0.0003	0	0
Cap/Cover		Nickel (external applications only)	Nickel	7440-02-0		0.01802955	g	16500	1.65	4182	0.4182
Capacitor, 0306	0.0204						g				
Capacitor, 0306		Metals	Copper, metal	7440-50-8		0.0028152	g	138000	13.8	652	0.0652
Capacitor, 0306		Nickel (external applications only)	Nickel	7440-02-0		0.003978	g	195000	19.5	922	0.0922
Capacitor, 0306		Metals	Tin, metal	7440-31-5		0.0002652	g	13000	1.3	61	0.0061
Capacitor, 0306		Metals	Barium titanate	12047-27-7		0.0133416	g	654000	65.4	3094	0.3094
Capacitor Solder Paste	0.0052						g				
Capacitor Solder Paste		Metals	Copper, metal	7440-50-8		0.000026	g	5000	0.5	6	0.0006
Capacitor Solder Paste		Lead/Lead Compounds	Lead	7439-92-1		0.00000043	g	83	0.0083	0	0
Capacitor Solder Paste		Metals	Silver, metal	7440-22-4		0.000156	g	30000	3	36	0.0036
Capacitor Solder Paste		Metals	Tin, metal	7440-31-5		0.00501757	g	964917	96.4917	1163	0.1163
High Pb Bumped Semiconductor D	0.1583				15		g				
High Pb Bumped Semiconductor D		Lead/Lead Compounds	Lead	7439-92-1		0.01490822	g	94177	9.4177	3458	0.3458
High Pb Bumped Semiconductor D		Nickel (external applications only)	Nickel	7440-02-0		0.0001306	g	825	0.0825	30	0.003
High Pb Bumped Semiconductor D		Metals	Tin, metal	7440-31-5		0.00078453	g	4956	0.4956	181	0.0181
High Pb Bumped Semiconductor D		Metals	Titanium, metal	7440-32-6		0.00000665	g	42	0.0042	1	0.0001
High Pb Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.0014247	g	9000	0.9	330	0.033
High Pb Bumped Semiconductor D		Glass	Silicon, doped	-		0.1410453	g	891000	89.1	32716	3.2716
Substrate	2.4322						g				
Substrate		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00001703	g	7	0.0007	3	0.0003
Substrate		Metals	Barium sulfate	7727-43-7		0.01021524	g	4200	0.42	2369	0.2369
Substrate		Metals	Copper, metal	7440-50-8		0.84044428	g	345549	34.5549	194944	19.4944
Substrate		Plastics/polymers	2,2'-(1,1-methylethylene)bis(4,1,1-(2-hydroxyethoxy)methyl)bisoxirane	1675-54-3		0.0245164	g	9231	0.9231	5207	0.5207
Substrate		Plastics/polymers	Other Epoxy resins	-		0.03685026	g	15151	1.5151	8547	0.8547
Substrate		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.10138682	g	41603	4.1603	23470	2.347
Substrate		Lead/Lead Compounds	Lead	7439-92-1		0.00137663	g	566	0.0566	319	0.0319
Substrate		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropene concentrate	25068-38-6		0.03192749	g	13127	1.3127	7405	0.7405
Substrate		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.06186057	g	25434	2.5434	14348	1.4348
Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.73360503	g	301622	30.1622	170162	17.0162
Substrate		Glass	Silicon dioxide	7631-86-9		0.17767707	g	73052	7.3052	41212	4.1212
Substrate		Metals	Silver, metal	7440-22-4		0.00094126	g	387	0.0387	218	0.0218
Substrate		Metals	Tin, metal	7440-31-5		0.03256229	g	13388	1.3388	7552	0.7552
Substrate		Metals	Aluminum Hydroxide	21645-51-2		0.37944995	g	156011	15.6011	88014	8.8014
Substrate		Metals	Copper phthalocyanine	147-14-8		0.00163444	g	672	0.0672	379	0.0379

## 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/mcds/MPC8541EPXAQF\\_IPC1752\\_v11.xml](http://www.freescale.com/mcds/MPC8541EPXAQF_IPC1752_v11.xml)

[http://www.freescale.com/mcds/MPC8541EPXAQF\\_IPC1752A.xml](http://www.freescale.com/mcds/MPC8541EPXAQF_IPC1752A.xml)