

**PART INFORMATION**

Mfg Item Number	MPC5554MZP112R2
Mfg Item Name	TEPBGA 416 27*27*1.25 P1

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-01-16
Response Document ID	5252K10908D036A1.43
Contact Name	Freescale Semiconductor Inc
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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	MPC5554MZP112R2
Mfg Item Name	TEPBGA 416 27*27*1.25 P1
Version	ALL
Weight	3.202800
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

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	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
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	1.17945						g				
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.03644029	g	30896	3.0896	11377	1.1377
Die Encapsulant		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000118	g	1	0.0001	0	0
Die Encapsulant		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00000118	g	1	0.0001	0	0
Die Encapsulant		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.03644029	g	30896	3.0896	11377	1.1377
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0036445	g	3090	0.309	1137	0.1137
Die Encapsulant		Lead/Lead Compounds	Lead	7439-92-1		0.00000118	g	1	0.0001	0	0
Die Encapsulant		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.0036445	g	3090	0.309	1137	0.1137
Die Encapsulant		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.06680641	g	56642	5.6642	20858	2.0858
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		1.03247047	g	875383	87.5383	322384	32.2384
Epoxy Die Attach	0.0174						g				
Epoxy Die Attach		Solvents, additives, and other materials	1,3,5-Triazine-2,4-diamine, 6-[2-(2-methyl-1H-imidazol-1-yl)ethyl]	38668-46-1		0.00014705	g	8451	0.8451	45	0.0045
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00225467	g	129579	12.9579	703	0.0703
Epoxy Die Attach		Plastics/polymers	4,4'-Dihydroxydiphenyl	92-88-6		0.00014705	g	8451	0.8451	45	0.0045
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.01485123	g	853519	85.3519	4636	0.4636
Solder Balls - Low Lead	0.4436						g				
Solder Balls - Low Lead		Lead/Lead Compounds	Lead	7439-92-1		0.159896	g	360000	36	49861	4.9861
Solder Balls - Low Lead		Metals	Silver, metal	7440-22-4		0.008972	g	20000	2	2770	0.277
Solder Balls - Low Lead		Metals	Tin, metal	7440-31-5		0.275032	g	620000	62	85872	8.5872
Bonding Wire	0.013						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.013	g	1000000	100	4058	0.4058
Organic Substrate	1.5074						g				
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.03200677	g	21253	2.1253	10002	1.0002
Organic Substrate		Metals	Copper, metal	7440-50-8		1.00749189	g	668364	66.8364	314565	31.4565
Organic Substrate		Plastics/polymers	2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bisoxirane	1675-54-3		0.00569345	g	3777	0.3777	1777	0.1777
Organic Substrate		Plastics/polymers	Poly[o-cresyl glycidyl ether]-co-formaldehyde	26890-82-2		0.09838197	g	65266	6.5266	30717	3.0717
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00172597	g	1145	0.1145	538	0.0538
Organic Substrate		Solvents, additives, and other materials	1-cyanoguanidine	461-58-5		0.00043564	g	289	0.0289	136	0.0136
Organic Substrate		Solvents, additives, and other materials	1,1'-(methylene-di-p-phenylene)bismaleimide	13676-54-5		0.02951489	g	19580	1.958	9215	0.9215
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.01192504	g	7911	0.7911	3723	0.3723
Organic Substrate		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane bisacrylate	25068-38-6		0.09838197	g	65266	6.5266	30717	3.0717
Organic Substrate		Glass	Fiberglass-glass-wool	65997-17-3		0.15741025	g	104425	10.4425	49147	4.9147
Organic Substrate		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.01391029	g	9228	0.9228	4343	0.4343
Organic Substrate		Metals	Copper phthalocyanine	147-14-8		0.00028078	g	173	0.0173	81	0.0081
Organic Substrate		Plastics/polymers	Other Non-halogenated Epoxy resins	-		0.06023109	g	33323	3.3323	15683	1.5683
Silicon Semiconductor Die	0.04195						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000839	g	20000	2	281	0.0281
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.041111	g	980000	98	12835	1.2835

## 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/MPC5554MZP112R2\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MPC5554MZP112R2_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MPC5554MZP112R2\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MPC5554MZP112R2_IPC1752A.xml)