

**PART INFORMATION**

Mfg Item Number	P1016NSE5BFB
Mfg Item Name	TEPBGA 561 23*23*2.3 P.8

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-04-13
Response Document ID	0071K00073D053A1.31
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	Yes
Pb Free	Yes
HalogenFree	Yes
Plating Indicator	e2
EU RoHS Exemption(s)	

**MANUFACTURING**

Mfg Item Number	P1016NSE5BFB
Mfg Item Name	TEPBGA 561 23*23*2.3 P.8
Version	ALL
Weight	2.380300
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%
Epoxy Die Attach	0.0057						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		0.00004817	g	8451	0.8451	20	0.002
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.0007386	g	129579	12.9579	310	0.031
Epoxy Die Attach		Plastics/polymers	4,4-Dihydroxydiphenyl	92-88-6		0.00004817	g	8451	0.8451	20	0.002
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00486506	g	853519	85.3519	2043	0.2043
Solder Balts - Pb Free, Sn/Ag	0.9645						g				
Solder Balts - Pb Free, Sn/Ag		Metals	Aluminum, metal	7429-90-5		0.00003086	g	32	0.0032	12	0.0012
Solder Balts - Pb Free, Sn/Ag		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00012056	g	125	0.0125	50	0.005
Solder Balts - Pb Free, Sn/Ag		Arsenic/Arsenic Compounds	Arsenic	7440-39-2		0.00007234	g	75	0.0075	30	0.003
Solder Balts - Pb Free, Sn/Ag		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.00018133	g	188	0.0188	78	0.0078
Solder Balts - Pb Free, Sn/Ag		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00001254	g	13	0.0013	5	0.0005
Solder Balts - Pb Free, Sn/Ag		Metals	Copper, metal	7440-50-8		0.00006076	g	63	0.0063	25	0.0025
Solder Balts - Pb Free, Sn/Ag		Metals	Gold, metal	7440-57-5		0.00006076	g	63	0.0063	25	0.0025
Solder Balts - Pb Free, Sn/Ag		Metals	Indium, metal	7440-74-6		0.00006076	g	63	0.0063	25	0.0025
Solder Balts - Pb Free, Sn/Ag		Sulfur	Sulfur	7704-34-9		0.00006075	g	7	0.0007	2	0.0002
Solder Balts - Pb Free, Sn/Ag		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotope)	7723-14-0		0.00006076	g	63	0.0063	25	0.0025
Solder Balts - Pb Free, Sn/Ag		Metals	Iron, metal	7439-89-6		0.00012056	g	125	0.0125	50	0.005
Solder Balts - Pb Free, Sn/Ag		Lead/Lead Compounds	Lead	7439-92-1		0.00030199	g	313	0.0313	126	0.0126
Solder Balts - Pb Free, Sn/Ag		Nickel (external applications only)	Nickel	7440-02-0		0.00003086	g	32	0.0032	12	0.0012
Solder Balts - Pb Free, Sn/Ag		Metals	Silver, metal	7440-22-4		0.03379943	g	35002	3.5002	14192	1.4192
Solder Balts - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5		0.02960151	g	963817	96.3817	390563	39.0563
Solder Balts - Pb Free, Sn/Ag		Metals	Zinc, metal	7440-66-6		0.00001833	g	19	0.0019	7	0.0007
Die Encapsulant	0.7762						g				
Die Encapsulant		Plastics/polymers	Other Epoxy resins	-		0.046572	g	60000	6	19565	1.9565
Die Encapsulant		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.007782	g	10000	1	3260	0.326
Die Encapsulant		Solvents, additives, and other materials	Other inorganic compounds.	-		0.015524	g	20000	2	6521	0.6521
Die Encapsulant		Plastics/polymers	Other phenolic resins	-		0.03881	g	50000	5	16304	1.6304
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.667532	g	860000	86	280440	28.044
Organic Substrate, Halogen-free	0.5936						g				
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Other acrylates	-		0.00770255	g	12976	1.2976	3235	0.3235
Organic Substrate, Halogen-free		Metals	Aluminum Oxides (Al2O3)	1344-28-1		0.03128815	g	52726	5.2726	13148	1.3148
Organic Substrate, Halogen-free		Metals	Barium	7440-39-3		0.00692434	g	11665	1.1665	2909	0.2909
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.39665007	g	668211	66.8211	166638	16.6638
Organic Substrate, Halogen-free		Plastics/polymers	2,2'-(1-methylethylidene)bis[4,1-phenyleneoxymethylene]bisocriane	1675-54-3		0.00121985	g	2055	0.2055	512	0.0512
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00074912	g	1262	0.1262	314	0.0314
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.00620846	g	10459	1.0459	2608	0.2608
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.00021013	g	354	0.0354	88	0.0088
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.06744127	g	113614	11.3614	28333	2.8333
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.0385003	g	64859	6.4859	16174	1.6174
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.00730484	g	12306	1.2306	3068	0.3068
Organic Substrate, Halogen-free		Plastics/polymers	Other Non-halogenated Epoxy resins	-		0.02939092	g	49513	4.9513	12347	1.2347
Bonding Wire, PtCu	0.0143						g				
Bonding Wire, PtCu		Metals	Copper, metal	7440-50-8		0.01396181	g	976350	97.635	5865	0.5865
Bonding Wire, PtCu		Metals	Gold, metal	7440-57-5		0.00002425	g	1696	0.1696	10	0.001
Bonding Wire, PtCu		Metals	Palladium, metal	7440-05-3		0.00031394	g	21954	2.1954	131	0.0131
Silicon Semiconductor Die	0.026						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.00052	g	20000	2	218	0.0218
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.02548	g	980000	98	10704	1.0704

## 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/P1016NSE5BFB\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/P1016NSE5BFB_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/P1016NSE5BFB\\_IPC1752A.xml](http://www.freescale.com/mcdfs/P1016NSE5BFB_IPC1752A.xml)