

**PART INFORMATION**

Mfg Item Number	MC8641VJ1500KE
Mfg Item Name	FCCBGA 994 33*33*2.7P1.0

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2014-04-07
Response Document ID	8441K11156D017M1.0
Contact Name	Freescale Semiconductor Inc
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URL for Additional Information	www.freescale.com

**DECLARATION**

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

**MANUFACTURING**

Mfg Item Number	MC8641VJ1500KE
Mfg Item Name	FCCBGA 994 33*33*2.7P1.0
Version	ALL
Weight	5.396300
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	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%
Capactor_0306	0.1462						g				
Capactor_0306		Metals	Copper, metal	7440-50-8		0.0201756	g	138000	13.8	3738	0.3738
Capactor_0306		Nickel (external applications only)	Nickel	7440-02-0		0.028509	g	195000	19.5	5283	0.5283
Capactor_0306		Metals	Tin, metal	7440-31-5		0.0019006	g	13000	1.3	352	0.0352
Capactor_0306		Metals	Barium titanate	12047-27-7		0.0956148	g	654000	65.4	17718	1.7718
Capactor Solder Paste	0.0534						g				
Capactor Solder Paste		Metals	Copper, metal	7440-50-8		0.000267	g	5000	0.5	49	0.0049
Capactor Solder Paste		Lead/Lead Compounds	Lead	7439-92-1		0.00000443	g	83	0.0083	0	0
Capactor Solder Paste		Metals	Silver, metal	7440-22-4		0.001602	g	30000	3	296	0.0296
Capactor Solder Paste		Metals	Tin, metal	7440-31-5		0.05152657	g	964917	96.4917	9548	0.9548
Ceramic Substrate	3.9198						g				
Ceramic Substrate		Metals	Aluminum Oxides (Al2O3)	1344-28-1		0.10669696	g	27220	2.722	19772	1.9772
Ceramic Substrate		Metals	Barium oxide	1304-28-5		0.63687342	g	162476	16.2476	118020	11.802
Ceramic Substrate		Metals	Boron oxide	1303-86-2		0.1402818	g	35788	3.5788	25995	2.5995
Ceramic Substrate		Solvents, additives, and other materials	Calcium monoxide	1305-78-8		0.0775258	g	19778	1.9778	14366	1.4366
Ceramic Substrate		Metals	Chromium oxide	1308-38-9		0.01358211	g	3465	0.3465	2516	0.2516
Ceramic Substrate		Metals	Copper, metal	7440-50-8		0.49623492	g	126597	12.6597	91958	9.1958
Ceramic Substrate		Metals	Cuprous oxide	1317-39-1		0.00313584	g	800	0.08	581	0.0581
Ceramic Substrate		Metals	Gold, metal	7440-57-5		0.002297	g	586	0.0586	425	0.0425
Ceramic Substrate		Solvents, additives, and other materials	Phosphorus	7723-14-0		0.00156792	g	400	0.04	290	0.029
Ceramic Substrate		Lead/Lead Compounds	Lead	7439-92-1		0.00001176	g	3	0.0003	2	0.0002
Ceramic Substrate		Metals	Magnesium-oxide	1309-48-4		0.00313584	g	800	0.08	581	0.0581
Ceramic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.01587911	g	4051	0.4051	2942	0.2942
Ceramic Substrate		Metals	Palladium, metal	7440-05-3		0.00019599	g	50	0.005	36	0.0036
Ceramic Substrate		Glass	Silicon dioxide	7631-86-9		2.34703513	g	598764	59.8764	434957	43.4957
Ceramic Substrate		Metals	Strontium Oxide	1314-11-0		0.00837269	g	2136	0.2136	1551	0.1551
Ceramic Substrate		Metals	Titanium (IV) Oxide	13463-67-7		0.00006272	g	16	0.0016	11	0.0011
Ceramic Substrate		Metals	Zinc oxide	1314-13-2		0.00005096	g	13	0.0013	9	0.0009
Ceramic Substrate		Metals	Zirconium oxide	1314-23-4		0.06686003	g	17057	1.7057	12389	1.2389
Solder Balls - Pb Free, Sn/Ag	0.8139						g				
Solder Balls - Pb Free, Sn/Ag		Metals	Silver, metal	7440-22-4		0.0284865	g	35000	3.5	5278	0.5278
Solder Balls - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5		0.7854135	g	965000	96.5	145546	14.5546
Solder Paste	0.0855						g				
Solder Paste		Metals	Copper, metal	7440-50-8		0.0002565	g	3000	0.3	47	0.0047
Solder Paste		Metals	Silver, metal	7440-22-4		0.002907	g	34000	3.4	538	0.0538
Solder Paste		Metals	Tin, metal	7440-31-5		0.0722475	g	845000	84.5	13388	1.3388
Solder Paste		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.010089	g	118000	11.8	1869	0.1869
Underfill	0.0726						g				
Underfill		Solvents, additives, and other materials	4,4'-Diamino-3,3'-diethyl-diphenylmethane	19900-65-3		0.007986	g	110000	11	1479	0.1479
Underfill		Bismuth/Bismuth Compounds	Bismuth nitrate	10361-44-1		0.0000726	g	1000	0.1	13	0.0013
Underfill		Bismuth/Bismuth Compounds	Bismuth trioxide	1304-76-3		0.0005808	g	8000	0.8	107	0.0107
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27810-48-6		0.010164	g	140000	14	1883	0.1883
Underfill		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00726	g	100000	10	1345	0.1345
Underfill		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0000726	g	1000	0.1	13	0.0013
Underfill		Plastics/polymers	4,4'-isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.002904	g	40000	4	538	0.0538
Underfill		Glass	Silica, vitreous	80676-86-0		0.04356	g	600000	60	8072	0.8072
Pb-free Bumped Semiconductor D	0.3049						g				
Pb-free Bumped Semiconductor D		Nickel (external applications only)	Nickel	7440-02-0		0.0015245	g	5000	0.5	282	0.0282
Pb-free Bumped Semiconductor D		Metals	Silver, metal	7440-22-4		0.00096044	g	3150	0.315	177	0.0177
Pb-free Bumped Semiconductor D		Metals	Tin, metal	7440-31-5		0.02648057	g	86850	8.685	4907	0.4907
Pb-free Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.0027441	g	9000	0.9	508	0.0508
Pb-free Bumped Semiconductor D		Glass	Silicon, doped	-		0.27319039	g	896000	89.6	50625	5.0625

## 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](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](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](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](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](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 v1.1 Form [http://www.freescale.com/files/abstract/corporate/ehs\\_epp/IPC-1752-2\\_v1.1\\_MCD\\_Template.pdf](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/MC8641VJ1500KE\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MC8641VJ1500KE_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MC8641VJ1500KE\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MC8641VJ1500KE_IPC1752A.xml)