

PART INFORMATION		
Mfg Item Number	MSC8122TVT6400	
Mfg Item Name	FCPBGA 431 20*20*3.8P0.8	
SUPPLIER		
Company Name	Freescale Semiconductor Inc	
Company Unique ID	14-141-7928	
Response Date	2017-06-06	
Response Document ID	5263K11033D021A1.45	
Contact Name	Freescale Semiconductor Inc	
Contact Title	Product Technical Support	
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Authorized Representative	Daniel Binyon	
Representative Title	EPP Customer Response	
Representative Phone	512-895-3406	
Representative Email	eppanlst@freescale.com	
URL for Additional Information	www.freescale.com	
DECLARATION		
EU RoHS	Yes	
Pb Free	No	
HalogenFree	Yes	
Plating Indicator	e2	
EU RoHS Exemption(s)	15	
MANUFACTURING		
Mfg Item Number	MSC8122TVT6400	
Mfg Item Name	FCPBGA 431 20*20*3.8P0.8	
Version	ALL	
Weight	2.546100	
UoM	g	
Unit Volume	EACH	
J-STD-020 MSL Rating	3	
Peak Processing Temperature	250 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	4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions
Supplier Acceptance	Accepted
Signature	Daniel Binyon
Exemption List Version	2012/51/EU
Exemptions in this part	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	6(a) : Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight 6(b) : Lead as an alloying element in aluminium containing up to 0.4% lead by weight 6(c) : Copper alloy containing up to 4% lead by weight 7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead) 7(b) : Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications 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 7(c)-II : Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher 7(c)-III : Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC 7(c)-IV : Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors 15 : Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages

MATERIAL COMPOSITION

Homogeneous Material	Weight	SubstanceClass	Substance	CAS	Exemption	SubstanceWeight	UoM	SubPart PPM	SubPart%	ARTICLEPPM	ARTICLE%
Underfill	0.0416						g				
Underfill		Solvents, additives, and other materials	Methylhexahydrophthalic anhydride	25550-51-0		0.0062843	g	151065	15.1065	2468	0.2468
Underfill		Plastics/polymers	1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17557-23-2		0.00231691	g	55695	5.5695	909	0.0909
Underfill		Plastics/polymers	1,6-Bis(2,3-epoxypropoxy) naphthalene	27610-48-6		0.00231691	g	55695	5.5695	909	0.0909
Underfill		Plastics/polymers	Elastomer Modified Diglycidyl Ether	68909-14-8		0.00231691	g	55695	5.5695	909	0.0909
Underfill		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.0271557	g	652781	65.2781	10665	1.0665
Underfill		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.00120927	g	29069	2.9069	474	0.0474
Bonding Agent	0.0347						g				
Bonding Agent		Metals	Aluminum, metal	7429-90-5		0.029495	g	850000	85	11584	1.1584
Bonding Agent		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.005205	g	150000	15	2044	0.2044
Cap/Cover	0.7471						g				
Cap/Cover		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00000224	g	3	0.0003	0	0
Cap/Cover		Metals	Chromium, metal	7440-47-3		0.00000224	g	3	0.0003	0	0
Cap/Cover		Metals	Copper, metal	7440-50-8		0.73369927	g	982063	98.2063	288195	28.8195
Cap/Cover		Lead/Lead Compounds	Lead	7439-92-1		0.00000224	g	3	0.0003	0	0
Cap/Cover		Metals	Magnesium, metal	7439-95-4		0.00102726	g	1375	0.1375	403	0.0403
Cap/Cover		Mercury/Mercury Compounds	Mercury	7439-97-6		0.00000224	g	3	0.0003	0	0
Cap/Cover		Nickel (external applications only)	Nickel	7440-02-0		0.01236451	g	16550	1.655	4856	0.4856
Capacitor, 0306	0.0408						g				
Capacitor, 0306		Metals	Copper, metal	7440-50-8		0.0056304	g	138000	13.8	2211	0.2211
Capacitor, 0306		Nickel (external applications only)	Nickel	7440-02-0		0.007956	g	195000	19.5	3124	0.3124
Capacitor, 0306		Metals	Tin, metal	7440-31-5		0.0005304	g	13000	1.3	208	0.0208
Capacitor, 0306		Metals	Barium titanate	12047-27-7		0.0266832	g	654000	65.4	10480	1.048
High Pb Bumped Semiconductor D	0.225				15		g				
High Pb Bumped Semiconductor D		Lead/Lead Compounds	Lead	7439-92-1		0.02118983	g	94177	9.4177	8322	0.8322
High Pb Bumped Semiconductor D		Nickel (external applications only)	Nickel	7440-02-0		0.00018563	g	825	0.0825	72	0.0072
High Pb Bumped Semiconductor D		Metals	Tin, metal	7440-31-5		0.0011151	g	4956	0.4956	437	0.0437
High Pb Bumped Semiconductor D		Metals	Titanium, metal	7440-32-6		0.00000945	g	42	0.0042	3	0.0003
High Pb Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.002025	g	9000	0.9	795	0.0795
High Pb Bumped Semiconductor D		Glass	Silicon, doped	-		0.20047499	g	891000	89.1	78738	7.8738
Capacitor Solder Paste	0.0128						g				
Capacitor Solder Paste		Metals	Copper, metal	7440-50-8		0.000064	g	5000	0.5	25	0.0025
Capacitor Solder Paste		Lead/Lead Compounds	Lead	7439-92-1		0.00000106	g	83	0.0083	0	0
Capacitor Solder Paste		Metals	Silver, metal	7440-22-4		0.0005304	g	30000	3	150	0.015
Capacitor Solder Paste		Metals	Tin, metal	7440-31-5		0.01235094	g	964917	96.4917	4850	0.485
Organic Substrate, Halogen-free	1.2276				15		g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.00628531	g	5120	0.512	2468	0.2468
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.40786028	g	332242	33.2242	160190	16.019
Organic Substrate, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.49339208	g	401916	40.1916	193783	19.3783
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.00008348	g	68	0.0068	32	0.0032
Organic Substrate, Halogen-free		Lead/Lead Compounds	Lead	7439-92-1		0.00099804	g	813	0.0813	391	0.0391
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.00381047	g	3104	0.3104	1496	0.1496
Organic Substrate, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.31346889	g	255351	25.5351	123117	12.3117
Organic Substrate, Halogen-free		Metals	Tin, metal	7440-31-5		0.00170145	g	1386	0.1386	668	0.0668
Solder Balls - Pb Free, Sn/Ag	0.2165						g				
Solder Balls - Pb Free, Sn/Ag		Metals	Aluminum, metal	7429-90-5		0.00000693	g	32	0.0032	2	0.0002
Solder Balls - Pb Free, Sn/Ag		Antimony/Antimony Compounds	Antimony (metallic)	7440-36-0		0.00002706	g	125	0.0125	10	0.001
Solder Balls - Pb Free, Sn/Ag		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00001624	g	75	0.0075	6	0.0006
Solder Balls - Pb Free, Sn/Ag		Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.0000407	g	188	0.0188	15	0.0015
Solder Balls - Pb Free, Sn/Ag		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0.00000281	g	13	0.0013	1	0.0001
Solder Balls - Pb Free, Sn/Ag		Metals	Copper, metal	7440-50-8		0.00001364	g	63	0.0063	5	0.0005
Solder Balls - Pb Free, Sn/Ag		Metals	Gold, metal	7440-57-5		0.00001364	g	63	0.0063	5	0.0005
Solder Balls - Pb Free, Sn/Ag		Metals	Iridium, metal	7440-74-6		0.00001364	g	63	0.0063	5	0.0005
Solder Balls - Pb Free, Sn/Ag		Solvents, additives, and other materials	Sulfur	7704-34-0		0.00000152	g	7	0.0007	0	0
Solder Balls - Pb Free, Sn/Ag		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00001364	g	63	0.0063	5	0.0005
Solder Balls - Pb Free, Sn/Ag		Metals	Iron, metal	7439-89-6		0.00002706	g	125	0.0125	10	0.001
Solder Balls - Pb Free, Sn/Ag		Lead/Lead Compounds	Lead	7439-92-1		0.00006776	g	313	0.0313	26	0.0026
Solder Balls - Pb Free, Sn/Ag		Nickel (external applications only)	Nickel	7440-02-0		0.00000693	g	32	0.0032	2	0.0002
Solder Balls - Pb Free, Sn/Ag		Metals	Silver, metal	7440-02-4		0.00757793	g	35002	3.5002	2976	0.2976
Solder Balls - Pb Free, Sn/Ag		Metals	Tin, metal	7440-31-5		0.20866639	g	963817	96.3817	81955	8.1955
Solder Balls - Pb Free, Sn/Ag		Metals	Zinc, metal	7440-66-6		0.00000411	g	19	0.0019	1	0.0001

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

IPC1752 XML LINKS

http://www.freescale.com/mcds/MS8122TVT6400_IPC1752_v11.xml

http://www.freescale.com/mcds/MS8122TVT6400_IPC1752A.xml