PART INFORMATION	
Mfg Item Number	M82190G13
Mfg Item Name	672 27*27*2.23 P1

SUPPLIER	
Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-07-25
Response Document ID	00KNK50001S533A1.3
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
Contact Phone	1-800-521-6274
Contact Email	support@freescale.com
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	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	

MANUFACTURING	
Mfg Item Number	M82190G13
Mfg Item Name	672 27*27*2.23 P1
Version	ALL
Weight	2.748050
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	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	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%
Epoxy Die Attach	0.0044						g					
Epoxy Die Attach		Solvents, additives, and other materials	Proprietary Material-Other acrylates	-		0.000044	g	10000	1		16	0.0016
Epoxy Die Attach		Solvents, additives, and other materials	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8		0.0000044	g	1000	0.1		1	0.0001
Epoxy Die Attach		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.0000044	g	1000	0.1		1	0.0001
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00381012	g	865936	86.5936		1386	0.1386
Epoxy Die Attach		Glass	Dimethyl silicone polymer with silica	67762-90-7		0.0000044	g	1000	0.1		1	0.0001
Epoxy Die Attach		Solvents, additives, and other materials	Other Bismaleimides	-		0.00043896	g	99764	9.9764		159	0.0159
Epoxy Die Attach		Solvents, additives, and other materials	1,4-Dihydroxybenzene	123-31-9		0.00000044	g	100	0.01		0	0
Epoxy Die Attach		Solvents, additives, and other materials	Triethylamine	121-44-8		0.00000044	g	100	0.01		0	0
Epoxy Die Attach		Solvents, additives, and other materials	Sulfuric acid	7664-93-9		0.00000044	g	100	0.01		0	0
Epoxy Die Attach		Solvents, additives, and other materials	4-Isopropyl-4'-methyldiphenyliodonium tetrakis(pentafluorophenyl)borate	178233-72-2		0.00000264	g	600	0.06		0	0
Epoxy Die Attach		Plastics/polymers	2-Propenoic acid,2-methyl-, 1,1'-(2,2-dimethyl-1,3-propanediyl) ester	1985-51-9		0.000044	g	10000	1		16	0.0016
Epoxy Die Attach		Plastics/polymers	Polybutadiene adducted with maleic anhydride	25655-35-0		0.000044	g	10000	1		16	0.0016
Epoxy Die Attach		Solvents, additives, and other materials	4-Methoxyphenol	150-76-5		0.00000132	g	300	0.03		0	0
Epoxy Die Attach		Solvents, additives, and other materials	6-Maleimidocaproic acid	55750-53-3		0.00000044	g	100	0.01		0	0
Bonding Wire, PdCu	0.0141						g					
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.01371909	g	972985	97.2985		4992	0.4992
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.00038091	g	27015	2.7015		138	0.0138
Die Encapsulant, Halogen-free	1.1987						g					
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.0599386	g	50003	5.0003		21811	2.1811
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.00179925	g	1501	0.1501		654	0.0654
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.0059923	g	4999	0.4999		2180	0.218
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.0119858	g	9999	0.9999		4361	0.4361
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.03595621	g	29996	2.9996		13084	1.3084
Die Encapsulant, Halogen-free		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.002395	g	1998	0.1998		871	0.0871
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		1.07883359	g	900003	90.0003		392601	39.2601
Die Encapsulant, Halogen-free		Plastics/polymers	Polyethylene Wax	-		0.00179925	g	1501	0.1501		654	0.0654
Organic Substrate, Halogen-fre	0.7615						g					
Organic Substrate, Halogen-fre		Metals	Barium sulfate	7727-43-7		0.02449289	g	32164	3.2164		8912	0.8912
Organic Substrate, Halogen-fre		Metals	Copper, metal	7440-50-8		0.48055218	g	631060	63.106		174870	17.487
Organic Substrate, Halogen-fre		Plastics/polymers	4,4'-dihydroxy-3,3',5,5'-tetramethylbiphenyl digycidyl ether	85954-11-6		0.00489873	g	6433	0.6433		1782	0.1782
Organic Substrate, Halogen-fre		Plastics/polymers	Other Epoxy resins	-		0.13249262	g	173989	17.3989		48213	4.8213
Organic Substrate, Halogen-fre		Metals	Gold, metal	7440-57-5		0.00265459	g	3486	0.3486		965	0.0965
Organic Substrate, Halogen-fre		Metals	Talc	14807-96-6		0.00217713	g	2859	0.2859		792	0.0792
Organic Substrate, Halogen-fre		Nickel (external applications only)	Nickel	7440-02-0		0.01225254	g	16090	1.609		4458	0.4458
Organic Substrate, Halogen-fre		Glass	Fibrous-glass-wool	65997-17-3		0.09925772	g	130345	13.0345		36119	3.6119
Organic Substrate, Halogen-fre		Glass	Silicon dioxide	7631-86-9		0.00054447	g	715	0.0715		198	0.0198
Organic Substrate, Halogen-fre		Solvents, additives, and other materials	Other morpholine compounds	-		0.00217713	g	2859	0.2859		792	0.0792
Solder Balls - Lead Free	0.7236						g					
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.003618	g	5000	0.5		1316	0.1316
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.021708	g	30000	3		7899	0.7899
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.698274	g	965000	96.5		254097	25.4097
Pb-free Bumped Semiconductor D	0.04575						g					
Pb-free Bumped Semiconductor D		Nickel (external applications only)	Nickel	7440-02-0		0.00022875	g	5000	0.5		83	0.0083
Pb-free Bumped Semiconductor D		Metals	Silver, metal	7440-22-4		0.00014411	g	3150	0.315		52	0.0052
Pb-free Bumped Semiconductor D		Metals	Tin, metal	7440-31-5		0.00397339	g	86850	8.685		1445	0.1445
Pb-free Bumped Semiconductor D		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.00041175	g	9000	0.9		149	0.0149
Pb-free Bumped Semiconductor D		Glass	Silicon, doped	-		0.040992	g	896000	89.6		14916	1.4916

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/M82190G13_IPC1752_v11.xml

http://www.freescale.com/mcds/M82190G13_IPC1752A.xml