Freescale Semiconductor Inc

PART INFORMATION	
Mfg Item Number	MCF51JF32VFM
Mfg Item Name	QFN 32 5*5*1 P0.5

SUPPLIER	
Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-04-23
Response Document ID	00CSK10957D010A1.8
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
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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	e4
EU RoHS Exemption(s)	

MANUFACTURING	
Mfg Item Number	MCF51JF32VFM
Mfg Item Name	QFN 32 5*5*1 P0.5
Version	ALL
Weight	0.062300
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	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	0.0015						g					
Epoxy Die Attach		Solvents, additives, and other materials	Proprietary Material-Other acrylates	-		0.00013238	g	88252	8.8252		2124	0.2124
Epoxy Die Attach		Solvents, additives, and other materials	1,1'-(methylenedi-p-phenylene)bismaleimide	13676-54-5		0.00004964	g	33094	3.3094		796	0.0796
Epoxy Die Attach		Metals	Palladium, metal	7440-05-3		0.00000248	g	1655	0.1655		39	0.0039
Epoxy Die Attach		Plastics/polymers	Proprietary Material-Other polymers	-		0.00002482	g	16547	1.6547		398	0.0398
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00124104	g	827358	82.7358		19920	1.992
Epoxy Die Attach		Plastics/polymers	Proprietary Material-Other Methacrylate compounds	-		0.00004964	g	33094	3.3094		796	0.0796
Bonding Wire, Copper	0.0004						g					
Bonding Wire, Copper		Metals	Copper, metal	7440-50-8		0.000388	g	970000	97		6227	0.6227
Bonding Wire, Copper		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.000012	g	30000	3		192	0.0192
Die Encapsulant, Halogen-free	0.0349						g					
Die Encapsulant, Halogen-free		Plastics/polymers	4,4'-dihydroxy-3,3',5,5'-tetramethylbiphenyl digycidyl ether	85954-11-6		0.00053955	g	15460	1.546		8660	0.866
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.00006348	g	1819	0.1819		1018	0.1018
Die Encapsulant, Halogen-free		Metals	Magnesium dihydroxide	1309-42-8		0.00125186	g	35870	3.587		20094	2.0094
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Proprietary Material-Other organic phosphorous compounds	-		0.00002768	g	793	0.0793		444	0.0444
Die Encapsulant, Halogen-free		Plastics/polymers	1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde and phenol	25917-04-8		0.00011032	g	3161	0.3161		1770	0.177
Die Encapsulant, Halogen-free		Plastics/polymers	Phenol p-xylylene dimethyl ether copolymer	26834-02-6		0.00126851	g	36347	3.6347		20361	2.0361
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.02979784	g	853806	85.3806		478311	47.8311
Die Encapsulant, Halogen-free		Metals	Zinc Hydroxide	20427-58-1		0.00058185	g	16672	1.6672		9339	0.9339
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other Non-halogenated Epoxy resins	-		0.00125891	g	36072	3.6072		20207	2.0207
Copper Lead Frame	0.0218						g					
Copper Lead Frame		Metals	Copper, metal	7440-50-8		0.02113556	g	969521	96.9521		339254	33.9254
Copper Lead Frame		Metals	Gold, metal	7440-57-5		0.00000218	g	100	0.01		34	0.0034
Copper Lead Frame		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00000654	g	300	0.03		104	0.0104
Copper Lead Frame		Metals	Iron, metal	7439-89-6		0.00049887	g	22884	2.2884		8007	0.8007
Copper Lead Frame		Nickel (external applications only)	Nickel	7440-02-0		0.00011327	g	5196	0.5196		1818	0.1818
Copper Lead Frame		Metals	Palladium, metal	7440-05-3		0.00001308	g	600	0.06		209	0.0209
Copper Lead Frame		Metals	Zinc, metal	7440-66-6		0.0000305	g	1399	0.1399		489	0.0489
Silicon Semiconductor Die	0.0037						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.000074	g	20000	2		1187	0.1187
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.003626	g	980000	98		58202	5.8202

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/MCF51JF32VFM_IPC1752_v11.xml

http://www.freescale.com/mcds/MCF51JF32VFM_IPC1752A.xml