

**PART INFORMATION**

Mfg Item Number	MVF51NN152CMK50
Mfg Item Name	MAP 364 17*17*1.5 P0.8

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2016-12-07
Response Document ID	00BRK50001S060M1.0
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	MVF51NN152CMK50
Mfg Item Name	MAP 364 17*17*1.5 P0.8
Version	ALL
Weight	1.389600
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%
Non-Conductive Epoxy/Adhesive	0.0105						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0007875	g	75000	7.5	566	0.0566
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.0021	g	200000	20	1511	0.1511
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.0007875	g	75000	7.5	566	0.0566
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.0021	g	200000	20	1511	0.1511
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.004725	g	450000	45	3400	0.34
Die Encapsulant	0.684						g				
Die Encapsulant		Metals	Aluminum, metal	7429-90-5		0.01368684	g	20010	2.001	9849	0.9849
Die Encapsulant		Metals	Magnesium, metal	7439-95-4		0.00684342	g	10005	1.0005	4924	0.4924
Die Encapsulant		Plastics/polymers	Other phenolic resins	-		0.02053026	g	30015	3.0015	14774	1.4774
Die Encapsulant		Glass	Silicon dioxide	7631-86-9		0.12318156	g	180090	18.009	88645	8.8645
Die Encapsulant		Glass	Silica, vitreous	60676-86-0		0.4786974	g	698850	69.885	344499	34.4499
Die Encapsulant		Plastics/polymers	Other acrylic/epoxy resin mixture	-		0.04106052	g	60030	6.003	29548	2.9548
Bonding Wire, PdCu	0.0018						g				
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.00176579	g	980994	98.0994	1270	0.127
Bonding Wire, PdCu		Metals	Gold, metal	7440-57-5		0.0000018	g	1000	0.1	1	0.0001
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.00003241	g	18006	1.8006	23	0.0023
Organic Substrate, Halogen-free	0.4146						g				
Organic Substrate, Halogen-free		Metals	Barium sulfate	7727-43-7		0.0086556	g	20877	2.0877	6228	0.6228
Organic Substrate, Halogen-free		Metals	Copper, metal	7440-50-8		0.24884666	g	600209	60.0209	179077	17.9077
Organic Substrate, Halogen-free		Metals	Gold, metal	7440-57-5		0.0129832	g	31315	3.1315	9343	0.9343
Organic Substrate, Halogen-free		Metals	Talc	14807-96-6		0.00346232	g	8351	0.8351	2491	0.2491
Organic Substrate, Halogen-free		Nickel (external applications only)	Nickel	7440-02-0		0.06708021	g	161795	16.1795	48273	4.8273
Organic Substrate, Halogen-free		Solvents, additives, and other materials	Silicone modified epoxy resin	218163-11-2		0.04327761	g	104384	10.4384	31143	3.1143
Organic Substrate, Halogen-free		Glass	Fibrous-glass-wool	65997-17-3		0.02596681	g	62631	6.2631	18686	1.8686
Organic Substrate, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.00432759	g	10438	1.0438	3114	0.3114
Solder Balls - Lead Free	0.1854						g				
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00092867	g	5009	0.5009	668	0.0668
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00057201	g	30054	3.0054	4009	0.4009
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.17889932	g	964937	96.4937	128741	12.8741
Silicon Semiconductor Die	0.0933						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.001866	g	20000	2	1342	0.1342
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.091434	g	980000	98	65798	6.5798

## 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/MVF51NN152CMK50\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/MVF51NN152CMK50_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/MVF51NN152CMK50\\_IPC1752A.xml](http://www.freescale.com/mcdfs/MVF51NN152CMK50_IPC1752A.xml)