PART INFORMATION

Mfg Item Number	MKL17Z64VDA4
Mfg Item Name	MAPBGA 36 3.5*3.5*.5 P.5

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-10-17
Response Document ID	00JCA1.1
Contact Name	Freescale Semiconductor Inc
Contact Title	Product Technical Support
Contact Phone	1-800-521-6274
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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	Yes
HalogenFree	Yes
Plating Indicator	e1
EU RoHS Exemption(s)	

MANUFACTURING

Mfg Item Number	MKL17Z64VDA4
Mfg Item Name	MAPBGA 36 3.5*3.5*.5 P.5
Version	ALL
Weight	0.011000
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%
Bonding Wire, PdCu	0.0001						g					
Bonding Wire, PdCu		Metals	Copper, metal	7440-50-8		0.0000981	g	980994	98.0994		8918	0.8918
Bonding Wire, PdCu		Metals	Gold, metal	7440-57-5		0.0000001	g	1000	0.1		9	0.0009
Bonding Wire, PdCu		Metals	Palladium, metal	7440-05-3		0.0000018	g	18006	1.8006		163	0.0163
Non-Conductive Epoxy/Adhesive	0.0002						g					
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Poly[(o-cresyl glycidyl ether)-co-formaldehyde]	29690-82-2		0.00002	g	100000	10		1818	0.1818
Non-Conductive Epoxy/Adhesive		Plastics/polymers	4,4'-Isopropylidenediphenol-1-chloro-2,3-epoxypropane concentrate	25068-38-6		0.00005	g	250000	25		4545	0.4545
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Phenol p-xylylene dimethyl ether copolymer	26834-02-6		0.00006	g	300000	30		5454	0.5454
Non-Conductive Epoxy/Adhesive		Glass	Silicon dioxide	7631-86-9		0.00005	g	250000	25		4545	0.4545
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Acrylic acid ester copolymer	78506-70-4		0.00002	g	100000	10		1818	0.1818
Solder Balls - Lead Free	0.0012						g					
Solder Balls - Lead Free		Metals	Copper, metal	7440-50-8		0.00000601	g	5012	0.5012		546	0.0546
Solder Balls - Lead Free		Metals	Silver, metal	7440-22-4		0.00001203	g	10024	1.0024		1093	0.1093
Solder Balls - Lead Free		Metals	Tin, metal	7440-31-5		0.00118196	g	984964	98.4964		107450	10.745
Die Encapsulant, Halogen-free	0.0061						g					
Die Encapsulant, Halogen-free		Metals	Other aluminum compounds	-		0.000122	g	20000	2		11090	1.109
Die Encapsulant, Halogen-free		Plastics/polymers	Other Epoxy resins	-		0.000305	g	50000	5		27727	2.7727
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.000061	g	10000	1		5545	0.5545
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Other organic phosphorous compounds	-		0.000061	g	10000	1		5545	0.5545
Die Encapsulant, Halogen-free		Plastics/polymers	Phenol, polymer with formaldehyde	9003-35-4		0.000183	g	30000	3		16636	1.6636
Die Encapsulant, Halogen-free		Plastics/polymers	Other phenolic resins	-		0.000183	g	30000	3		16636	1.6636
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.005185	g	850000	85		471379	47.1379
Organic Substrate	0.0024						g					
Organic Substrate		Metals	Aluminum, metal	7429-90-5		0.00000619	g	2580	0.258		562	0.0562
Organic Substrate		Arsenic/Arsenic Compounds	Arsenic	7440-38-2		0.00000029	g	119	0.0119		26	0.0026
Organic Substrate		Metals	Barium sulfate	7727-43-7		0.00006488	g	27032	2.7032		5898	0.5898
Organic Substrate		Metals	Copper, metal	7440-50-8		0.00088214	g	367558	36.7558		80194	8.0194
Organic Substrate		Metals	Gold, metal	7440-57-5		0.00013558	g	56492	5.6492		12325	1.2325
Organic Substrate		Solvents, additives, and other materials	Other inorganic phosphorous compounds	-		0.0000002	g	85	0.0085		18	0.0018
Organic Substrate		Metals	Magnesium, metal	7439-95-4		0.00002188	g	9118	0.9118		1989	0.1989
Organic Substrate		Nickel (external applications only)	Nickel	7440-02-0		0.00088266	g	367774	36.7774		80241	8.0241
Organic Substrate		Solvents, additives, and other materials	Other organic Silicon Compounds	-		0.00000234	g	973	0.0973		212	0.0212
Organic Substrate		Glass	Fibrous-glass-wool	65997-17-3		0.000128	g	53335	5.3335		11636	1.1636
Organic Substrate		Metals	Zinc, metal	7440-66-6		0.00000311	g	1296	0.1296		282	0.0282
Organic Substrate		Metals	Aluminum Hydroxide	21645-51-2		0.0000614	g	25584	2.5584		5581	0.5581
Organic Substrate		Solvents, additives, and other materials	3-methoxy-3-methyl-1-butyl acetate	103429-90-9		0.0000519	g	21625	2.1625		4718	0.4718
Organic Substrate		Plastics/polymers	Methacrylic acid, polymer with 2,2-bis(p-(2,3-epoxypropoxy)phenyl)propane	26875-67-2		0.00015943	g	66429	6.6429		14493	1.4493
Silicon Semiconductor Die	0.001						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.00002	g	20000	2		1818	0.1818
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.00098	g	980000	98		89090	8.909

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/MKL17Z64VDA4_IPC1752_v11.xml

http://www.freescale.com/mcds/MKL17Z64VDA4_IPC1752A.xml