

**PART INFORMATION**

Mfg Item Number	FXTH87EH12DT1
Mfg Item Name	QFN-EP MAP 24 7*7*2.2 P1

**SUPPLIER**

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2018-05-24
Response Document ID	00CAK50001S563A1.4
Contact Name	Freescale Semiconductor Inc
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**DECLARATION**

EU RoHS	Yes
Pb Free	No
HalogenFree	Yes
Plating Indicator	e4
EU RoHS Exemption(s)	7c-l

**MANUFACTURING**

Mfg Item Number	FXTH87EH12DT1
Mfg Item Name	QFN-EP MAP 24 7*7*2.2 P1
Version	ALL
Weight	0.306300
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	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	7c-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
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%
Bonding Wire	0.00025						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.00025	g	1000000	100	816	0.0816
Non-Conductive Epoxy/Adhesive	0.0001						g				
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0000075	g	75000	7.5	24	0.0024
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Crosslinked acrylate polymer	25767-43-5		0.00002	g	200000	20	65	0.0065
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Other polymers	-		0.0000075	g	75000	7.5	24	0.0024
Non-Conductive Epoxy/Adhesive		Plastics/polymers	Proprietary Material-Other polymers	-		0.00002	g	200000	20	65	0.0065
Non-Conductive Epoxy/Adhesive		Glass	Silica, vitreous	60676-86-0		0.000045	g	450000	45	146	0.0146
Non-conductive Epoxy	0.0003						g				
Non-conductive Epoxy		Plastics/polymers	Poly[o-cresyl glycidyl ether]-co-formaldehyde	20690-82-2		0.00003	g	100000	10	97	0.0097
Non-conductive Epoxy		Plastics/polymers	4,4'-isopropylidenediphenol-1-chloro-2,3-epoxypropane bisacrylate	25068-38-6		0.000075	g	250000	25	244	0.0244
Non-conductive Epoxy		Plastics/polymers	Phenyl p-vinylene dimethyl ether copolymer	26834-02-6		0.00009	g	300000	30	293	0.0293
Non-conductive Epoxy		Glass	Silicon dioxide	7631-86-9		0.000075	g	250000	25	244	0.0244
Non-conductive Epoxy		Plastics/polymers	Acrylic acid ester copolymer	78506-70-4		0.00003	g	100000	10	97	0.0097
Gel Die Encapsulant	0.0067						g				
Gel Die Encapsulant		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.0066642	g	994988	99.4988	21764	2.1764
Gel Die Encapsulant		Solvents, additives, and other materials	Ethylbenzene	100-41-4		0.0003358	g	5012	0.5012	109	0.0109
Bonding Wire	0.00025						g				
Bonding Wire		Metals	Gold, metal	7440-57-5		0.00025	g	1000000	100	816	0.0816
Bonding Agent	0.0025						g				
Bonding Agent		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.0015	g	600000	60	4807	0.4807
Bonding Agent		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.00075	g	300000	30	2448	0.2448
Bonding Agent		Solvents, additives, and other materials	Dimethyl methyl hydrogen siloxane	68037-69-2		0.0002275	g	91000	9.1	742	0.0742
Bonding Agent		Metals	Other platinum compounds	-		0.0000225	g	9000	0.9	73	0.0073
Die Encapsulant, Halogen-free	0.1993						g				
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.000967	g	5001	0.5001	3253	0.3253
Die Encapsulant, Halogen-free		Plastics/polymers	Phenolic Resin	125133-39-2		0.0049835	g	25005	2.5005	16269	1.6269
Die Encapsulant, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.01495049	g	75015	7.5015	48809	4.8809
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.16341882	g	819664	81.9664	533554	53.3554
Die Encapsulant, Halogen-free		Plastics/polymers	Epoxy Resin	115254-47-2		0.01495049	g	75015	7.5015	48809	4.8809
Copper Lead Frame	0.0072						g				
Copper Lead Frame		Metals	Copper, metal	7440-50-8		0.00698241	g	969780	96.978	22795	2.2795
Copper Lead Frame		Metals	Gold, metal	7440-57-5		0.0000137	g	190	0.019	4	0.0004
Copper Lead Frame		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.0000204	g	284	0.0284	6	0.0006
Copper Lead Frame		Metals	Iron, metal	7439-89-6		0.00015373	g	21351	2.1351	501	0.0501
Copper Lead Frame		Lead/Lead Compounds	Lead	7439-92-1		0.00000007	g	10	0.001	0	0
Copper Lead Frame		Nickel (external applications only)	Nickel	7440-02-0		0.00005728	g	7355	0.7355	187	0.0187
Copper Lead Frame		Metals	Palladium, metal	7440-05-3		0.0000018	g	250	0.025	5	0.0005
Copper Lead Frame		Metals	Silver, metal	7440-22-4		0.0000013	g	180	0.018	4	0.0004
Encapsulant Gel	0.0067						g				
Encapsulant Gel		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.0066642	g	994988	99.4988	21764	2.1764
Encapsulant Gel		Solvents, additives, and other materials	Ethylbenzene	100-41-4		0.0003358	g	5012	0.5012	109	0.0109
Lid	0.0696						g				
Lid		Metals	Chromium, metal	7440-47-3		0.01324175	g	190255	19.0255	43231	4.3231
Lid		Solvents, additives, and other materials	Sulfur	7704-34-9		0.00001392	g	200	0.02	45	0.0045
Lid		Solvents, additives, and other materials	Phosphorus, elemental (not containing red allotrope)	7723-14-0		0.00002088	g	300	0.03	68	0.0068
Lid		Solvents, additives, and other materials	Silicon	7440-21-3		0.0006969	g	10013	1.0013	2275	0.2275
Lid		Metals	Iron, metal	7439-89-6		0.04809966	g	691087	69.1087	157034	15.7034
Lid		Metals	Manganese, metal	7439-96-5		0.00104539	g	15020	1.502	3412	0.3412
Lid		Nickel (external applications only)	Nickel	7440-02-0		0.00644663	g	82624	8.2624	21046	2.1046
Lid		Solvents, additives, and other materials	Carbon	7440-44-0		0.00003487	g	501	0.0501	113	0.0113
Epoxy Die Attach	0.0001						g				
Epoxy Die Attach		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.00000106	g	10611	1.0611	3	0.0003
Epoxy Die Attach		Solvents, additives, and other materials	(3,4-Epoxy)cyclohexylethytrimethoxysilane	3388-04-3		0.00001001	g	100051	10.0051	32	0.0032
Epoxy Die Attach		Solvents, additives, and other materials	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2		0.00005962	g	596261	59.6261	194	0.0194
Epoxy Die Attach		Plastics/polymers	Polytetrafluoroethylene	9002-84-0		0.00002931	g	293077	29.3077	95	0.0095
Pb Glass Frit Semiconductor Di	0.0026				7c-1		g				
Pb Glass Frit Semiconductor Di		Lead/Lead Compounds	Lead (II) titanate	12060-00-3		0.00002699	g	10381	1.0381	88	0.0088
Pb Glass Frit Semiconductor Di		Glass	Fibrous-glass-wool	65997-17-3		0.00002585	g	9943	0.9943	84	0.0084
Pb Glass Frit Semiconductor Di		Solvents, additives, and other materials	2,2,4-trimethyl-1,3-pentanediol-1-monoisobutyrate	25265-77-4		0.00002585	g	9943	0.9943	84	0.0084
Pb Glass Frit Semiconductor Di		Glass	Silicon, doped	-		0.00252131	g	969733	96.9733	8231	0.8231
Silicon Semiconductor Die	0.00535						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000107	g	20000	2	349	0.0349
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.005243	g	980000	98	17117	1.7117
Silicon Semiconductor Die	0.00535						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000107	g	20000	2	349	0.0349
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.005243	g	980000	98	17117	1.7117

## 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/FXTH87EH12DT1\\_IPC1752\\_v11.xml](http://www.freescale.com/mcdfs/FXTH87EH12DT1_IPC1752_v11.xml)

[http://www.freescale.com/mcdfs/FXTH87EH12DT1\\_IPC1752A.xml](http://www.freescale.com/mcdfs/FXTH87EH12DT1_IPC1752A.xml)