PART INFORMATION

Mfg Item Number	MC9S08QB8CTGR
Mfg Item Name	TSSOP 16 4.4*5*1.0P0.65

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2015-07-07
Response Document ID	6117K00164D041A1.13
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	e3
EU RoHS Exemption(s)	

MANUFACTURING

Mfg Item Number	MC9S08QB8CTGR
Mfg Item Name	TSSOP 16 4.4*5*1.0P0.65
Version	ALL
Weight	0.062200
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	0.0009						g					
Epoxy Die Attach		Cadmium/Cadmium Compounds	Cadmium	7440-43-9		0	g	3	0.0003		0	0
Epoxy Die Attach		Plastics/polymers	Phenolic Polymer Resin, Epikote 155	9003-36-5		0.00016777	g	186411	18.6411		2697	0.2697
Epoxy Die Attach		Lead/Lead Compounds	Lead	7439-92-1		0.00000001	g	7	0.0007		0	0
Epoxy Die Attach		Metals	Silver, metal	7440-22-4		0.00073222	g	813579	81.3579		11772	1.1772
Lead Frame Plating	0.0022						g					
Lead Frame Plating		Lead/Lead Compounds	Lead	7439-92-1		0.00000044	g	200	0.02		7	0.0007
Lead Frame Plating		Metals	Tin, metal	7440-31-5		0.00219956	g	999800	99.98		35362	3.5362
Copper Lead Frame	0.0279						g					
Copper Lead Frame		Metals	Copper, metal	7440-50-8		0.02624166	g	940562	94.0562		421901	42.1901
Copper Lead Frame		Solvents, additives, and other materials	Silicon	7440-21-3		0.00020228	g	7250	0.725		3252	0.3252
Copper Lead Frame		Metals	Iron, metal	7439-89-6		0.00003488	g	1250	0.125		560	0.056
Copper Lead Frame		Lead/Lead Compounds	Lead	7439-92-1		0.00000873	g	313	0.0313		140	0.014
Copper Lead Frame		Metals	Magnesium, metal	7439-95-4		0.00004883	g	1750	0.175		785	0.0785
Copper Lead Frame		Metals	Manganese, metal	7439-96-5		0.00001744	g	625	0.0625		280	0.028
Copper Lead Frame		Nickel (external applications only)	Nickel	7440-02-0		0.0008928	g	32000	3.2		14353	1.4353
Copper Lead Frame		Metals	Silver, metal	7440-22-4		0.000279	g	10000	1		4485	0.4485
Copper Lead Frame		Metals	Zinc, metal	7440-66-6		0.00017438	g	6250	0.625		2803	0.2803
Bonding Wire, Copper	0.0004						g					
Bonding Wire, Copper		Metals	Copper, metal	7440-50-8		0.000388	g	970000	97		6237	0.6237
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	0.0276						g					
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Acrylonitrile/Butadiene copolymer, carboxyl terminated (26/74)	68891-46-3		0.0000276	g	1000	0.1		443	0.0443
Die Encapsulant, Halogen-free		Plastics/polymers	Poly[(o-cresyl glycidyl ether)-co-formaldehyde]	29690-82-2		0.0006072	g	22000	2.2		9762	0.9762
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.0009108	g	33000	3.3		14643	1.4643
Die Encapsulant, Halogen-free		Solvents, additives, and other materials	Carbon Black	1333-86-4		0.0000828	g	3000	0.3		1331	0.1331
Die Encapsulant, Halogen-free		Plastics/polymers	Proprietary Material-Other phenolic resins	-		0.0011868	g	43000	4.3		19080	1.908
Die Encapsulant, Halogen-free		Glass	Silicon dioxide	7631-86-9		0.001104	g	40000	4		17749	1.7749
Die Encapsulant, Halogen-free		Glass	Silica, vitreous	60676-86-0		0.0236808	g	858000	85.8		380720	38.072
Silicon Semiconductor Die	0.0032						g					
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%).	-		0.000064	g	20000	2		1028	0.1028
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.003136	g	980000	98		50418	5.0418

LINKS	
MCD LINK	
Freescale website	http://www.freescale.com
GENERAL ENVIRONMENTAL COMPLIANCE LINKS	
RoHS signed letter	http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ROHS_Freescale_Response.pdf
China RoHS	http://www.freescale.com/chinarohs
REACH signed letter	http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_REACH_Freescale_Response.pdf
ELV signed letter	http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_ELV_Freescale_Reponse.pdf
Conflict Minerals statement	http://www.freescale.com/files/abstract/corporate/ehs_epp/ENV_CONFLICT_METAL_Freescale_Response.pdf
FREESCALE ENVIRONMENTAL INFORMATION	
EPP website	http://www.freescale.com/epp
FAQ	http://www.freescale.com/webapp/sps/site/overview.jsp?code=ENVIRON_FAQ
Technical Service Request	https://www.freescale.com/webapp/servicerequest.create_SR.framework?defaultCategory=Hardware Product Support&defaultTopic=Environmentally Preferred Prod
LINKS TO BLANK IPC1752 FORMS	
Blank IPC1752 v1.1 Form	http://www.freescale.com/files/abstract/corporate/ehs_epp/IPC-1752-2_v1.1_MCD_Template.pdf

IPC1752 XML LINKS

http://www.freescale.com/mcds/MC9S08QB8CTGR_IPC1752_v11.xml

http://www.freescale.com/mcds/MC9S08QB8CTGR_IPC1752A.xml