

PART INFORMATION

Mfg Item Number	MRF8P23160WHR3
Mfg Item Name	NI 780H-4

SUPPLIER

Company Name	Freescale Semiconductor Inc
Company Unique ID	14-141-7928
Response Date	2017-12-18
Response Document ID	009NK11254D007A1.15
Contact Name	Freescale Semiconductor Inc
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Representative Title	EPP Customer Response
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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	MRF8P23160WHR3
Mfg Item Name	NI 780H-4
Version	ALL
Weight	6.446600
UoM	g
Unit Volume	EACH
J-STD-020 MSL Rating	
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%
Cap/Cover	0.6696						g				
Cap/Cover		Metals	Aluminum Oxides (Al2O3)	1344-28-1		0.6310056	g	942362	94.2362	97881	9.7881
Cap/Cover		Plastics/polymers	Proprietary Material-Other Epoxy resins	-		0.01468968	g	21938	2.1938	2278	0.2278
Cap/Cover		Metals	Magnesium-oxide	1309-48-4		0.00654936	g	9781	0.9781	1015	0.1015
Cap/Cover		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.01604562	g	23963	2.3963	2489	0.2489
Cap/Cover		Solvents, additives, and other materials	Proprietary Material-Other miscellaneous substances.	-		0.00130974	g	1956	0.1956	203	0.0203
Bonding Wire, Aluminum	0.0354						g				
Bonding Wire, Aluminum		Metals	Aluminum, metal	7429-90-5		0.0354	g	1000000	100	5491	0.5491
Silicon Semiconductor Die	0.0146						g				
Silicon Semiconductor Die		Metals	Gold, metal	7440-57-5		0.00014892	g	10200	1.02	23	0.0023
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00028902	g	19796	1.9796	44	0.0044
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.01416206	g	970004	97.0004	2196	0.2196
Silicon Semiconductor Die	0.0146						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000292	g	20000	2	45	0.0045
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.014308	g	980000	98	2219	0.2219
Header Assembly	5.6762						g				
Header Assembly		Metals	Aluminum Oxides (Al2O3)	1344-28-1		0.25613285	g	45124	4.5124	39731	3.9731
Header Assembly		Solvents, additives, and other materials	Calcium monoxide	1305-78-8		0.00133958	g	236	0.0236	207	0.0207
Header Assembly		Metals	Chromium oxide	1308-38-9		0.01543359	g	2719	0.2719	2394	0.2394
Header Assembly		Metals	Cobalt, metal	7440-48-4		0.0420947	g	7416	0.7416	6529	0.6529
Header Assembly		Metals	Copper, metal	7440-50-8		2.50212004	g	440809	44.0809	388149	38.8149
Header Assembly		Metals	Gold, metal	7440-57-5		0.02924946	g	5153	0.5153	4537	0.4537
Header Assembly		Metals	Iron, metal	7439-89-6		0.0680917	g	11996	1.1996	10562	1.0562
Header Assembly		Metals	Magnesium-oxide	1309-48-4		0.00133958	g	236	0.0236	207	0.0207
Header Assembly		Metals	Molybdenum, metal	7439-98-7		2.4890137	g	438500	43.85	386097	38.6097
Header Assembly		Nickel (external applications only)	Nickel	7440-02-0		0.14759823	g	26003	2.6003	22895	2.2895
Header Assembly		Glass	Silica, crystalline - quartz (SiO2)	14808-60-7		0.00855403	g	1507	0.1507	1326	0.1326
Header Assembly		Metals	Silver, metal	7440-22-4		0.03992071	g	7033	0.7033	6192	0.6192
Header Assembly		Metals	Tungsten, metal	7440-33-7		0.07363167	g	12972	1.2972	11421	1.1421
Header Assembly		Metals	Titanium (III) oxide (Ti2O3)	1344-54-3		0.00168016	g	296	0.0296	260	0.026
Silicon Semiconductor Die	0.0146						g				
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.000292	g	20000	2	45	0.0045
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.014308	g	980000	98	2219	0.2219
Silicon Semiconductor Die	0.0146						g				
Silicon Semiconductor Die		Metals	Gold, metal	7440-57-5		0.00014892	g	10200	1.02	23	0.0023
Silicon Semiconductor Die		Solvents, additives, and other materials	Other miscellaneous substances (less than 5%)	-		0.00028902	g	19796	1.9796	44	0.0044
Silicon Semiconductor Die		Glass	Silicon, doped	-		0.01416206	g	970004	97.0004	2196	0.2196
Capacitor, 0201	0.007						g				
Capacitor, 0201		Metals	Aluminum Oxides (Al2O3)	1344-28-1		0.00021744	g	31063	3.1063	33	0.0033
Capacitor, 0201		Metals	Copper, metal	7440-50-8		0.00043176	g	61680	6.168	66	0.0066
Capacitor, 0201		Metals	Gold, metal	7440-57-5		0.00044904	g	64148	6.4148	69	0.0069
Capacitor, 0201		Metals	Manganese dioxide	1313-13-9		0.00000708	g	1011	0.1011	1	0.0001
Capacitor, 0201		Nickel (external applications only)	Nickel	7440-02-0		0.00023316	g	33308	3.3308	36	0.0036
Capacitor, 0201		Metals	Tin, metal	7440-31-5		0.00006908	g	9869	0.9869	10	0.001
Capacitor, 0201		Metals	Barium titanate	12047-27-7		0.0059244	g	798921	79.8921	867	0.0867

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/mcdfs/MRF8P23160WHR3_IPC1752_v11.xml

http://www.freescale.com/mcdfs/MRF8P23160WHR3_IPC1752A.xml