

## Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

1752-2 1.1

ICP Web Site for information on IPC-1752 Standard  
<http://www.ipc.org/IPC-175x>

Form Type\*  
 Distribute

**Declaration Class\***  
**Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information**

### Supplier Information

<b>Company Name *</b> Fairchild Semiconductor	<b>Company Unique ID</b> 00-489-5751	<b>Unique ID Authority</b> Dun & Bradstreet	<b>Response Date*</b> Sat, Aug 24, 2013 03:22 AM
<b>Contact Name *</b> David Lancaster	<b>Title - Contact</b> Product Ecology	<b>Phone - Contact *</b> 801-562-7455	<b>Email - Contact *</b> david.lancaster@fairchildsemi.com
<b>Authorized Representative *</b> David Lancaster	<b>Title - Representative</b> Product Ecology	<b>Phone - Representative *</b> 801-562-7455	<b>Email - Representative *</b> david.lancaster@fairchildsemi.com

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight*	UOM	Unit Type
HMHA281R2	HMHA281R2	SOIC-4 HalfPitch			INTERNAL PENANG	0.054749	g	Each

### Manufacturing Process Information

Terminal Finish	Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	No Reflow cycles
Matte Tin (Sn)	CU Alloy	1	245 C	30 seconds	3

\* Required Field

RoHS Material Composition Declaration		Declaration Type * Custom
<b>RoHS Directive</b> 2011/65/EU	<b>RoHS Definition:</b> Quantity limit of 0.1% by mass (1000 PPM) in 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 for Cadmium	
<p>This document is Fairchild Semiconductor's statement regarding the directive 2011/65/EU of the European Parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Recast). The content of this document is based upon information collected from Fairchild Semiconductor supply chain, manufacturing facilities and affiliates worldwide.</p> <p>The FSC part number listed above and the homogenous materials in the product are compliant with the Directive 2011/65/EU. Fairchild has implemented systems to ensure our products are compliant to environmental regulations and laws worldwide. However, not all materials in Fairchild's products may have been independently verified regarding substance content. In the event of any issues arising from information in this document, the warranty section of Fairchild's standard terms and conditions of sale shall apply, unless alternate contracts have been agreed upon in writing by both parties.</p> <p>Note: The substance content disclosed herewith is approximate and is based on various methods including, engineering calculations, supplier surveys, Material Safety Data Sheets, analytical measurements. Fairchild may update this document without notification. This statement may not include information regarding the miniscule quantities of dopant and metal materials in the electrical devices contained within the finished product. CAS numbers listed for Resin substances are generic and may contain alternate substances of similar composition.</p>		
<b>RoHS Declaration *</b>	<b>1 - Item(s) does not contain RoHS restricted substances per the definition above</b>	<b>Supplier Acceptance * Accepted</b>
<p><b>Exemptions:</b> If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.</p>		
<p>Exemption List Version EL-2011/534/EU None</p>		

#### Declaration Signature

Supplier Signature	 DAVID LANCASTER - PRODUCT ECOLOGY MANAGER
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**Homogeneous Material Composition Declaration for Electronic Products**

Item/SubItem Name SOIC-4 HalfPitch

Component	Material	Weight (mg)	Jig Level	Substance Category	Substance	Weight (mg)	CAS	PPM
Chip	Other inorganic materials	0.267	Supplier		Gallium Arsenide	0.087	1303-00-0	1580
			Supplier		Silicon	0.180	7440-21-3	3288
Coupling Gel	Other Organic Materials	8.800	Supplier		Dimethyl Cyclosiloxanes	1.760	69430-24-6	32147
			Supplier		Methyltrimethoxysilane	4.400	1185-55-3	80367
			Supplier		Titanium Dioxide	2.640	13463-67-7	48220
Die Attach	Other Organic Materials	0.021	Supplier		Acrylic Resin	0.005	54208-63-8	97
			Supplier		Silver	0.016	7440-22-4	290
Encapsulation	Thermoplastics	31.422	B	Antimony/Antimony Compounds	Antimony Trioxide	0.942	1309-64-4	17206
			B	Brominated Flame Retardants (other than PBCs or PBDEs)	Bromine Resin	1.260	6386-73-8	23014
			Supplier		Epoxy Resin	7.220	29690-82-2	131876
			Supplier		Silica, vitreous	22.000	60676-86-0	401837
Lead Frame	Copper & its alloys	13.225	Supplier		Copper	12.900	7440-50-8	235623
			Supplier		Iron	0.304	7439-89-6	5553
			Supplier		Phosphorus	0.004	7723-14-0	72
			Supplier		Silver	0.001	7440-22-4	24
			Supplier		Zinc	0.016	7440-66-6	289
Plating	Other Nonferrous metals & alloys	0.961	Supplier		Tin	0.961	7440-31-5	17553
Wire Bond	Precious metals	0.053	Supplier		Gold	0.053	7440-57-5	964