



Certificate of Compliance

DUNS		Document Date	URL for Additional Information
00-489-5751		Fri, Aug 08, 2014 06:17 PM	Fairchildsemi.com
Contact	Title	Phone	Email
David Lancaster	Product Ecology Manager	801.562.7455	david.lancaster@fairchildsemi.com

Material Declaration Processing Information

FSID	Material Declaration	Site Owner	Assembly Location	Package Weight(g)	MSL Rating	
FFPF20UP20DNTU	TO-220F-3	SUZHOU	INTERNAL SUZHOU	2.1123400	Not Applicable	
Terminal Finish	Base Alloy	Green Status		Reflow Cycles	Max Time at Temp	Peak Temp
Matte Tin (Sn)	CU Alloy	This product is not considered GREEN as defined by Fairchild's Green Policy. Please use this link to access Fairchild's Green Product Definition. Fairchild's Green Policy		Not Applicable		

Homogenous Material Composition Declaration

Component	Material	Weight of Component(mg)	Substance	Weight (mg)	CAS	PPM in FSID
Chip	Other inorganic materials	13.5000	Silicon	13.5000	7440-21-3	6391
Die Attach	Other Nonferrous metals & alloys	4.0100	Lead	3.7493	7439-92-1	1775
			Silver	0.0601	7440-22-4	28
			Tin	0.2005	7440-31-5	95
Encapsulation	Thermoplastics	784.9300	Antimony Trioxide	19.6000	1309-64-4	9279
			Bromine Resin	23.5000	6386-73-8	11125
			Carbon Black	7.8493	1333-86-4	3716
			Epoxy Resin	157.0000	29690-82-2	74325
			Silica, vitreous	576.9807	60676-86-0	273148
Lead Frame	Copper & its alloys	1294.2600	Copper	1290.0000	7440-50-8	610697
			Iron	1.2900	7439-89-6	611
			Phosphorus	0.3900	7723-14-0	185
			Silver	2.5800	7440-22-4	1221
Plating	Other Nonferrous metals & alloys	13.2000	Tin	13.2000	7440-31-5	6249
Wire Bond	Aluminum & its alloys	2.4400	Aluminum	2.4400	7429-90-5	1155

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.

Additionally, the following should be noted:

- 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.

RoHS Declaration

The European Parliament and of the Council on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive restricts the concentration of Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr6+), Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) to 0.1% (1000 PPM) and restricts the concentration of Cadmium (Cd) to 0.01% (100 PPM) in homogeneous materials of electronic products.

The FSC part number listed above and the homogenous materials in the product are compliant with the Directive 2011/65/EU.

Exemptions as declared for the directive are:

7(a)-Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85 % by weight or more lead).

China RoHS

With the possible exception of lead, if applicable (refer to the RoHS Declaration statement above), this product and all homogeneous materials in the product comply with the China RoHS standard SJ/T 11363-2006.

REACH Compliance

European Union Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) entered into force on June 1, 2007. Fairchild Semiconductor agrees with the purpose of REACH, which is to ensure a high level of protection of human health and the environment. Fairchild semiconductor is compliant with all applicable requirements of REACH and upon request will provide information regarding the chemical composition of our products.

Fairchild Semiconductor is neither a manufacturer nor importer of preparations into Europe and therefore the registration requirements of REACH do not apply to us. It is expected that any electronic materials manufacturer that uses preparations from Europe in their products will ensure compliance with REACH registration requirements.

Product (articles) manufacturers or importers into Europe are obligated under Article 33 of REACH to inform recipients of any articles that contain chemicals on the Substances of Very High Concern (SVHC) candidate list above a 0.1% concentration (by weight per article). Products manufactured and marketed by Fairchild Semiconductor do not contain substances on the REACH SVHC candidate list (as published by the ECHA on the following publication dates) in concentrations greater than 0.1% by weight per article:

October 28, 2008; January 13, 2010; March 30, 2010; June 18, 2010; December 15, 2010; June 20, 2011; December 19, 2011; June 18, 2012*; December 19, 2012; June 20, 2013, December 16, 2013; June 16, 2014.

Fairchild Semiconductor will continue to monitor the developments of REACH and is committed to meeting our responsibilities as an environmentally-responsible company. Please refer to the web site below for additional information regarding SVHC:

[ECHA European Chemical Agency](http://echa.europa.eu)

* Diboron trioxide was added to REACH Annex XIV as a Substance of Very High Concern(SVHC) on June 18, 2012. Fairchild products in glass encapsulated packages may list Diboron trioxide as a constituent material in the glass encapsulation, in a concentration greater than 0.1%; REACH classifies; glass as a substance of unknown or variable composition, complex reaction products or biological matter (UVCB) containing the elements silica, calcium, sodium, potassium, magnesium and other cautions bonded together with oxygen. In glass, these elements are bonded into a non crystalline molecular structure with completely different properties than the starting material; Therefore Diboron trioxide is not present in the finished Fairchild product and does not require notification of the presents of a SVHC.

Joint Industry Guide (JIG) 101

With the exception of RoHS exemptions listed above (if applicable), this product does not contain any restricted substances listed in the Joint Industry Guide (JIG) 101 in concentrations greater than the threshold listed. The list of JIG substances may be viewed using this web link.

[Joint Industry Guide \(JIG\) 101](#)

The signature below is of the Company's designated personnel with delegated product ecology compliance responsibility and verifies that to the best of our knowledge the statements above are valid and accurate.

David Lancaster



Product Ecology Manager

Fairchild Semiconductor

3333 W 9000 S

West Jordan, UT 84088

Tel 1-801-562-7455

Email: david.lancaster@fairchildsemi.com



Environmental Declaration

The content of this document is based upon information collected from Fairchild Semiconductor's supply chain, manufacturing facilities and affiliates worldwide. Providing for limitations below, Fairchild Semiconductor certifies that the information provided in this document is correct as of the date indicated on this page.

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.