



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D
<i>* : Required Field</i>			

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2014-02-21
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Giovanni Giacopello	Representative Title	AMS & IPD Materials Declaration Champion
Representative Phone *	Refer to "Supplier Comment" section	Representative Email *	Refer to "Supplier Comment" section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/internet/com/support/online_tech_support.jsp		

Uncertainty Statement

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	Standard
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Legal Statement

Supplier certifies that it gathered the provided information and 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. 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 Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	HFUJ*G23F022	A	ZS1A	2014-02-21
Amount	UoM	Unit type	ST ECOPACK Grade	
1714.68	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if coating is used o	Tin (Sn), matte	Copper Alloy		



Package Designator	Size	Nbr of instances	Shape	
SIP	10.2 - 9.15 - 4.5	3	Through-hole	
Comment	Package:TO 220 ISOL FULL PACK 0.5 AB; MDF valid for STTH2002CFP			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-16th December 2013				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	HFUI*G23F022					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Silicon die	Other inorganic materials	4.829	mg	supplier	die	Silicon (Si)	7440-21-3		4.664	mg	965831	2720
Silicon die				supplier	metallization	Aluminium (Al)	7429-90-5		0.058	mg	12011	34
Silicon die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.067	mg	13875	39
Die Attach				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	414	1
Die Attach				supplier	back side metallization	Gold (Au)	7440-57-5		0.006	mg	1242	3
Silicon die				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.032	mg	6627	19
Lead frame	Other inorganic materials	927.599	mg	supplier	Alloy	Copper(CU)	7440-50-8		926.207	mg	998499	540163
Lead frame				supplier	Alloy	Iron(Fe)	7439-89-6		0.928	mg	1000	541
Lead frame				supplier	Alloy	Phosphorus(P)	7723-14-0		0.464	mg	500	271
Soft solder	Solder	4.816	mg	supplier	solder	Tin(Sn)	7440-31-5		0.096	mg	19934	56
Soft solder				supplier	solder	Silver(Ag)	7440-22-4		0.121	mg	25125	71
Soft solder				supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	4.599	mg	954942	2682
Bonding wire	Other inorganic materials	46.464	mg	supplier	wire	Aluminium(Al)	84195-93-7		46.464	mg	1000000	27098
Encapsulation	Other inorganic materials	726.109	mg	supplier	molding compound	Solid Epoxy Resin	proprietary		72.611	mg	100000	42347
Encapsulation				supplier	Molding compound	Phenol Resin	proprietary		50.828	mg	70001	29643
Encapsulation				supplier	Molding compound	Fused Silica	60676-86-0		36.668	mg	50499	21385
Encapsulation				supplier	Molding compound	Crystalline Silica	14808-60-7		544.582	mg	750000	317600
Encapsulation				supplier	Molding compound	Carbon Black	1333-86-4		0.363	mg	500	212
Encapsulation				supplier	Molding compound	Metal Hydroxide	proprietary		21.057	mg	29000	12280
Finishing	Solder	4.863	mg	supplier	Connection Coating	Tin(Sn)	7440-31-5		4.863	mg	1000000	2836