



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 *	01/14/2015
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 *	Giuseppe Vitali Palma	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

While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.


Legal Statement

Supplier Acceptance *	true	Legal Declaration *	Standard
------------------------------	------	----------------------------	----------

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
	HSDZ*Z41P02Z	A	SH1A	01/14/2015
Amount	UoM	Unit type	ST ECOPACK Grade	
1900.00	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
NAC	NAC	NAC		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10X9.1X4.5	2	Through-hole	
Comment	Package: TO 220 AB NON ISOL; MD valid for STPS20120CT			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
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)	true
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
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : REACH-16th June 2014				
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	HSD2*241P0ZZ					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	4.628	mg	supplier	die	Silicon (Si)	7440-21-3		4.384	mg	947277	2307
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.181	mg	39110	95
die (s)				supplier	metallization	Titanium (Ti)	7440-32-6		0.004	mg	864	2
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.006	mg	1296	3
die (s)				supplier	metallization	Nickel (Ni)	7440-02-0		0.02	mg	4322	11
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.027	mg	5834	14
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.006	mg	1296	3
Leadframe	Copper & its alloys	1144.627	mg	supplier	alloy	Copper (Cu)	7440-50-8		1143.125	mg	998688	601645
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.527	mg	460	277
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.961	mg	840	506
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.013	mg	11	7
Leadframe				supplier	metallization	Phosphorus (P)	12185-10-3		0.001	mg	1	1
Soft solder	Other Organic Materials	3.671	mg	JIG R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	3.506	mg	955053	1845
Soft solder				supplier	solder	Silver (Ag)	7440-22-4		0.092	mg	25061	48
Soft solder				supplier	solder	Tin (Sn)	7440-31-5		0.073	mg	19886	38
Bonding wire	Other inorganic materials	8.099	mg	supplier	wire	Aluminium (Al)	7429-90-5		8.099	mg	1000000	4263
encapsulation	Other Organic Materials	734.734	mg	supplier	mold compound	Silica, vitreous	60676-86-0		639.219	mg	870001	336431
encapsulation				supplier	mold compound	Epoxy resin	Proprietary		73.473	mg	99999	38670
encapsulation				supplier	mold compound	Phenol resin	Proprietary		18.368	mg	25000	9667
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		3.674	mg	5000	1934
connections coating	Solder	4.241	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		4.241	mg	1000000	2232