



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D

** : Required Field*


Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2015-11-30
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Rossana Bonaccorso	Representative Title	IPD MD 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/web/en/support/support.html		

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	<p>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.</p>		

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STF23N80K5	TSFP*VK86B52	A	SHENZHEN B/E	2015-11-30
	Amount	UoM	Unit type	ST ECOPACK Grade
	1900.00	mg	Each	ECOPACK2

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	10, 9.05, 4.4	3	THROUGH HOLE	
Comment	TO 220 ISO FULL PACK IN LINE			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	false
2 - 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
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	false
5 - Product(s) is obsolete, no information is available	false
6 - 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-15th June 2015				
Query				Response
1 - Product(s) 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	TSFP*VK86B52					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	Other inorganic materials	16.433	mg	supplier	die	Silicon (Si)	7440-21-3		15.752	mg	958559	8291
				supplier	metallization	Aluminium (Al)	7429-90-5		0.293	mg	17830	154
				supplier	Passivation	Silicon Nitride	12033-89-5		0.068	mg	4138	36
				supplier	Passivation	Silicon Oxide	7631-86-9		0.167	mg	10162	88
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.008	mg	487	4
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.107	mg	6511	56
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.038	mg	2312	20
Leadframe	Copper & its alloys	1257.964	mg	supplier	alloy	Copper (Cu)	7440-50-8		1251.376	mg	994763	658619
				supplier	alloy	Iron (Fe)	7439-89-6		1.253	mg	996	659
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.376	mg	299	198
				supplier	metallization	Nickel (Ni)	7440-02-0		4.928	mg	3917	2594
				supplier	metallization	Phosphorus (P)	12185-10-3		0.031	mg	25	16
Soft solder	Solder	14.573	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	13.918	mg	955054	7325
				supplier	solder	Silver (Ag)	7440-22-4		0.364	mg	24978	192
				supplier	solder	Tin (Sn)	7440-31-5		0.291	mg	19968	153
Bonding wires	Other inorganic materials	1.410	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.409	mg	999291	742
				supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	709	1
Encapsulation	Other Organic Materials	603.258	mg	supplier	mold compound	Quartz	14808-60-7		422.281	mg	700001	222253
				supplier	mold compound	Silica, vitreous	60676-86-0		45.244	mg	74999	23813
				supplier	mold compound	Epoxy resin	25068-38-6		84.456	mg	140000	44451
				supplier	mold compound	phenol resin	29690-82-2		42.228	mg	70000	22225
				supplier	mold compound	metal hydroxide	21645-51-2		6.033	mg	10001	3175
Connections coating	Solder	6.362	mg	supplier	mold compound	carbon black	1333-86-4		3.016	mg	5000	1587
				supplier	solder alloy	Tin (Sn)	7440-31-5		6.362	mg	1000000	3348