



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-07-12
Contact Name *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Authorized Representative *	Rossana Bonaccorso
Authorized Representative *	Rossana Bonaccorso	Representative Title	ADG 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

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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
STF21N65M5(045Y)	TSB7*M5F5B52	A	3068	2018-07-12
	Amount	UoM	Unit type	ST ECOPACK Grade
	1900.00	mg	Each	ECOPACK® 2
	Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant (in each organic material)		

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

Package Designator	Size	Nbr of instances	Shape	
SIP	10.2-16.15-4.5	3	Through hole	
Comment	TO-220FP NARROW LEADS			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
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
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 25th May 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.72	Die - Leadframe	378
Lead	9.49	Soft solder	4993

QueryList : REACH-27th June 2018				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	9.49	Soft solder	4993
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	9.49	soft solder	955003

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TS87*MSF5852					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	11.457	mg	supplier	die	Silicon (Si)	7440-21-3		10.569	mg	922493	5563
				supplier	metallization	Aluminium (Al)	7429-90-5		0.197	mg	17195	104
				supplier	metallization	Copper (Cu)	7440-50-8		0.073	mg	6373	38
				supplier	metallization	Nickel (Ni)	7440-02-0		0.433	mg	37793	228
				supplier	metallization	Silver (Ag)	7440-22-4		0.026	mg	2269	14
				supplier	metallization	Titanium (Ti)	7440-32-6		0.007	mg	611	4
				supplier	Passivation	Silicon Nitride	12033-89-5		0.045	mg	3928	24
				supplier	Passivation	Silicon Oxide	7631-86-9		0.004	mg	349	2
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.005	mg	436	3
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.072	mg	6284	38
Leadframe	M-004 Copper and its alloys	604.765	mg	supplier	back side metallization	Silver (Ag)	7440-22-4		0.026	mg	2269	14
				supplier	alloy	Copper (Cu)	7440-50-8		603.748	mg	998318	317762
				supplier	alloy	Iron (Fe)	7439-89-6		0.605	mg	1000	318
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.181	mg	300	94
				supplier	metallization	Nickel (Ni)	7440-02-0		0.214	mg	354	113
Soft solder	Solder	9.934	mg	SVHC	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	9.487	mg	955003	4993
				supplier	solder	Silver (Ag)	7440-22-4		0.248	mg	24965	131
				supplier	solder	Tin (Sn)	7440-31-5		0.199	mg	20032	105
				supplier	wire	Aluminium (Al)	7429-90-5		1.709	mg	995341	899
Bonding wires	M-011 Other inorganic materials	1.717	mg	supplier	wire	Magnesium (Mg)	7439-95-4		0.008	mg	4659	4
				supplier	wire							
Encapsulation	M-011 Other inorganic materials	1266.636	mg	supplier	mold compound	Quartz	14808-60-7		886.645	mg	700000	466655
				supplier	mold compound	Silica, vitreous	60676-86-0		94.998	mg	75000	49999
				supplier	mold compound	Epoxy resin	25068-38-6		177.329	mg	140000	93331
				supplier	mold compound	phenol resin	29690-82-2		88.665	mg	70000	46666
				supplier	mold compound	metal hydroxide	21645-51-2		12.666	mg	10000	6666
				supplier	mold compound	carbon black	1333-86-4		6.333	mg	5000	3333
Connections coating	Solder	5.491	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.491	mg	1000000	2890