



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 *	2018-04-23
Contact Name *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Authorized Representative *	Refer to Supplier Comment section
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
STB46N30M5	R1D2*M53LA52	A	3068	2018-04-23
Amount	UoM	Unit type	ST ECOPACK Grade	
1380	mg	Each	ECOPACK1	
Comment		ECOPACK® or ECOPACK® 1 is STMicroelectronics trade name for ROHS compliant devices		

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
1	245	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy		
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape
SIP	10.2-9.15-4.5	2	gull wing
Comment	D2PAK		

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 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 : California Prop65 list, dated 15th December 2017			
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	1.16	Die - Leadframe	841
Lead	19.82	Soft solder	14364
Antimony trioxide	6.62	Mold compound	4797

QueryList : REACH-15th January 2018				
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
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				true
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	RID2*M53LA52									
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	24.606	mg	supplier	die	Silicon (Si)	7440-21-3		22.701	mg	922583	16451				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.423	mg	17190	307				
				supplier	metallization	Copper (Cu)	7440-50-8		0.156	mg	6340	111				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.929	mg	37753	673				
				supplier	metallization	Silver (Ag)	7440-22-4		0.055	mg	2236	40				
				supplier	metallization	Titanium (Ti)	7440-32-6		0.016	mg	650	12				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.097	mg	3942	70				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.008	mg	325	6				
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.011	mg	447	8				
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.155	mg	6299	112				
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.055	mg	2235	40				
				Leadframe	M-004 Copper and its alloys	778.632	mg	supplier	alloy	Copper (Cu)	7440-50-8		777.536	mg	998592	563432
								supplier	alloy	Iron (Fe)	7439-89-6		0.779	mg	1000	564
supplier	alloy	Iron Phosphide (FeP)	26508-33-8						0.234	mg	301	170				
supplier	metallization	Nickel (Ni)	7440-02-0						0.077	mg	99	56				
supplier	metallization	Phosphorus (P)	7723-14-0						0.006	mg	8	4				
Soft solder	Solder	20.756	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	19.822	mg	955001	14364				
				supplier	solder	Silver (Ag)	7440-22-4		0.519	mg	25005	376				
				supplier	solder	Tin (Sn)	7440-31-5		0.415	mg	19994	301				
Bonding wires	M-011 Other inorganic materials	0.131	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.130	mg	992366	94				
				supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	7634	1				
				supplier	Ribbon	Aluminium (Al)	7429-90-5		2.090	mg	1000000	1514				
Encapsulation	M-011 Other inorganic materials	551.296	mg	supplier	mold compound	Silica, vitreous	60676-86-0		444.343	mg	805997	321988				
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		38.591	mg	70001	27964				
				supplier	mold compound	Phenol resin	9003-35-4		22.052	mg	40000	15980				
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		33.078	mg	60000	23970				
				supplier	mold compound	Antimony Trioxide	1309-64-4		6.616	mg	12001	4794				
				supplier	mold compound	Brominated Epoxy Resin	40039-93-8		3.859	mg	7000	2796				
				supplier	mold compound	Carbon black	1333-86-4		2.757	mg	5001	1998				
Connections coating	Solder	2.489	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		2.489	mg	1000000	1804				