



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 *	2018-11-20
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Antonella Lanzafame	Representative Title	AMG 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

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
LDK320AM-R	VRWV*U1F7AB5	A	ZS1A	2018-11-20
Amount	UoM	Unit type	ST ECOPACK Grade	
16.00	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
ting is used or other bulk terminat	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.8 - 1.5 - 0.9	5	gull wing	
Comment	Package: SOT 23 5L			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	true
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)	false
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

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				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

16.000

Material Composition Declaration						Mfr Item Name	VRWV*U1F7AB5	16.0000				
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die or Dies (choose)	Other inorganic materials	0.442	mg	supplier	die	Silicon (Si)	7440-21-3		0.418	mg	945701	26125
				supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	11312	313
				supplier	metallization	Tungsten (W)	7440-33-7		0.004	mg	9050	250
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	2262	63
				supplier	Passivation	Silicon Oxide	7631-86-9		0.009	mg	20362	563
				supplier	polymer die coating	PIXI Gamma-butyrolactone	96-48-0		0.005	mg	11312	313
Leadframe	Copper & its alloys	6.825	mg	supplier	alloy	Copper(CU)	7440-50-8		6.388	mg	935971	399250
				supplier	alloy	Iron(Fe)	7439-89-6		0.155	mg	22711	9688
				supplier	alloy	Iron Phosphide (Fe2P)	1310-43-6		0.005	mg	733	313
				supplier	alloy	Zinc(Zn)	7440-66-6		0.008	mg	1172	500
				supplier	metallization	Nickel (Ni)	7440-02-0		0.248	mg	36337	15500
				supplier	metallization	Palladium (Pd)	7440-05-3		0.015	mg	2198	938
Die Attach	Other Organic Material	0.205	mg	supplier	metallization	Gold (Au)	7440-57-5		0.006	mg	879	375
				supplier	glue	Silver (Ag)	7440-22-4		0.141	mg	687805	8813
				supplier	glue	methylene diacrylate	42594-17-2		0.051	mg	248780	3188
				supplier	glue	Dicyclopentenloxyethyl methacrylate	68586-19-6		0.006	mg	29268	375
				supplier	glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.006	mg	29268	375
				supplier	glue	Bis(alpha,dimethylbenzyl) peroxide	80-43-3		0.001	mg	4878	63
Bonding wire	Other organic materials	0.064	mg	supplier	wire	Copper(CU)	7440-50-8		0.064	mg	1000000	4000
	Other Organic Materials	8.464	mg	supplier	mold compound	Silica, vitreous	60676-86-0		7.279	mg	859995	454938
				supplier	mold compound	phenolic resin	29690-82-2		0.254	mg	30009	15875
				supplier	mold compound	epoxy resin	9003-35-4		0.491	mg	58010	30688
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.424	mg	50095	26500
				supplier	mold compound	carbon black	1333-86-4		0.016	mg	1890	1000