



## Materials Declaration Form

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

<b>Supplier Information</b>			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2016-03-04
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Authorized Representative *</b>	Giovanni Giacopello	<b>Representative Title</b>	IPD MD CHAMPION
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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 omprehensive 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
ST1S12G18R	HVAR*UP23AB5	A	ZS1A	2016-03-04
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	
NAC	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.90X1.60X0.85	5	gull wing	
Comment	Package: TSOT23-5L			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	<b>true</b>
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-17th December 2015				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				<b>true</b>
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	HVAR*UP23AB5					
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	0.623	mg	supplier	die	Silicon (Si)	7440-21-3		0.579	mg	929375	36188
				supplier	metallization	Aluminium (Al)	7429-90-5		0.009	mg	14446	563
				supplier	metallization	Tungsten (W)	7440-33-7		0.007	mg	11236	438
				supplier	Passivation	Silicon Nitride	12033-89-5		0.002	mg	3210	125
				supplier	Passivation	Silicon Oxide	7631-86-9		0.016	mg	25682	1000
				supplier	polymer die coating	PIXI Gamma-butyrolactone	96-48-0		0.010	mg	16051	625
Leadframe	Copper & its alloys	7.218	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.953	mg	963286	434563
				supplier	alloy	Iron (Fe)	7439-89-6		0.163	mg	22582	10188
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.002	mg	277	125
				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1247	563
				supplier	metallization	Nickel (Ni)	7440-02-0		0.083	mg	11499	5188
				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	970	438
Die atch	Other organic materials	0.070	mg	supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	139	63
				supplier	glue	Silver (Ag)	7440-22-4		0.048	mg	685714	3000
				supplier	glue	methylene diacrylate	42594-17-2		0.018	mg	257144	1125
				supplier	glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.002	mg	28571	125
				supplier	glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	28571	125
				supplier	wire	Gold (Au)	7440-57-5		0.150	mg	1000000	9375
Bonding wires	Precious metals	0.150	mg	supplier	wire	Gold (Au)	7440-57-5		0.150	mg	1000000	9375
Encapsulation	Other organic materials	7.939	mg	supplier	mold compound	Silica, vitreous	60676-86-0		6.827	mg	859932	426688
				supplier	mold compound	phenolic resin	29690-82-2		0.238	mg	29979	14875
				supplier	mold compound	epoxy resin	9003-35-4		0.461	mg	58068	28813
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.397	mg	50006	24813
				supplier	mold compound	carbon black	1333-86-4		0.016	mg	2015	1000