



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 *	2017-03-14
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Antonella Lanzafame	Representative Title	AMG Materials Declaration 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
TSV851AILT	IYWY*V801AAL	A	ZS1A	2017-03-14
	Amount	UoM	Unit type	ST ECOPACK Grade
	16.37	mg	Each	ECOPACK® 3

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	
Not Applicable ; if coating is used on	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.9 - 1.6 - 1.05	5	gull wing	
Comment	Package: SOT 23-5			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
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
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-12th January 2017				
Query				Response
The product 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	IYWI*V801AAL					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Silicon die	Other inorganic materials	0.342	mg	supplier	die	Silicon (Si)	7440-21-3		0.331	mg	967836	20220
Silicon die				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	8772	183
Silicon die				supplier	passivation	Silicon Nitride (SiN)	12033-89-5		0.001	mg	2924	61
Silicon die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.007	mg	30468	428
Leadframe	Copper & its alloys	6.925	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.641	mg	958989	405681
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.182	mg	26282	11118
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.002	mg	289	122
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1300	550
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.083	mg	11986	5070
Leadframe				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	1011	428
Leadframe				supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	144	61
Die attach	Other inorganic materials	0.078	mg	supplier	glue	Silver (Ag)	7440-22-4		0.056	mg	717949	3421
Die attach				supplier	glue	methylene diacrylate	42594-17-2		0.013	mg	166667	794
Die attach				supplier	glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.003	mg	38462	183
Die attach				supplier	glue	Bismaleimide resin	35325-39-4		0.003	mg	38462	183
Die attach				supplier	glue	Palladium (Pd)	7440-05-3		0.001	mg	12821	61
Die attach				supplier	glue	Dicumyl peroxide	80-43-3		0.002	mg	25641	122
Bonding wire	Precious metals	0.152	mg	supplier	wire	Gold (Au)	7440-57-5		0.152	mg	1000000	9285
encapsulation	Other inorganic materials	8.873	mg	supplier	mold compound	Epoxy Resin	25068-38-6		0.393	mg	44292	24007
encapsulation				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.18	mg	20286	10996
encapsulation				supplier	mold compound	Phenol resin	25068-38-6		0.358	mg	40347	21869
encapsulation				supplier	mold compound	Silica	60676-86-0		6.981	mg	786769	426451
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.036	mg	4057	2199
encapsulation				supplier	mold compound	Zinc hydroxide	20427-58-1		0.21	mg	23667	12828
encapsulation				supplier	mold compound	Magnesium hydroxide	1309-42-8		0.715	mg	80582	43677