



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2016-07-01
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Antonella Lanzafame	Representative Title	AMG Materials Declaration Champion
Representative Phone *	Refer to Supplier Comment section		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
TSB611ILT	HYWY*A231AJ6	A	ZS1A	2016-07-01
Amount	UoM	Unit type	ST ECOPACK Grade	
16.37	mg	Each	ECOPACK® 3	
	Comment	ECOPACK® 3 is STMicroelectronics trade name for ROHS compliant device without use of any ROHS exemption and without Halogen nor Antimony		

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Nicke/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	SOT 23-5			

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
Exemption Id.	Description

QueryList : REACH-20th June 2016				
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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	HWY*A231AJ6					
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	0.778	mg	supplier	die	Silicone (Si)	7440-21-3		0.778	mg	1000000	46365
Leadframe	Copper and its alloy	7.367	mg	supplier	alloy	Copper	7440-50-8		7.097	mg	976109	423702
				supplier	alloy	Iron	7439-89-6		0.166	mg	22600	9896
				supplier	alloy	Phosphorus	7723-14-0		0.002	mg	215	122
				supplier	alloy	Zinc	7440-66-6		0.009	mg	1076	550
				supplier	metallization	Nickel	7440-02-0		0.085	mg	916667	5070
				supplier	metallization	Palladium	7440-05-3		0.007	mg	75000	428
				supplier	metallization	Gold	7440-57-5		0.001	mg	8333	61
Die attach	Other inorganic materials	0.070	mg	supplier	glue	Silver	7440-22-4		0.057	mg	677419	3421
				supplier	glue	Carbocyclic Acrylates	proprietary		0.007	mg	258065	428
				supplier	glue	Bismaleimide resin	35325-39-4		0.002	mg	32258	122
				supplier	glue	2-preponoic acid, 2-methy	68586-19-6		0.002	mg	32258	122
				supplier	glue	Additive	Proprietary		0.002	mg	28818	122
Bonding wires	Other Inorganic Material	0.153	mg	supplier	wire	Au	7440-57-5		0.153	mg	1000000	9163
Encapsulation	Other Organic Materials	8.002	mg	supplier	mold compound	Epoxy Resin-1	Proprietary		0.160	mg	925978	9530
				supplier	mold compound	Epoxy Resin-2	Proprietary		0.160	mg	40037	9530
				supplier	mold compound	Epoxy Resin-3	Proprietary		0.160	mg	29981	9530
				supplier	mold compound	Phenol resin	29690-82-2		0.320	mg	4004	19120
				supplier	mold compound	Silica	60676-86-0		6.946	mg	868048	414722
				supplier	mold compound	Carbon Black	1333-86-4		0.016	mg	2046	977
				supplier	mold compound	Others	Proprietary		0.240	mg	30047	14356