



## 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>	2016-12-16
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Authorized Representative *</b>	Giovanni Giacobello	<b>Representative Title</b>	ADG 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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<b>Legal Statement</b>			
<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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
BAT48ZFILM	HJUF*NHBAT48	A	Z55A	2016-12-16
Amount	UoM	Unit type	ST ECOPACK Grade	
9.00	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	Tin (Sn), matte	Alloy 42		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.672 - 1.57 - 1.094	2	gull wing	
Comment	Package: SOD 123 2L 1.0mm			

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
5 - Product(s) is obsolete, no information is available	false
6 - Product(s) is unknown, no information is available	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 : 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						Mfr Item Name	HJUF*NHBT48					
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	0.146	mg	supplier	die	Silicon (Si)	7440-21-3		0.137	mg	938356	15222
				supplier	metallization	Aluminium (Al)	7429-90-5		0.007	mg	47945	778
				supplier	Passivation	Silicon Oxide	7631-86-9		0.001	mg	6849	111
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.001	mg	6849	111
Leadframe	Copper & its alloys	3.084	mg	supplier	alloy	Iron(Fe)	7439-89-6		1.730	mg	560960	192222
				supplier	alloy	Nickel (Ni)	7440-02-0		1.230	mg	398833	136667
				supplier	alloy	Manganese (Mn)	7439-96-5		0.018	mg	5837	2000
				supplier	alloy	Cobalt (Co)	7440-48-4		0.015	mg	4864	1667
				supplier	metallization	Silver(Ag)	7440-22-4		0.091	mg	29507	10111
Bonding wire	Precious metals	0.014	mg	supplier	wire	Gold (Au)	7440-57-5		0.014	mg	1000000	1556
Encapsulation	Other Organic Materials	5.543	mg	supplier	mold compound	Epoxy Resin	25068-38-6		0.351	mg	63323	39000
				supplier	mold compound	Phenol Resin	29690-82-2		0.351	mg	63323	39000
				supplier	mold compound	Silica, vitreous	60676-86-0		4.652	mg	839257	516889
				supplier	mold compound	Carbon black	1333-86-4		0.014	mg	2526	1556
				supplier	mold compound	Aromatic poly-phosphate	Proprietary		0.175	mg	31571	19444
Connections coating	Solder	0.213	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		0.213	mg	1000000	23667