



## 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>			

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2015-09-14
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	Refer to "Supplier Comment" section
<b>Contact Phone *</b>	Refer to "Supplier Comment" section	<b>Contact Email *</b>	Refer to "Supplier Comment" section
<b>Authorized Representative *</b>	Emilio Castelli	<b>Representative Title</b>	APG 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/online_tech_support.html">http://www.st.com/web/en/support/online_tech_support.html</a>		

**Uncertainty Statement**

While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.


**Legal Statement**

<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
TDA7388A	P848*LN23AA6	A	SH1A	2015-09-14
Amount		UoM	Unit type	ST ECOPACK Grade
7083.90		mg	Each	ECOPACK® 2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
NAC	NAC	NAC		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape
SMD	28.9x15.5x4.5	27	Through-hole
Comment			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7a' exemption (other selected exemptions may apply)	true
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-16th June 2014				
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	P848*LN23AA6					
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	21.346	mg	supplier	die	Silicon (Si)	7440-21-3		20.401	mg	955729	2880
Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.318	mg	14897	45
Die				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.089	mg	4169	13
Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.169	mg	7917	24
Die				supplier	back side metallization	Chromium (Cr)	7440-47-3		0.016	mg	750	2
Die				supplier	back side metallization	Gold (Au)	7440-57-5		0.042	mg	1958	6
Die				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.142	mg	6652	20
Die				supplier	glass coating	Glass: Silicon Dioxide (SiO2)	7631-86-9		0.169	mg	7917	24
Leadframe	Copper & its alloys	5214.975	mg	supplier	alloy	Copper (Cu)	7440-50-8		5205.175	mg	998121	734789
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		2.397	mg	460	338
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		4.378	mg	840	618
Leadframe				supplier	metallization	Silver (Ag)	7440-22-4		3.025	mg	580	427
Die attach		13.726	mg	JIG - R	Soft Solder	Lead (Pb)	7439-92-1	7a-Lead in high me	13.383	mg	975011	1889
Die attach				supplier	Soft Solder	Silver (Ag)	7440-22-4		0.206	mg	15008	29
Die attach				supplier	Soft Solder	Tin (Sn)	7440-31-5		0.137	mg	9981	19
Bonding wire				supplier	wire	Copper (Cu)	7440-50-8		4.788	mg	1000000	676
encapsulation		1790.479	mg	supplier	mold compound	Amorphous Silica	7631-86-9		1521.907	mg	850000	214840
encapsulation				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		107.428	mg	60000	15165
encapsulation				supplier	mold compound	epoxy resin	Proprietary		71.619	mg	40000	10110
encapsulation				supplier	mold compound	Phenol resin	Proprietary		71.619	mg	40000	10110
encapsulation				supplier	mold compound	Carbon black	1333-86-4		12.534	mg	7000	1769
encapsulation				supplier	mold compound	Bismuth (Bi)	7440-69-9		5.372	mg	3000	758
connections coating	Solder	38.585	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		38.585	mg	1000000	5447