



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2015-09-10
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 *	Giovanni Giacobello	Representative Title	IPD 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/internet/com/support/online_tech_support.jsp		

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
	TLDZ*B558S6F	A	Z8GA	2015-09-10
Amount	UoM	Unit type	ST ECOPACK Grade	
1900.00	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	
Not Applicable ; if coating is used c	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10 - 9.05 - 4.4	3	Through-hole	
Comment	Package: TO 220 AB NON ISOL; MDF for TIP47; TIP50			

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 '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
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
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : REACH-15th June 2015				
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		TLD2*B55856F					
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	2.421	mg	supplier	die	Silicon (Si)	7440-21-3		2.342	mg	967369	1233	
Die				supplier	metallization	Aluminum (Al)	7429-90-5		0.028	mg	11565	15	
Die				supplier	Passivation	Silicon Oxide	7631-86-9		0.032	mg	13218	17	
Die				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.001	mg	413	1	
Die				supplier	back side metallization	Gold (Au)	7440-57-5		0.003	mg	1239	2	
Die				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.015	mg	6196	8	
Leadframe	Copper & its alloys	1097.335	mg	supplier	alloy	Copper(CU)	7440-50-8		1095.636	mg	998452	576651	
Leadframe				supplier	alloy	Iron(Fe)	7439-89-6		1.096	mg	999	577	
Leadframe				supplier	metallization	Phosphorus(P)	12185-10-3		0.329	mg	300	173	
Leadframe				supplier	metallization	Nickel	7440-02-0		0.274	mg	250	144	
Soft solder	Solder	3.434	mg	supplier	Soft Solder	Tin(Sn)	7440-31-5		0.069	mg	20093	36	
Soft solder				supplier	Soft Solder	Silver(Ag)	7440-22-4		0.086	mg	25044	45	
Soft solder				JIG - R	Soft Solder	Lead (Pb)	7439-92-1	7a-Lead in high me	3.279	mg	954863	1726	
Bonding wire	Other inorganic materials	4.221	mg	supplier	wire	Aluminum(Al)	84195-93-7		4.221	mg	1000000	2222	
encapsulation	Other inorganic materials	766.485	mg	supplier	Molding compound	Silica Fused	60676-86-0		613.189	mg	800001	322731	
encapsulation				supplier	Molding compound	Epoxy Resin	Proprietary		76.649	mg	100001	40342	
encapsulation				supplier	Molding compound	Phenol Resin	Proprietary		49.821	mg	64999	26222	
encapsulation				supplier	Molding compound	Carbon Black	14808-60-7		26.826	mg	34999	14119	
connections coating	Solder	26.104	mg	supplier	solder alloy	Tin(Sn)	7440-31-5		26.104	mg	1000000	13739	