



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 *	2015-04-15
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	AMS & 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


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			
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
	RVVV*UI98AB5	A	ZS1A	2015-04-15
Amount	UoM	Unit type	ST ECOPACK Grade	
16.00	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	
Not Applicable ; if coating is used	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.8 - 1.5 - 0.9	5	gull wing	
Comment	Package: SOT 23 5L; MDF valid for LDK220M33R			

QueryList : ROHS directive 2011/65/EU _ July 2011	
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-17th December 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	RVVV*UI98AB5						
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)	
die (s)	Other inorganic materials	0.409	mg	supplier	die	Silicon (Si)	7440-21-3		0.386	mg	943765	24125	
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	12225	313	
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.004	mg	9780	250	
die (s)				supplier	passivation	Silicon Nitride (SiN)	12033-89-5		0.001	mg	2445	63	
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.008	mg	19560	500	
die (s)				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.005	mg	12225	313	
Leadframe	Copper & its alloys	6.914	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.66	mg	963263	416250	
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.155	mg	22418	9688	
Leadframe				supplier	alloy	Phosphorus (P)	12185-10-3		0.002	mg	289	125	
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1302	563	
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.08	mg	11571	5000	
Leadframe				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	1012	438	
Leadframe				supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	145	63	
Die attach	Other Organic Materials	0.065	mg	supplier	glue	Silver (Ag)	7440-22-4		0.045	mg	692308	2813	
Die attach				supplier	glue	methylene diacrylate	42594-17-2		0.016	mg	246154	1000	
Die attach				supplier	glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.002	mg	30769	125	
Die attach				supplier	glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	30769	125	
Bonding wire	Other Organic Materials	0.144	mg	supplier	wire	Copper (Cu)	7440-50-8		0.144	mg	1000000	9000	
Encapsulation	Other Organic Materials	8.468	mg	supplier	molding compound	Silica, vitreous	60676-86-0		7.224	mg	853094	451500	
Encapsulation				supplier	molding compound	phenolic resin	Proprietary		0.296	mg	34955	18500	
Encapsulation				supplier	molding compound	epoxy resin	Proprietary		0.339	mg	40033	21188	
Encapsulation				supplier	molding compound	Biphenyl epoxy resin	85954-11-6		0.169	mg	19957	10563	
Encapsulation				supplier	molding compound	carbon black	1333-86-4		0.017	mg	2008	1063	
Encapsulation				supplier	molding compound	Zinc hydroxide	20427-58-1		0.084	mg	9920	5250	
Encapsulation				supplier	molding compound	Magnesium hydroxide	1309-42-8		0.339	mg	40033	21188	