



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 *	2013-10-11
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 *	Giuseppe Vitali Palma	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
	DZWX*46VBCT3	A	ZS1A	2013-10-11
Amount	UoM	Unit type	ST ECOPACK Grade	
8.726	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		
Not Applicable ; if coating is used o	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.8x1.5x0.9	3	gull wing	
Comment	Package: SOT 23 3LDS			

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-20th June 2013				
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	DZWX*46VBCT3					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Silicon die	Other inorganic materials	0.389	mg	supplier	Silicon die	Silicon (Si)	7440-21-3		0.376	mg	966581	43090
Silicon die				supplier	Silicon die	Aluminium (Al)	7429-90-5		0.002	mg	5141	229
Silicon die				supplier	Silicon die	Titanium (Ti)	7440-32-6		0.002	mg	5141	229
Silicon die				supplier	Silicon die	Silicon Nitride (SiN)	68034-42-4		0.001	mg	2571	115
Silicon die				supplier	Silicon die	Silicon Oxide(SiO2)	7631-86-9		0.004	mg	10283	458
Silicon die				supplier	Silicon die	Gamma-butyrolactone	96-48-0		0.003	mg	7712	344
Silicon die				supplier	Silicon die	Polyhydroxyamide	55295-98-2		0.001	mg	2571	115
Leadframe	Copper and its alloy	2.351	mg	supplier	Alloy	Copper	7440-50-8		2.264	mg	962994	259455
Leadframe				supplier	Alloy	Iron	7439-89-6		0.053	mg	22544	6074
Leadframe				supplier	Alloy	Phosphrous	7723-14-0		0.001	mg	425	115
Leadframe				supplier	Alloy	Zinc	7440-66-6		0.003	mg	1276	344
Leadframe				supplier	Alloy	Nickel	7440-02-0		0.027	mg	11484	3094
Leadframe				supplier	Alloy	Palladium	7440-05-3		0.002	mg	851	229
Leadframe				supplier	Alloy	Gold	7440-57-5		0.001	mg	425	115
Die attach	Other organic materials	0.035	mg	supplier	Glue	Aluminium oxide (20-35%)	1344-28-1		0.009	mg	257143	1031
Die attach				supplier	Glue	Diethylene glycol monoethyl ether acetate (2	112-15-2		0.012	mg	342857	1375
Die attach				supplier	Glue	Epoxy resin (1-10%)	25068-38-6		0.002	mg	57143	229
Die attach				supplier	Glue	Epoxy resin (10-30%)	Proprietary		0.006	mg	171429	688
Die attach				supplier	Glue	Aromatic amine (1-5%)	Proprietary		0.001	mg	28571	115
Bonding wire	Other inorganic materials	0.1	mg	supplier	Glue	curing & hardener	Proprietary		0.005	mg	142857	573
Encapsulation	Other organic materials	5.851	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		0.1	mg	1000000	11460
Encapsulation				supplier	Molding compound	Epoxy Resin-1 (0.5-6%)	Proprietary		0.176	mg	28484	20170
Encapsulation				supplier	Molding compound	Biphenyl epoxy resin	85954-11-6		0.176	mg	28484	20170
Encapsulation				supplier	Molding compound	Phenol resin (3-6%)	Proprietary		0.263	mg	42564	30140
Encapsulation				supplier	Molding compound	Silica (82-94%)	60676-86-0		5.107	mg	826509	585262
Encapsulation				supplier	Molding compound	Carbon Black (0.2%)	1333-86-4		0.012	mg	1942	1375
Encapsulation				supplier	Molding compound	Magnesium hydroxide	1309-42-8		0.117	mg	18935	13408