



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2013-05-10
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 *	Antonella Lanzafame	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

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	Standard
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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
STD4N52K3	TODP*TZ5AB6F	A	Z8GA	2013-05-10
Amount		UoM	Unit type	ST ECOPACK Grade
355.00		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 o	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	6.5,6.1,2.3	3	gull wing	
Comment	TO 252 DPAK			

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-19 Dec 2012				
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	TODP*TZ5A86F					
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	3.394	mg	supplier	Silicon Die	Silicon (Si)	7440-21-3		3.275	mg	964938	9225
Silicon Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.043	mg	12669	121
Silicon Die				supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.014	mg	4125	39
Silicon Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.033	mg	9723	93
Silicon Die				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	589	6
Silicon Die				supplier	back side metallization	Gold (Au)	7440-57-5		0.005	mg	1473	14
Silicon Die				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.022	mg	6482	62
Leadframe	Copper & its alloys	199.458	mg	supplier	alloy	Copper(CU)	7440-50-8		198.971	mg	998219	560482
Leadframe				supplier	alloy	Tin(Sn)	7440-31-5		0.239	mg	1199	673
Leadframe				supplier	alloy	Nickel	7440-02-0		0.116	mg	582	327
Die attach	Solder	2	mg	supplier	glue or tape	Tin(Sn)	7440-31-5		0.04	mg	20010	113
Die attach				supplier	glue or tape	Silver(Ag)	7440-22-4		0.05	mg	25013	141
Die attach				supplier	glue or tape	Lead	7439-92-1	7a-Lead in high me	1.909	mg	954977	5377
Bonding wire	Other inorganic materials	0.969	mg	supplier	wire	Aluminium(Al)	84195-93-7		0.968	mg	1000000	2727
Encapsulation	Other Organic Materials	146.352	mg	supplier	mold compound	Silica Fused	60676-86-0		103.841	mg	710000	292510
Encapsulation				supplier	mold compound	Silica amorphous	7631-86-9		14.625	mg	99997	41197
Encapsulation		3.06		supplier	mold compound	Epoxy resin	proprietary		14.625	mg	99997	41197
Encapsulation				supplier	mold compound	Phenolic resin	proprietary		8.775	mg	59998	24718
Encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.732	mg	5005	2062
Encapsulation				supplier	mold compound	Flame Retardant	proprietary		3.657	mg	25004	10301
Finishing	Solder	3.06	mg	supplier	solder alloy	Tin(Sn)	7440-31-5		3.055	mg	999019	8606
Finishing				supplier	solder alloy	Others	proprietary		0.003	mg	981	8