



## 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>	2013-08-02
<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>	Giovanni Giacopello	<b>Representative Title</b>	AMS & IPD Materials Declaration 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/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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
	ASL8*D6AA87W	A	Z6FA	2013-08-02
Amount	UoM	Unit type	ST ECOPACK Grade	
759.03	mg	Each	ECOPACK® 1	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
3	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy		
Not Applicable ; if coating is used o	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	18x7.62x2.337	28	gull wing	
Comment	SO28 .30 with Embedded Crystal			

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-18 June 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	ASL8*D6AA87W					
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	8.580	mg	supplier	Silicon Die	Silicon (Si)	7440-21-3		8.397	mg	978671	11063
Silicon Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.031	mg	3613	41
Silicon Die				supplier	metallization	Titanium (Ti)	7440-32-6		0.014	mg	1632	18
Silicon Die				supplier	passivation	Tungsten (W)	7440-33-7		0.003	mg	350	4
Silicon Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.081	mg	9441	107
Silicon Die				supplier	passivation	Gamma-butyrolactone	96-48-0		0.036	mg	4196	47
Silicon Die				supplier	passivation	Polyhydroxyamide	55295-98-2		0.016	mg	1865	21
Silicon Die				supplier	passivation	Alcoxysilane	proprietary		0.001	mg	117	1
Silicon Die				supplier	passivation	Aryl Siliclic Acid	proprietary		0.001	mg	117	1
Die Attach	Other Organic Materials	0.185	mg	supplier	glue	Epoxy resin	129915-35-1		0.010	mg	54054	13
Die Attach				supplier	glue	Silver	7440-22-4		0.170	mg	918919	224
Die Attach				supplier	glue	Aromatic Amine	95-80-7		0.005	mg	27027	7
Lead-frame	Copper & Its alloys	196.268	mg	supplier	Alloy	Cu	7440-50-8		189.398	mg	964997	249527
Lead-frame				supplier	Alloy	Fe	7439-89-6		4.613	mg	23504	6078
Lead-frame				supplier	Alloy	P	7723-14-0		0.059	mg	301	78
Lead-frame				supplier	Alloy	Zn	7440-66-6		0.235	mg	1197	310
Lead-frame				supplier	Alloy	Ag	7440-22-4		1.963	mg	10002	2586
Bonding wire	Precious metals	4.508	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		4.508	mg	1000000	5939
Encapsulation	Other Organic Materials	515.164	mg	supplier	Molding Compound	Silica, vitreous	60676-86-0		409.555	mg	794999	539579
Encapsulation				supplier	Molding Compound	Epoxy Cresol Novolak	29690-82-2		43.274	mg	84000	57012
Encapsulation				supplier	Molding Compound	Phenol resin	8003-35-4		25.758	mg	50000	33936
Encapsulation				JIG I	Brominated Flame Retardant	Brominated Epoxy Resin	40039-93-8		6.182	mg	12000	8145
Encapsulation				JIG I	Brominated Flame Retardant	Brominated Epoxy Resin	68541-56-0		7.727	mg	14999	10180
Encapsulation				supplier	Molding Compound	Bismuth Trioxide	1304-76-3		5.152	mg	10001	6788
Encapsulation				supplier	Molding Compound	Bismuth nitrate	10361-44-1		5.152	mg	10001	6788
Encapsulation				supplier	Molding Compound	carbon black	1333-86-4		2.061	mg	4001	2715
Encapsulation				supplier	Molding Compound	Antimony Trioxide	1309-64-4		10.303	mg	19999	13574
Finishing	Solder	3.106	mg	supplier	solder	Tin	7440-31-5		3.106	mg	1000000	4092
Crystal Blank		1.202	mg	supplier	Crystal Blank	Quartz (SiO2)	14808-60-7		1.202	mg	1000000	1584
Base (shell)		3.005	mg	supplier	Base (shell)	Nickel	7440-02-0		1.232	mg	409983	1623
Base (shell)				supplier	Base (shell)	Iron	7439-89-6		1.703	mg	566722	2244
Base (shell)				supplier	Base (shell)	Manganese	7439-96-5		0.024	mg	7987	32
Base (shell)				supplier	Base (shell)	Chromium	7440-47-3		0.006	mg	1997	8
Base (shell)				supplier	Base (shell)	Silicon	7440-21-3		0.009	mg	2995	12
Base (shell)				supplier	Base (shell)	Cobalt	7440-48-4		0.03	mg	9983	40
Base (shell)				supplier	Base (shell)	Carbon	7440-44-0		0.001	mg	333	1
Base (glass)		1.265	mg	supplier	Base (glass)	Silicon dioxide	7631-86-9		0.708	mg	559684	933
Base (glass)				supplier	Base (glass)	Aluminum oxide	1344-28-1		0.067	mg	52964	88
Base (glass)				supplier	Base (glass)	Diboron-trioxide	1303-86-2		0.265	mg	209486	349
Base (glass)				supplier	Base (glass)	Barium oxide	1304-28-5		0.067	mg	52964	88
Base (glass)				supplier	Base (glass)	Zinc Oxide	1314-13-2		0.004	mg	3162	5
Base (glass)				supplier	Base (glass)	Disodium-oxide	1313-59-3		0.067	mg	52964	88
Base (glass)				supplier	Base (glass)	Dipotassium-oxide	12136-45-7		0.067	mg	52964	88
Base (glass)				supplier	Base (glass)	Dilithium-oxide	12057-24-8		0.006	mg	4743	8
Base (glass)				supplier	Base (glass)	Diron-trioxide	1309-37-1		0.004	mg	3162	5
Base (glass)				supplier	Base (glass)	Chromium(III)oxide	1308-38-9		0.004	mg	3162	5
Base (glass)				supplier	Base (glass)	Fluorine	7782-41-4		0.006	mg	4743	8
Ink		0.005	mg	supplier	ink	Phenolic Resin	Proprietary		0.004	mg	800000	5
Ink				supplier	ink	Carbon black	1333-86-4		0.001	mg	200000	1
Pins		3.629	mg	supplier	Pins	Nickel	7440-02-0		0.991	mg	273078	1306
Pins				supplier	Pins	Cobalt	7440-48-4		0.581	mg	160099	765
Pins				supplier	Pins	Manganese	7439-96-5		0.014	mg	3858	18
Pins				supplier	Pins	Iron	7439-89-6		1.795	mg	494627	2365
Pins				supplier	Pins	Silicon	7440-21-3		0.003	mg	827	4
Pins				supplier	Pins	Chromium	7440-47-3		0.007	mg	1929	9
Pins				supplier	Pins	Copper	7440-50-8		0.007	mg	1929	9
Pins				supplier	Pins	Molybdenum	7439-98-7		0.007	mg	1929	9
Pins				supplier	Pins	Zirconium	7440-67-7		0.003	mg	827	4
Pins				supplier	Pins	Aluminum	7429-90-5		0.002	mg	551	3

Pins			supplier	Pins	Magnesium	7439-95-4		0.003	mg	827	4	
Pins			supplier	Pins	Titanium metal	7440-32-6		0.003	mg	827	4	
Pins			supplier	Pins	Carbon	7440-44-0		0.001	mg	276	1	
Pins			supplier	Pins	Sulfur	7704-34-9		0.001	mg	276	1	
Pins			supplier	Pin Copper Underplate	Nickel	7440-02-0		0.12	mg	33067	158	
Pins			supplier	Pin Solder plating	Tin	7440-02-0		0.091	mg	25076	120	
Can		22.050	mg	supplier	Can	7440-02-0		3.662	mg	166077	4825	
Can				supplier	Can	7440-50-8		13.021	mg	590522	17155	
Can				supplier	Can	7439-96-5		0.051	mg	2313	67	
Can				supplier	Can	7439-89-6		0.041	mg	1859	54	
Can				JIG R	Can	7439-92-1		0.01	mg	454	13	
Can				supplier	Can	7440-66-6		3.561	mg	161497	4692	
Can				supplier	Can plating	Nickel	7440-02-0	1.704	mg	77279	2245	
Electrode		0.013	mg	supplier	Electrode	Silver	7440-22-4	0.013	mg	1000000	17	
Solder		0.047	mg	supplier	Solder	Tin	7440-31-5	0.002	mg	42553	3	
Solder				supplier	Solder	Silver	7440-22-4	0.001	mg	21277	1	
Solder				JIG R	Solder	Lead	7439-92-1	7a-Lead in high me	0.044	mg	936170	58