



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 *	2013-03-20
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.js		

Uncertainty Statement	
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Legal Statement	
Supplier Acceptance *	true
Legal Declaration *	Standard
Legal Statement	<p>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.</p>

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	HMDW*Z45S01Y	A	BO2A	2013-03-20
Amount	UoM	Unit type	ST ECOPACK Grade	
27000.00	mg	Each	ECOPACK® 2	

Manufacturing information				
STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
NAC	NAC	NAC		
Wave Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable ; if com	Gold (Ni/Pd/Au) Tin/Bismuth	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	38X8X25	5	screw	
Comment	Package: ISOT4D-DBC-R4-VIS			

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 December 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	HMDW*Z45S01Y					
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	18.809	mg	supplier	die	Silicon (Si)	7440-21-3		17.573	mg	934287	651
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.727	mg	38652	27
die (s)				supplier	metallization	Titanium (Ti)	7440-32-6		0.016	mg	851	1
die (s)				supplier	metallization	Tungsten (W)	7440-33-7		0.026	mg	1382	1
die (s)				supplier	metallization	Nickel (Ni)	7440-02-0		0.079	mg	4200	3
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.107	mg	5689	4
die (s)				supplier	passivation	Esterified polyamid	63428-83-1		0.114	mg	6061	4
die (s)				supplier	passivation	Tetraethylene glycol dimethacrylate	109-17-1		0.013	mg	691	0
die (s)				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.008	mg	425	0
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.026	mg	1382	1
die (s)				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.12	mg	6380	4
Leadframe	Copper & its alloys	7703.957	mg	supplier	alloy	Copper (Cu)	7440-50-8		7408.171	mg	961606	274377
Leadframe				supplier	alloy	Nickel (Ni)	7440-02-0		231.024	mg	29988	8556
Leadframe				supplier	alloy	Magnesium (Mg)	7439-95-4		11.551	mg	1499	428
Leadframe				supplier	alloy	Silicon (Si)	7440-21-3		50.055	mg	6497	1854
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		2.894	mg	376	107
Leadframe				supplier	metallization	Palladium (Pd)	7440-05-3		0.185	mg	24	7
Leadframe				supplier	metallization	Gold (Au)	7440-57-5		0.077	mg	10	3
Soft solder	Other organic materials	11.817	mg	JIG R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	11.286	mg	955065	418
Soft solder				supplier	solder	Silver (Ag)	7440-22-4		0.295	mg	24964	11
Soft solder				supplier	solder	Tin (Sn)	7440-31-5		0.236	mg	19971	9
Bonding wire	Other inorganic materials	37.76	mg	supplier	wire	Aluminium (Al)	7429-90-5		45.312	mg	1000000	1678
Screw	Other inorganic materials	7360	mg	supplier	Screw	Iron(Fe)	7439-89-6		7360	mg	1000000	272593
Nut	Other inorganic materials	1061.9	mg	supplier	Nut	Nickel(Ni)	7440-02-0		1061.9	mg	1000000	39330
encapsulation	Other organic materials	6108.166	mg	supplier	mold compound	Silica, vitreous	60676-86-0		5314.104	mg	870000	196819
encapsulation				supplier	mold compound	Epoxy resin	Proprietary		610.817	mg	100000	22623
encapsulation				supplier	mold compound	Phenol resin	Proprietary		152.704	mg	25000	5656
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		30.541	mg	5000	1131
Connection isotop	Other inorganic materials	4499.539	mg	supplier	Connection coating	Nickel(Ni)	7440-02-0		1.031	mg	229	38
Connection isotop				supplier	Connection coating	Phosphorous(P)	12185-10-3		0.068	mg	15	3
Connection isotop				supplier	Connection	Copper (Cu)	7440-50-8		4498.44	mg	999756	166609
Isolator	Other inorganic materials	190.5002	mg	supplier	Ceramic isolator	Nickel(Ni)	7440-02-0		2.1872	mg	11481	81
Isolator				supplier	Ceramic isolator	Phosphorus (P)	12185-10-3		0.172	mg	903	6
Isolator				supplier	Ceramic isolator	Manganese (Mn)	7439-96-5		7.433	mg	39018	275
Isolator				supplier	Ceramic isolator	Titanium (Ti)	7440-32-6		0.782	mg	4105	29
Isolator				supplier	Ceramic isolator	Molybdenum oxide	1313-27-5		9.53	mg	50026	353
Isolator				supplier	Ceramic isolator	Alumina(AlO3)	1344-28-1		170.396	mg	894466	6311