



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 *	2016-05-24
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 Giacopello	Representative Title	ADG MD 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/web/en/support/support.html		

Uncertainty Statement


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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
	7BVT*166VHL1	A	SH1A	2016-05-24
Amount	UoM	Unit type	ST ECOPACK Grade	
1900.000	mg	Each	ECOPACK® 2	

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

Package Designator	Size	Nbr of instances	Shape	
SIP	10,15,5,4,5	3	Through-hole	
Comment	Package: TO 220 I CLIP ; MD valid also for BTA16-600BRG; BTA16-400BRG; T1650D-6I			

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)
7c-1	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devi

QueryList : REACH-17th December 2015				
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	7BVT*166VHL1					
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	10.17	mg	supplier	die	Silicon (Si)	7440-21-3		8.973	mg	882301	4746
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.082	mg	8063	43
die (s)				supplier	metallization	Nickel (Ni)	7440-02-0		0.114	mg	11209	60
die (s)				supplier	metallization	Gold (Au)	7440-57-5		0.025	mg	2458	13
die (s)				supplier	passivation	Alumina	1344-28-1		0.072	mg	7080	38
die (s)				supplier	passivation	Lead silicate Glass	65997-18-4	7c-I-Electrical and	0.65	mg	63913	344
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.011	mg	1082	6
die (s)				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.243	mg	23894	129
Leadframe	Copper & its alloys	1612.718	mg	supplier	alloy	Copper (Cu)	7440-50-8		1607.322	mg	996654	850108
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.74	mg	459	391
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		1.352	mg	838	715
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		3.304	mg	2049	1747
Soft solder		6.877	mg	JIG R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	6.361	mg	924967	3364
Soft solder				supplier	solder	Silver (Ag)	7440-22-4		0.344	mg	50022	182
Soft solder				supplier	solder	Tin (Sn)	7440-31-5		0.172	mg	25011	91
Bonding wire	Other inorganic materials	31.625	mg	supplier	Slug + Trigger	Copper (Cu)	7440-50-8		31.625	mg	1000000	16726
encapsulation	Other organic materials	143.02	mg	supplier	mold compound	Antimony Trioxide	1309-64-4		4.29	mg	29996	2269
encapsulation				supplier	mold compound	Silica, vitreous	60676-86-0		103.691	mg	725010	54842
encapsulation				supplier	mold compound	Quartz	14808-60-7		0.715	mg	4999	378
encapsulation				supplier	mold compound	Phenol resin	9003-35-4		12.871	mg	89994	6807
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.715	mg	4999	378
encapsulation				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		17.878	mg	125003	9456
encapsulation				supplier	mold compound	Brominated Epoxy Resin	68928-70-1		2.86	mg	19997	1513
solder paste	Solder	0.076	mg	JIG R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	0.064	mg	842105	34
solder paste				supplier	solder	Antimony (Sb)	7440-36-0		0.008	mg	105263	4
solder paste				supplier	solder	Tin (Sn)	7440-31-5		0.004	mg	52632	2
connections coating	Other inorganic materials	6.314	mg	Supplier	solder alloy	Tin (Sn)	7440-31-5		6.314	mg	1000000	3339
subelement	Ceramics / Glass	89.2	mg	supplier	Ceramic isolator	Nickel (Ni)	7440-02-0		1.07	mg	11996	566
subelement				supplier	Ceramic isolator	Phosphorus (P)	7723-14-0		0.08	mg	897	42
subelement				supplier	Ceramic isolator	Manganese (Mn)	7439-96-5		3.479	mg	39002	1840
subelement				supplier	Ceramic isolator	Titanium (Ti)	7440-32-6		0.366	mg	4103	194
subelement				supplier	Ceramic isolator	Molybdenum oxide	1313-27-5		4.46	mg	50000	2359
subelement				supplier	Ceramic isolator	Alumina (Al2O3)	1344-28-1		79.745	mg	894002	42177