



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 *	2019-10-03
Company Unique ID	NL 008751171B01		
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Authorized Representative *	Rossana Bonaccorso	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
Z0109M1	BHO7*ZAG016S	A	Z8GA	2019-10-03
	Amount	UoM	Unit type	ST ECOPACK Grade
	80	mg	Each	ECOPACK® 2
Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant (in each organic material)			

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	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	4.9x3.9x1.55	2	gull wing	
Comment	SO 08 .15 JEDEC			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	FALSE
2 - 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
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description
7c-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
10a	Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound. This exemption does not cover the use of lead in: — glass in bulbs and glaze of spark plugs, — dielectric ceramic materials of components listed under 10(b), 10(c) and 10(d)

QueryList : California Prop65 list, dated 13th September 2019			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.01	Die	150
Lead-Borate Glass	0.16	Die	1950

QueryList : REACH-16th July 2019				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead-Borate Glass	1000 ppm	0.16	Die	1950
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead-Borate Glass	1000 ppm	0.16	Die	159836

Material Composition Declaration :						Mfr Item Name	BHO7*ZAG016S					
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	0.976	mg	supplier	die	Silicon (Si)	7440-21-3		0.765	mg	783811	9563
				supplier	metallization	Aluminium (Al)	7429-90-5		0.027	mg	27664	338
				supplier	metallization	Gold (Au)	7440-57-5		0.003	mg	3074	38
				supplier	passivation	Nickel (Ni)	7440-02-0		0.005	mg	5123	63
				supplier	Passivation	Silicon Oxide	7631-86-9		0.007	mg	7173	88
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.004	mg	4098	50
				supplier	back side metallization	Gold (Au)	7440-57-5		0.002	mg	2049	25
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.007	mg	7172	88
				JIG-R & California 65	glass coating	Lead-Borate Glass	65997-18-4	7c-I-Electrical and e	0.156	mg	159836	1950
				Leadframe	Copper and its alloy	33.608	mg	Supplier	alloy & coating	Copper(CU)	7440-50-8	
Supplier	alloy & coating	Iron(Fe)	7439-89-6						0.847	mg	25202	10588
Supplier	alloy & coating	Phosphorus(P)	7723-14-0						0.034	mg	1012	425
Supplier	alloy & coating	Zinc(Zn)	7440-66-6						0.051	mg	1517	638
Supplier	alloy & coating	Silver(Ag)	7440-22-4						0.017	mg	506	213
Die Attach	Other Organic Material	0.298	mg	Supplier	glue	Silver(Ag)	7440-22-4		0.249	mg	835570	3113
				Supplier	glue	Acrylate type resin	proprietary		0.022	mg	73827	271
				Supplier	glue	Propylen glycol butyl ether	1320-18-9		0.009	mg	30201	113
				Supplier	glue	Urethane acrylate oligomer	proprietary		0.009	mg	30201	113
				Supplier	glue	Butyl cellosolve acetate	112-07-2		0.009	mg	30201	113
Bonding wire	Other Inorganic Material	0.083	mg	Supplier	wire	Copper(CU)	7440-50-8		0.083	mg	1000000	1038
Encapsulation	Other Organic Material	39.285	mg	Supplier	mold compound	Epoxy Resin	25068-38-6		1.965	mg	50019	24563
				Supplier	mold compound	Phenol Resin	29690-82-2		1.179	mg	30011	14738
				Supplier	mold compound	Silica(Amorphous) A	60676-86-0		32.684	mg	831971	408550
				Supplier	mold compound	Silica(Amorphous) B	7631-86-9		3.143	mg	80005	39288
				Supplier	mold compound	Carbon Black	1333-86-4		0.314	mg	7994	3920
Connection coating	Other Inorganic Material	5.750	mg	Supplier	solder alloy	Tin(Sn)	7440-31-5		5.750	mg	1000000	71875