



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 *	2017-10-13
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 *	Floriana SAN BIAGIO	Representative Title	AMG 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
	VHWV*KN33FC1	A	ZS1A	2017-10-13
Amount	UoM	Unit type	ST ECOPACK Grade	
17.10	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	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2.90x1.60x1.10	5	gull wing	
Comment	Package: WV SOT 23 5L; MDF valid for LK112SM33TR			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
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)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Exemption Id.	Description

QueryList : REACH-7th July 2017				
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	VHWV*KN33FC1						
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)	
Die	Other inorganic materials	0.873	mg	supplier	Silicon Die	Silicon (Si)	7440-21-3		0.83	mg	950745	48538	
Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.007	mg	8018	409	
Die				supplier	metallization	Tungsten (W)	7440-33-7		0.012	mg	13746	702	
Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.017	mg	19473	994	
Die				supplier	passivation	Gamma-butyrolactone	96-48-0		0.005	mg	5727	292	
Die				supplier	passivation	Polyhydroxyamide	55295-98-2		0.002	mg	2291	117	
Leadframe	Copper & its alloys	7.84	mg	supplier	alloy	Copper (Cu)	7440-50-8		7.508	mg	959980	439064	
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.176	mg	22504	10292	
Leadframe				supplier	alloy	Phosphorus (P)	7723-14-0		0.005	mg	639	292	
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.015	mg	1918	877	
Leadframe	Nickel (Ni)			supplier	metallization	Nickel (Ni)	7440-02-0		0.096	mg	12275	5614	
Leadframe	Precious metals			supplier	metallization	Palladium (Pd)	7440-05-3		0.015	mg	1918	877	
Leadframe	Precious metals			supplier	metallization	Gold (Au)	7440-57-5		0.006	mg	767	351	
Die attach	Solder	0.087	mg	supplier	solder	Silver (Ag)	7440-22-4		0.064	mg	735632	3743	
Die attach				supplier	solder	Carbocyclic Acrylates	Proprietary		0.007	mg	80460	409	
Die attach				supplier	solder	Bismaleimide resin	35325-39-4		0.004	mg	45977	234	
Die attach				supplier	solder	2-preponoic acid, 2-methyl	68586-19-6		0.004	mg	45977	234	
Die attach				supplier	solder	Additive	Proprietary		0.008	mg	91954	468	
Bonding wire	Other inorganic materials	0.2	mg	supplier	wire	Gold (Au)	7440-57-5		0.199	mg	1000000	11637	
Encapsulation	Other Organic Materials	8.12	mg	supplier	mold compound	Epoxy resin-1	29690-82-2		0.24	mg	29557	14035	
Encapsulation				supplier	mold compound	Epoxy resin-2	Proprietary		0.24	mg	29557	14035	
Encapsulation				supplier	mold compound	Phenol resin	25068-38-6		0.362	mg	44581	21170	
Encapsulation				supplier	mold compound	Silica	60676-86-0		7.092	mg	873399	414737	
Encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.016	mg	1970	936	
Encapsulation				supplier	mold compound	Others	Proprietary		0.17	mg	20936	9942	