Material Composition Declaration

This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

Adobe Reader version 7.0.5 is required to complete this declaration.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x	**Form Type *** Distribute	**Declaration Class *** Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Informat

Supplier Information

Company Name *	Company Unique ID	Unique ID Authority	**Response Date ***	Response Document ID	
Littelfuse, Inc.			**2019-06-22**		
Contact Name *	Title - Contact	**Phone - Contact ***	**Email - Contact ***		
Diana Jane D. Gabinete	Environmental Data Analyst	**63 43 430 0100**	**EnvRequests@littelfuse.com**		
Authorized Representative *	Title - Representative	**Phone - Representative ***	**Email - Representative ***	Supplier Comments or URL for Additional Information	
Jennilyn D. Santos	Global EHS Supervisor	**63 43 430 0100**	**EnvRequests@littelfuse.com**		

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	**Weight ***	UOM	Unit Type
L0109MTRP	SOT-223	Thyristor	2004-11-01			0.12732641	g	Each

Alternate Recommendation				Alternate Item Comments	

Manufacturing Process Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	Number of Reflow Cycles
Matte Tin (Sn)	**CU Alloy**	**1**	**260** C	**30** seconds	**1**

Comments

This is RoHS Compliant under exemption 7a & 7c-I in the current list of exemptions (RoHS Directive 2011/65/EU). Old exemption 5 was replaced by 7c-I.

*** Required Field**

Form enabled by Adobe

Save the fields in this form to a file	Export Data	Import fields from a file into this form	Import Data	Locked

RoHS Material Composition Declaration

Declaration Type * **Detailed**

RoHS Directive 2002/95/EC	**RoHS Definition:** Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a "RoHS restricted substance") in excess of the applicable quantity limit identified above. If a homogeneous material within the part contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that 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 with European Union member state laws that implement the RoHS Directive. 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, 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,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. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.

RoHS Declaration *	4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions	**Supplier Acceptance ***	**Accepted**

Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and choose all applicable exemptions.

Exemption List Version	EL-2006/690/EC
	5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.

Declaration Signature

Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature	Digitally signed by Diana Jane D. Gabinete Date: 2019.06.22 10:51:46 +08'00'

*** Required Field**

Homogeneous Material Composition Declaration for Electronic Products

SubItem Instructions: The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

Substance Instructions: [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

Line Functions: +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

	Item/SubItem Name		Homogeneous Material	Weight	Unit of Measure		Level	Substance Category		Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance -	Tolerance +	PPM
	SOT-223 Thyristor		Outside Lead Fir	0.00310(	g		Supplier	Tin		Tin	7440-31-5		0.003100	g			
			Molding Compou	0.06100	g		Supplier	Silica		Fused Silica	60676-86-0		0.05338	g			
							Supplier	Epoxy Resin		Epoxy Resin	9003-35-4		0.00305	g			
							Supplier	Phenol Resin		Phenol Resin	37382-79-9		0.00305	g			
							Supplier	Carbon Black		Carbon Black	1333-86-4		0.000305	g			
							Supplier	Epoxy cresol Novala		Epoxy cresol Novalac	29690-82-2		0.00122	g			
			Lead Frame	0.05748	g		Supplier	Copper		Copper	7440-50-8		0.056011	g			
							Supplier	Iron		Iron	7439-89-6		0.001350	g			
							Supplier	Phosphorus		Phosphorus	7723-14-0		0.000047	g			
							A	Lead/Lead Compound		Lead	7439-92-1		0.000005	g			100.02
							Supplier	Zinc		Zinc	7440-66-6		0.000071	g			
			Bonding Wire	0.00181	g		Supplier	Copper Wire		Copper (Cu)	7440-50-8		0.00181	g			
			Die attach (Epox	0.00024	g		Supplier	Silver		Silver	7440-22-4		0.00018	g			
							Supplier	Epoxy Resin		Epoxy Resin	System		0.000049	g			
							Supplier	Paraffinic hydrocarb		Paraffinic hydrocarbon	System		0.000019	g			
			Chip	0.00349	g		Supplier	Silicon		Silicon	7440-21-3		0.003290	g			
							Supplier	Metallization		Aluminum	7429-90-5		0.000136	g			
										Titanium	7440-32-6		0.000003	g			
							B	Nickel (external applic		Nickel	7440-02-0		0.000010	g			
							Supplier	Silver		Silver	7440-22-4		0.000055	g			
			Chip Passivatior	0.00017	g		Supplier	Al2O3		Al2O3	7631-86-9		0.000164	g			
							A	Lead/Lead Compound		Lead (II) oxide	1317-36-8	5. Lead i	0.000013	g			78,431

*** Required Field**