



Material Composition Declaration
 © Copyright 2005, IPC, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions.

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.

1752-21.1	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 Information
-----------	--	---------------------------	---

Supplier Information

Company name* onsemi	Company unique ID	Unique ID Authority	Response Date* 2024-03-02
Contact Name Product-Env-Stewards	Title - Contact Product Enviro Compliance	Phone - Contact* NA	Email - Contact* Product-Env-Stewards@onsemi.com
Authorized Representative* Product-Env-Stewards	Title - Representative Product Enviro Compliance	Phone - Representative* NA	Email - Representative* Product-Env-Stewards@onsemi.com

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight*	UOM	Unit Type
	AS0147ATSC00XPS M0-P1-TPBR	1MP 1/4 CIS SOC	2024-03-02		MY5	213.59	mg	Each

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
SnAgCu	CU Alloy	3	260 C	30 seconds	3

Comments
ATTENTION: MSL 3 Rated item requires Bake and Dry Pack (after electrical test)
For more information regarding material composition please refer to page 3

RoHS Material Composition Declaration		Declaration Type *	Detailed
Directive 2015/863/EU amending RoHS Directive 2011/65/EU	RoHS Definition: Quantity limit of 0.01% by mass (100 PPM) in homogeneous material for Cadmium and quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr6+), Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Bis(2-ethylhexyl) phthalate (DEHP), Benzyl-butyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP).		
<p>Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2011/65/EU and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalentchromium, 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.</p>			
RoHS Declaration *	1 - Item(s) does not contain RoHS restricted substances per the definition above		Supplier Acceptance * Accepted
Exemption: 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-2011/534/EU		
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	Rastislav Drska		

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).

Homogeneous Material	Weight	Unit of Measure	Level	Substance	CAS	Exempt	Weight	Unit of Measure
Die	18.17	mg	Supplier	Silicon (Si)	7440-21-3		18.17	mg
Die Attach	3.54	mg		Epoxy resin	proprietary data		0.177	mg
			Supplier	4-Methylhexahydrophthalic anhydride	19438-60-9		0.0177	mg
			Supplier	Titanium triisostearoylisopropoxide	61417-49-0		0.177	mg
			Supplier	2,2-dimethyl-1,3-propanediyl dimethacrylate	1985-51-9		0.177	mg
			Supplier	2-(3,4-Epoxy-cyclohexyl)ethyltrimethoxysilane	3388-04-3		0.177	mg
			Supplier	Bisphenol A_Epichlorohydrin Polymer	25068-38-6		0.0177	mg
			Supplier	1,4-Bis(2,3-epoxypropoxy)butane	2425-79-8		0.177	mg
			Supplier	Isobornyl Acrylate	5888-33-5		0.177	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		2.4426	mg
Epoxy	2.96	mg	Supplier	Imidazole Addition	68490-66-4		0.888	mg
			Supplier	Bisphenol A_Epichlorohydrin Polymer	25068-38-6		0.296	mg
			Supplier	Zirconium Dioxide (ZrO2)	1314-23-4		0.296	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		0.296	mg
			Supplier	Formaldehyde Polymer	9003-36-5		1.184	mg
Imaging Lens	17.65	mg	Supplier	Sulfur (S)	7704-34-9		0.0882	mg
			Supplier	Titanium Dioxide (TiO2)	13463-67-7		0.9531	mg
			Supplier	Sodium Monoxide (Na2O)	1313-59-3		0.9707	mg
			Supplier	Boron Trioxide (B2O3)	1303-86-2		0.9531	mg
			Supplier	Zinc Monoxide (ZnO)	1314-13-2		0.9531	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		0.9531	mg
			Supplier	Calcium Monoxide (CaO)	1305-78-8		0.0882	mg
			Supplier	Potassium Monoxide (K2O)	12136-45-7		0.9531	mg
			Supplier	Silica Crystalline (SiO2)	14808-60-7		11.7372	mg
Mold Compound	7.33	mg	Supplier	Triphenylphosphine	603-35-0		0.0366	mg
			Supplier	Trimethoxysilylpropanethiol	4420-74-0		0.0366	mg
			Supplier	Oxirane	39817-09-9		1.466	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		1.466	mg
			Supplier	Misc.	Proprietary Data		0.3665	mg
			Supplier	Fused Silica (SiO2)	60676-86-0		3.5917	mg

			Supplier	Silica Crystalline (SiO2)	14808-60-7		0.3665	mg
Solder Ball	50.54	mg	Supplier	Silver (Ag)	7440-22-4		1.5162	mg
			Supplier	Tin (Sn)	7440-31-5		48.7711	mg
			Supplier	Copper (Cu)	7440-50-8		0.2527	mg
			Supplier	Copper (Cu)	7440-50-8		5.26	mg
Substrate Copper Foil	5.26	mg	Supplier	Copper (Cu)	7440-50-8		5.26	mg
Substrate - Core Material	57.05	mg		Epoxy resin	proprietary data		12.3627	mg
			Supplier	Fiber Glass (SiO2)	65997-17-3		44.6873	mg
Substrate Plating-Cu	30.89	mg	Supplier	Copper (Cu)	7440-50-8		30.89	mg
Substrate - Solder Mask	19.47	mg	Supplier	Dipentaerythritol hexaacrylate	29570-58-9		0.5841	mg
			Supplier	Dipentaerythritol pentaacrylate	60506-81-2		0.5841	mg
			Supplier	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8		0.9735	mg
			Supplier	Bisphenol A, formaldehyde, epichlorohydrin polymer	28906-96-9		0.9735	mg
			Supplier	Talc	14807-96-6		0.4089	mg
			Supplier	Misc.	Proprietary Data		0.1752	mg
			Supplier	Acrylic resins	Proprietary Data		15.7707	mg
Wire Bond - Au	0.73	mg	Supplier	Gold (Au)	7440-57-5		0.73	mg