

 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* 2024-04-29		
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
		AR0220AT4R00XUE A1-TRBM	2MP 1/2 CIS SO		2024-04-29		TWU	298.74	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	62.85	mg		Misc.	proprietary data		0.2388	mg
			Supplier	Silicon (Si)	7440-21-3		61.989	mg
			Supplier	Aluminum (Al)	7429-90-5		0.6222	mg
Die Attach	3.83	mg		Bismaleimide Monomer	proprietary data		1.4745	mg
			Supplier	POLY(ETHYLENE GLYCOL) PHENYL ETHER ACRYLATE	56641-05-5		0.0192	mg
			Supplier	2,2-Bis(4-hydroxyphenyl)propane-epichlorohydrin copolymer acrylate	55818-57-0		0.383	mg
			Supplier	Bis(4-tert-butylcyclohexyl) peroxydicarbonate	15520-11-3		0.0192	mg
			Supplier	2,2-dimethyl-1,3-propanediyl dimethacrylate	1985-51-9		0.383	mg
			Supplier	2-phenoxy ethyl acrylate	48145-04-6		0.383	mg
			Supplier	Bisphenol A_Epichlorohydrin Polymer	25068-38-6		0.0192	mg
			Supplier	Other Additive Agents	Proprietary Data		0.766	mg
			Supplier	Formaldehyde Polymer	9003-36-5		0.383	mg
Epoxy	1.83	mg	Supplier	Imidazole Addition	68490-66-4		0.549	mg
			Supplier	Bisphenol A_Epichlorohydrin Polymer	25068-38-6		0.183	mg
			Supplier	Zirconium Dioxide (ZrO2)	1314-23-4		0.183	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		0.183	mg
			Supplier	Formaldehyde Polymer	9003-36-5		0.732	mg
Imaging Lens	55.66	mg	Supplier	Titanium Dioxide (TiO2)	13463-67-7		2.783	mg
			Supplier	Sodium Monoxide (Na2O)	1313-59-3		2.783	mg
			Supplier	Boron Trioxide (B2O3)	1303-86-2		2.783	mg
			Supplier	Zinc Monoxide (ZnO)	1314-13-2		2.783	mg
			B	Antimony Trioxide (Sb2O3)	1309-64-4		0.2783	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		2.783	mg
			Supplier	Potassium Monoxide (K2O)	12136-45-7		2.783	mg
			Supplier	Silica Crystalline (SiO2)	14808-60-7		38.6837	mg
Mold Compound	72.64	mg		Epoxy resin	proprietary data		18.0147	mg
			Supplier	Other Additive Agents	Proprietary Data		2.3245	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		7.264	mg
			Supplier	Fused Silica (SiO2)	60676-86-0		42.8576	mg

			Supplier	Silica Crystalline (SiO2)	14808-60-7		2.1792	mg
Passivation	0.3	mg	Supplier	Dimethylsilicone	63148-62-9		0.015	mg
			Supplier	Organic pigment	Proprietary Data		0.03	mg
			Supplier	Other Epoxy resins	Proprietary Data		0.255	mg
Solder Ball	49.42	mg	Supplier	Silver (Ag)	7440-22-4		1.4826	mg
			Supplier	Tin (Sn)	7440-31-5		47.6903	mg
			Supplier	Copper (Cu)	7440-50-8		0.2471	mg
Solder Mask	5.605	mg		Epoxy resin	proprietary data		0.6726	mg
			Supplier	Acrylate	Proprietary Data		2.1411	mg
			Supplier	Talc	14807-96-6		0.1513	mg
			Supplier	Miscellaneous	Trade Secret		0.2074	mg
			Supplier	Barium Sulfate (BaSO4)	7727-43-7		2.4326	mg
Substrate Copper Foil	4.313	mg	Supplier	Copper (Cu)	7440-50-8		4.313	mg
Substrate - Core Material	21.426	mg		Epoxy resin	proprietary data		4.643	mg
			Supplier	Fiber Glass (SiO2)	65997-17-3		16.783	mg
Substrate Plating-Au	0.371	mg	Supplier	Gold (Au)	7440-57-5		0.371	mg
Substrate Plating-Cu	19.284	mg	Supplier	Copper (Cu)	7440-50-8		19.284	mg
Substrate Plating-Ni	0.891	mg	B	Nickel (Ni)	7440-02-0		0.891	mg
Wire Bond - Au	0.32	mg	Supplier	Gold (Au)	7440-57-5		0.32	mg