



**Material Composition Declaration**  
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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 <a href="http://www.ipc.org/IPC-175x">http://www.ipc.org/IPC-175x</a>	Form Type * Distribute	Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information
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**Supplier Information**

<b>Company name*</b> onsemi	Company unique ID	Unique ID Authority	<b>Response Date*</b> 2024-05-28
<b>Contact Name</b> Product-Env-Stewards	Title - Contact Product Enviro Compliance	<b>Phone - Contact*</b> NA	<b>Email - Contact*</b> Product-Env-Stewards@onsemi.com
<b>Authorized Representative*</b> Product-Env-Stewards	Title - Representative Product Enviro Compliance	<b>Phone - Representative*</b> NA	<b>Email - Representative*</b> Product-Env-Stewards@onsemi.com

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight*	UOM	Unit Type
	AR0822NPSM10SMT A0-DR	8MP 1/2 CIS SO mono	2024-05-28		TWU	430.4	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	4	260 C	30 seconds	3

Comments

**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>			
<b>RoHS Declaration *</b>	1 - Item(s) does not contain RoHS restricted substances per the definition above		<b>Supplier Acceptance *</b> Accepted
<b>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.</b>			
Exemption List Version	EL-2011/534/EU		
<b>Declaration Signature</b>			
<b>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.</b>			
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	33.19	mg	Supplier	Silicon (Si)	7440-21-3		33.19	mg
Die Attach	2.29	mg	Supplier	3,4-EPOXYCYCLOHEXYLMETHYL	2386-87-0		0.1374	mg
			Supplier	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6		1.7633	mg
			Supplier	Inorganic filler	7727-43-7, 14807-96-6		0.3893	mg
Die Attach Epoxy	2.15	mg	Supplier	Tridymite	15468-32-3		0.1075	mg
			Supplier	2,2-bis(acryloyloxymethyl)butyl acrylate	15625-89-5		1.6125	mg
			Supplier	Imidazole Addition	68490-66-4		0.0538	mg
			Supplier	Epoxy Phenol Novolak Resin	28064-14-4		0.3762	mg
Imaging Lens	88.79	mg	Supplier	Sulfur (S)	7704-34-9		0.4439	mg
			Supplier	Titanium Dioxide (TiO2)	13463-67-7		4.4395	mg
			Supplier	Sodium Monoxide (Na2O)	1313-59-3		4.4395	mg
			Supplier	Boron Trioxide (B2O3)	1303-86-2		4.4395	mg
			Supplier	Zinc Monoxide (ZnO)	1314-13-2		4.4395	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		4.4395	mg
			Supplier	Potassium Monoxide (K2O)	12136-45-7		4.4395	mg
			Supplier	Silica Crystalline (SiO2)	14808-60-7		61.709	mg
Mold Compound	142.43	mg		Epoxy resin	proprietary data		2.1364	mg
			Supplier	Hardener	Proprietary Data		7.1215	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		10.6823	mg
			Supplier	Carbon Black (C)	1333-86-4		0.2849	mg
			Supplier	Fused Silica (SiO2)	60676-86-0		122.2049	mg
Solder Ball	42.7	mg	Supplier	Silver (Ag)	7440-22-4		1.281	mg
			Supplier	Tin (Sn)	7440-31-5		41.2055	mg
			Supplier	Copper (Cu)	7440-50-8		0.2135	mg
Substrate	118.4	mg	Supplier	Bismaleimide Resin	105391-33-1		15.4867	mg
			Supplier	Talc	14807-96-6		1.5487	mg
			Supplier	Fiber Glass (SiO2)	65997-17-3		25.1008	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		0.386	mg
			Supplier	Acetophenone Derivative	Proprietary Data		2.323	mg
			Supplier	Carbon Black (C)	1333-86-4		0.3872	mg

			Supplier	2,4-Diethyl-9H-thioxanthen-9-one (DETX)	82799-44-8		0.3872	mg
			Supplier	Solvent Naphtha (Solvent oil)	64742-94-5		4.6436	mg
			Supplier	Copper (Cu)	7440-50-8		56.1453	mg
			Supplier	Barium Sulfate (BaSO4)	7727-43-7		11.9916	mg
Wire Bond - Au	0.45	mg	Supplier	Gold (Au)	7440-57-5		0.45	mg