



**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> 2023-06-08
<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
	STK554U392C-E	3 Phase Inverter IPM	2023-06-08		VN2	16000.0	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
Matte Tin (Sn) - annealed	CU Alloy	NA	0 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>	4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions		<b>Supplier Acceptance *</b> <b>Accepted</b>
<b>Exemption: 7c-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.</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
Ceramic Substrate	4799.2	mg	Supplier	Bisphenol A_Epichlorohydrin Polymer	25068-38-6		59.99	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		236.6006	mg
			B	Nickel (Ni)	7440-02-0		8.1586	mg
			Supplier	Acrylic resins	Proprietary Data		3.3594	mg
			Supplier	Copper (Cu)	7440-50-8		322.5063	mg
			Supplier	Barium Sulfate (BaSO4)	7727-43-7		2.3996	mg
			Supplier	Aluminum (Al)	7429-90-5		4166.1855	mg
Chip Parts	42.07	mg	Supplier	Titanium Dioxide (TiO2)	13463-67-7		0.0168	mg
			Supplier	Silver (Ag)	7440-22-4		1.7038	mg
			Supplier	Epoxy resins	129915-35-1		0.4333	mg
			Supplier	Bisphenol A, Epichlorohydrin polymer	25036-25-3, 25068-38-6		0.0421	mg
			Supplier	Tin (Sn)	7440-31-5		1.3378	mg
			Supplier	Silica Amorphous (SiO2)	7631-86-9		1.1022	mg
			Supplier	Ceramic	12013-47-7, 12047-27-7		8.6454	mg
			Supplier	Phenolic resins	Proprietary Data		0.1178	mg
			Supplier	Palladium (Pd)	7440-05-3		0.0168	mg
			Supplier	Carbon Black (C)	1333-86-4		0.0042	mg
			Supplier	Aluminum Trioxide (Al2O3)	1344-28-1		25.4818	mg
			B	Nickel (Ni)	7440-02-0		1.6239	mg
			A	Lead Oxide (PbO)	1317-36-8	7c	0.101	mg
			Supplier	Chromium Trioxide (Cr2O3)	1308-38-9		0.0042	mg
			Supplier	Copper (Cu)	7440-50-8		1.4388	mg
Die	36.69	mg	Supplier	Silicon (Si)	7440-21-3		36.69	mg
Die Attach	1.82	mg	Supplier	Silver (Ag)	7440-22-4		1.2385	mg
			Supplier	Other Epoxy resins	Proprietary Data		0.2732	mg
			Supplier	Tin (Sn)	7440-31-5		0.194	mg
			Supplier	Other Metal Oxide	Proprietary Data		0.069	mg
			B	Antimony (Sb)	7440-36-0		0.018	mg
			B	Antimony Pentoxide (Sb2O5)	1314-60-9		0.0273	mg
Heat Sink	1336.5	mg	Supplier	Silver (Ag)	7440-22-4		13.0977	mg

			Supplier	Copper (Cu)	7440-50-8		1323.4022	mg
Lead Frame	856.88	mg	Supplier	Tin (Sn)	7440-31-5		0.5141	mg
			Supplier	Copper (Cu)	7440-50-8		856.3659	mg
				Brominated epoxy resin	proprietary data		176.2264	mg
Mold Compound-Black	8811.32	mg	Supplier	Phenolic Resin	Proprietary Data		528.6792	mg
			Supplier	Epoxy Phenol Resin	Proprietary Data		176.2264	mg
			B	Antimony Trioxide (Sb2O3)	1309-64-4		264.3396	mg
			Supplier	Fused Silica (SiO2)	60676-86-0		881.132	mg
			Supplier	Ortho-Cresol Novolac Resin	29690-82-2		616.7924	mg
			Supplier	Silica Crystalline (SiO2)	14808-60-7		6167.9243	mg
Plating	11.99	mg	Supplier	Tin (Sn)	7440-31-5		5.995	mg
			B	Nickel (Ni)	7440-02-0		5.995	mg
Solder Ball	44.96	mg	Supplier	Silver (Ag)	7440-22-4		1.3938	mg
			Supplier	Tin (Sn)	7440-31-5		43.2335	mg
			B	Antimony (Sb)	7440-36-0		0.0045	mg
			Supplier	Copper (Cu)	7440-50-8		0.3282	mg
Wire Bond - Al	58.57	mg	Supplier	Aluminum (Al)	7429-90-5		58.57	mg