IPC ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES®	**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.

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*** **2023-06-08**
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
		LV8112VB-AH	3PH DRV SENSOR CLOSE ; Three phase driver with hall sensor method (closed loop speed control)	2023-06-08		PHM	350.0	mg	Each

Manufacturing Proccess 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
	contains Bi	**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).		
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 inexcess 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 informationprovided 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, itssuppliers 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 exclusivesource 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 andConditions of Sale applicable to such part shall apply.			
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	5.25	mg	Supplier	Silicon (Si)	7440-21-3		5.2306	mg
			Supplier	Polyimide	Proprietary Data		0.0194	mg
Die Attach	0.42	mg	Supplier	Silver (Ag)	7440-22-4		0.357	mg
			Supplier	Epoxy resins	129915-35-1		0.0567	mg
			Supplier	Polybutadiene polymer	Proprietary Data		0.0063	mg
Lead Frame	123.0	mg	Supplier	Zinc (Zn)	7440-66-6		0.2337	mg
			Supplier	Iron (Fe)	7439-89-6		3.1857	mg
			Supplier	Copper (Cu)	7440-50-8		119.4084	mg
			Supplier	Phosphorus (P)	7723-14-0		0.1722	mg
Mold Compound-Black	217.12	mg		Phenolic Resin	proprietary data		10.856	mg
			Supplier	Epoxy Phenol Resin	Proprietary Data		6.0794	mg
			Supplier	Carbon Black (C)	1333-86-4		2.1712	mg
			Supplier	Aluminum Hydroxide (Al(OH)3)	21645-51-2		6.5136	mg
			Supplier	Fused Silica (SiO2)	60676-86-0		173.696	mg
			Supplier	Ortho-Cresol Novolac Resin	29690-82-2		17.3696	mg
			Supplier	Silica Crystalline (SiO2)	14808-60-7		0.4342	mg
Plating	3.85	mg	B	Bismuth (Bi)	7440-69-9		0.0231	mg
			Supplier	Tin (Sn)	7440-31-5		3.8269	mg
Wire Bond - Cu	0.36	mg	Supplier	Copper (Cu)	7440-50-8		0.36	mg