

# Full Material Declaration for PZU3.9B1

Date	2025-05-06 16:04:58 CEST+0200
Package	SOD323F; 0.7 mm × 1.25 mm × 2.5 mm
Description	Single Zener diodes in a SOD323F package
Datasheet	<a href="https://assets.nexperia.com/documents/data-sheet/PZUXB_SER.pdf">https://assets.nexperia.com/documents/data-sheet/PZUXB_SER.pdf</a>
OPNs	934059787115: PZU3.9B1,115 (DOD), MSL 1
Automotive-qualified	Yes
UL-94	<a href="https://iq.ulprospector.com/en/profile?e=574821">https://iq.ulprospector.com/en/profile?e=574821</a>



REACH	Compliant with Regulation 1907/2006/EC (REACH). Does not contain REACH SVHC substances exceeding 1000 ppm of the article.
EU RoHS	Compliant with Directive 2011/65/EU, amended by Directive 2015/863/EU, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ('RoHS 2 amended') without exemptions.
CN RoHS	Compliant with Chinese Administration on the Control of Pollution Caused by Electronic Information Products (ACPEIP; CN RoHS).
ELV	Compliant with Directive 2000/53/EC, amended by Directive 2023/533, on end of life vehicles (ELV) without exemptions.
PFAS	Does not contain any intentionally added per- and polyfluoroalkyl substances (PFAS).
CA Proposition 65	Contains California Proposition 65 substance(s) [at the article level]: substance 1333-86-4: 1696 ppm; substance 7439-92-1: 1 ppm;
IEC 62474	Contains IEC 62474 substance(s) [at the article level]: substance 1333-86-4: 1696 ppm; substance 7439-92-1: 1 ppm;
Precious Metals	Contains precious metals [Ag, Au, Pd, Pt; at the article level]: substance 7440-22-4: 319 ppm;
GADSL	Contains 'Global Automotive Declarable Substances List' (GADSL) substances: substance 7440-50-8: 390594 ppm; substance 7440-22-4: 319 ppm; substance 7439-92-1: 1 ppm;
RHF Indicator	D: Lead-free and halogen-free according to Nexperia's halogen-free definition.

Material	Mat. Group	Substance	CAS No.	Mass / mg	Mass-% of Material	Mass-% of Part
Die	Doped silicon	Silicon (Si)	7440-21-3	0.050000	100.000000	1.321644
<b>Die Total</b>				<b>0.050000</b>	<b>100.000000</b>	<b>1.321644</b>
Lead Frame	Copper alloy	Copper (Cu)	7440-50-8	1.474515	97.650000	38.975689
Lead Frame	Copper alloy	Iron (Fe)	7439-89-6	0.031861	2.110000	0.842178
Lead Frame	Copper alloy	Zinc (Zn)	7440-66-6	0.001963	0.130000	0.051888
Lead Frame	Copper alloy	Phosphorus (P)	7723-14-0	0.000453	0.030000	0.011974
<i>Base Alloy Total</i>				<i>1.508792</i>	<i>99.920000</i>	<i>39.881729</i>
Lead Frame	Pure metal layer	Silver (Ag)	7440-22-4	0.001208	0.080000	0.031931
<i>Pre-Plating Total</i>				<i>0.001208</i>	<i>0.080000</i>	<i>0.031931</i>
<b>Lead Frame Total</b>				<b>1.510000</b>	<b>100.000000</b>	<b>39.913660</b>
Mould Compound	Filler	Silica fused	60676-86-0	1.607140	75.100000	42.481351
Mould Compound	Polymer	o-Cresol-epichlorohydrin-formaldehyde copolymer	29690-82-2	0.374500	17.500000	9.899116
Mould Compound	Polymer	Formaldehyde-phenol copolymer	9003-35-4	0.151940	7.100000	4.016213
Mould Compound	Pigment	Carbon black	1333-86-4	0.006420	0.300000	0.169699
<b>Mould Compound Total</b>				<b>2.140000</b>	<b>100.000000</b>	<b>56.566379</b>
Post-Plating	Tin solder	Tin (Sn)	7440-31-5	0.079952	99.940000	2.113362
Post-Plating	Impurity	Non-declarable		0.000044	0.055500	0.001163
Post-Plating	Impurity	Lead (Pb)	7439-92-1	0.000004	0.004500	0.000106
<b>Post-Plating Total</b>				<b>0.080000</b>	<b>100.000000</b>	<b>2.114631</b>
Wire	Pure metal	Copper (Cu)	7440-50-8	0.003166	100.000000	0.083686

Material	Mat. Group	Substance	CAS No.	Mass / mg	Mass-% of Material	Mass-% of Part
Wire Total				0.003166	100.000000	0.083686
PZU3.9B1 Total				3.783166	100.000000	100.000000

部件名称 Material	有毒或有害物质和元素 (Toxic or hazardous substances and elements)					
	铅 (Pb)	镉 (Cd)	汞 (Hg)	六价铬 (Cr <sup>6+</sup> )	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
半导体芯片 (Die)	○	○	○	○	○	○
基底合金 (Base Alloy)	○	○	○	○	○	○
预镀层 (Pre-Plating)	○	○	○	○	○	○
模封料 (Mould Compound)	○	○	○	○	○	○
后镀层 (Post-Plating)	○	○	○	○	○	○
导线 (Wire)	○	○	○	○	○	○

○ 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下  
Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

× 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求  
Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

该半导体产品具有无限期的环保使用期限 (EFUP) 。  
This semiconductor product has an indefinite environmental friendly use period (EFUP).

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