

# Full Material Declaration for PZU3.9B1A

Date	2025-03-21 14:59:42 CET+0100
Package	SOD323 (SOD2): 1.1 mm × 1.25 mm × 1.7 mm
Description	Single Zener diodes
Datasheet	<a href="https://assets.nexperia.com/documents/data-sheet/PZUXBA_SER.pdf">https://assets.nexperia.com/documents/data-sheet/PZUXBA_SER.pdf</a>
OPNs	934062478115: PZU3.9B1A,115 (DOD), MSL 1
Automotive-qualified	No
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 7439-92-1: 94 ppm; substance 1333-86-4: 1939 ppm;
IEC 62474	Contains IEC 62474 substance(s) [at the article level]: substance 7439-92-1: 94 ppm; substance 1333-86-4: 1939 ppm;
Precious Metals	Contains precious metals [Ag, Au, Pd, Pt; at the article level]: substance 7440-22-4: 6264 ppm;
GADSL	Contains 'Global Automotive Declarable Substances List' (GADSL) substances: substance 7440-50-8: 294047 ppm; substance 7439-92-1: 94 ppm; substance 7440-22-4: 6264 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	1.205428
<b>Die Total</b>				<b>0.050000</b>	<b>100.000000</b>	<b>1.205428</b>
Lead Frame	Copper alloy	Copper (Cu)	7440-50-8	1.216512	95.040000	29.328355
Lead Frame	Copper alloy	Iron (Fe)	7439-89-6	0.032640	2.550000	0.786903
Lead Frame	Copper alloy	Zinc (Zn)	7440-66-6	0.002560	0.200000	0.061718
Lead Frame	Copper alloy	Phosphorus (P)	7723-14-0	0.001920	0.150000	0.046288
Lead Frame	Copper alloy	Lead (Pb)	7439-92-1	0.000384	0.030000	0.009258
<i>Base Alloy Total</i>				<i>1.254016</i>	<i>97.970000</i>	<i>30.232522</i>
Lead Frame	Pure metal layer	Silver (Ag)	7440-22-4	0.025984	2.030000	0.626437
<i>Pre-Plating Total</i>				<i>0.025984</i>	<i>2.030000</i>	<i>0.626437</i>
<b>Lead Frame Total</b>				<b>1.280000</b>	<b>100.000000</b>	<b>30.858959</b>
Mould Compound	Filler	Silica fused	60676-86-0	2.013734	75.100000	48.548231
Mould Compound	Polymer	o-Cresol-epichlorohydrin-formaldehyde copolymer	29690-82-2	0.469246	17.500000	11.312846
Mould Compound	Polymer	Formaldehyde-phenol copolymer	9003-35-4	0.190380	7.100000	4.589788
Mould Compound	Pigment	Carbon black	1333-86-4	0.008044	0.300000	0.193929
<b>Mould Compound Total</b>				<b>2.681404</b>	<b>100.000000</b>	<b>64.644794</b>
Post-Plating	Tin solder	Tin (Sn)	7440-31-5	0.133254	99.940000	3.212562
Post-Plating	Impurity	Non-declarable		0.000074	0.055500	0.001784
Post-Plating	Impurity	Lead (Pb)	7439-92-1	0.000006	0.004500	0.000145
<b>Post-Plating Total</b>				<b>0.133334</b>	<b>100.000000</b>	<b>3.214491</b>

Material	Mat. Group	Substance	CAS No.	Mass / mg	Mass-% of Material	Mass-% of Part
Wire	Pure metal	Copper (Cu)	7440-50-8	0.003166	100.000000	0.076328
Wire Total				0.003166	100.000000	0.076328
PZU3.9B1A Total				4.147904	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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