

# Full Material Declaration for PZU9.1BL

Date	2025-02-01 20:37:51 CET+0100
Package	SOD882 (DFN1006-2): 0.48 mm × 0.6 mm × 1.0 mm
Description	Single Zener diodes
Datasheet	<a href="https://assets.nexperia.com/documents/data-sheet/PZUXBL_SER.pdf">https://assets.nexperia.com/documents/data-sheet/PZUXBL_SER.pdf</a>
OPNs	934061679315: PZU9.1BL,315 (RFS), MSL 1
Automotive-qualified	Yes
UL-94	<a href="https://iq.ulprospector.com/en/profile?e=594631">https://iq.ulprospector.com/en/profile?e=594631</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 7440-02-0: 19600 ppm; substance 1333-86-4: 2433 ppm; substance 7439-92-1: 1 ppm;
IEC 62474	Contains IEC 62474 substance(s) [at the article level]: substance 7440-02-0: 19600 ppm; substance 1333-86-4: 2433 ppm; substance 7439-92-1: 1 ppm;
Precious Metals	Contains precious metals [Ag, Au, Pd, Pt; at the article level]: substance 7440-22-4: 8220 ppm; substance 7440-05-3: 754 ppm; substance 7440-57-5: 5065 ppm;
GADSL	Contains 'Global Automotive Declarable Substances List' (GADSL) substances: substance 7440-22-4: 8220 ppm; substance 7440-50-8: 419020 ppm; substance 7440-02-0: 19601 ppm; substance 7439-95-4: 887 ppm; substance 7440-05-3: 754 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
Adhesive	Filler	Silver (Ag)	7440-22-4	0.007600	76.000000	0.822012
Adhesive	Polymer	Phenolic resin		0.001353	13.530000	0.146340
Adhesive	Polymer	Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	0.001047	10.470000	0.113243
Adhesive Total				0.010000	100.000000	1.081595
Die	Doped silicon	Silicon (Si)	7440-21-3	0.030000	100.000000	3.244787
Die Total				0.030000	100.000000	3.244787
Lead Frame	Copper alloy	Copper (Cu)	7440-50-8	0.387409	94.490000	41.901986
Lead Frame	Copper alloy	Nickel (Ni)	7440-02-0	0.012915	3.150000	1.396881
Lead Frame	Copper alloy	Silicon (Si)	7440-21-3	0.002829	0.690000	0.305983
Lead Frame	Copper alloy	Magnesium (Mg)	7439-95-4	0.000820	0.200000	0.088691
Base Alloy Total				0.403973	98.530000	43.693541
Lead Frame	Pure metal layer	Nickel (Ni)	7440-02-0	0.005207	1.270000	0.563187
Pre-Plating 1 Total				0.005207	1.270000	0.563187
Lead Frame	Pure metal layer	Palladium (Pd)	7440-05-3	0.000697	0.170000	0.075387
Pre-Plating 2 Total				0.000697	0.170000	0.075387
Lead Frame	Pure metal layer	Gold (Au)	7440-57-5	0.000123	0.030000	0.013303
Pre-Plating 3 Total				0.000123	0.030000	0.013303
Lead Frame Total				0.410000	100.000000	44.345418
Mould Compound	Filler	Silica fused	60676-86-0	0.270000	60.000000	29.203081

Material	Mat. Group	Substance	CAS No.	Mass / mg	Mass-% of Material	Mass-% of Part
Mould Compound	Filler	Silica	7631-86-9	0.103500	23.000000	11.194514
Mould Compound	Polymer	Epoxy resin system		0.031500	7.000000	3.407026
Mould Compound	Polymer	Phenolic resin		0.027000	6.000000	2.920308
Mould Compound	Flame retardant	Aluminium hydroxide (Al(OH)3)	21645-51-2	0.013500	3.000000	1.460154
Mould Compound	Pigment	Carbon black	1333-86-4	0.002250	0.500000	0.243359
Mould Compound	Ion trapping agent	Bismuth (Bi)	7440-69-9	0.002250	0.500000	0.243359
Mould Compound Total				0.450000	100.000000	48.671801
Post-Plating	Tin solder	Tin (Sn)	7440-31-5	0.019988	99.940000	2.161893
Post-Plating	Impurity	Non-declarable		0.000011	0.055500	0.001190
Post-Plating	Impurity	Lead (Pb)	7439-92-1	0.000001	0.004500	0.000108
Post-Plating Total				0.020000	100.000000	2.163191
Wire	Pure metal	Gold (Au)	7440-57-5	0.004560	99.990000	0.493208
Wire	Impurity	Non-declarable		0.000000	0.010000	0.000000
Wire Total				0.004560	100.000000	0.493208
PZU9.1BL Total				0.924560	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)
胶黏剂 (Adhesive)	○	○	○	○	○	○
半导体芯片 (Die)	○	○	○	○	○	○
基底合金 (Base Alloy)	○	○	○	○	○	○
预镀层1 (Pre-Plating 1)	○	○	○	○	○	○
预镀层2 (Pre-Plating 2)	○	○	○	○	○	○
预镀层3 (Pre-Plating 3)	○	○	○	○	○	○
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).

All information in this document is furnished for exploratory or indicative purposes only. All information in this document is believed to be accurate and reliable. However, Nexperia does not give any representations or warranties as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. Nexperia may make changes to information published in this document at any time and without notice. Minor deviations may occur in the products from different manufacturing location. This document supersedes and replaces all information supplied prior to the publication hereof. Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.