

Full Material Declaration for PZU5.1B2A

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|----------------------|---|
| Date | 2025-03-21 14:59:48 CET+0100 |
| Package | SOD323 (SOD2): 1.1 mm × 1.25 mm × 1.7 mm |
| Description | Single Zener diodes |
| Datasheet | https://assets.nexperia.com/documents/data-sheet/PZUXBA_SER.pdf |
| OPNs | 934062777115: PZU5.1B2A,115 (RFS), MSL 1 |
| Automotive-qualified | No |
| UL-94 | https://iq.ulprospector.com/en/profile?e=574821 |



| | |
|-------------------|--|
| 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 |
| Die Total | | | | 0.050000 | 100.000000 | 1.205428 |
| 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> |
| Lead Frame Total | | | | 1.280000 | 100.000000 | 30.858959 |
| 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 |
| Mould Compound Total | | | | 2.681404 | 100.000000 | 64.644794 |
| 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 |
| Post-Plating Total | | | | 0.133334 | 100.000000 | 3.214491 |

| 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 |
| PZU5.1B2A 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 ⁶⁺) | 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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