

## BZP61 / BZP62 Silicon Power Zener Diode

### Description

The BZP61/62 are plastic sealed 35A- forward current diodes, which are available in different Zener voltages.

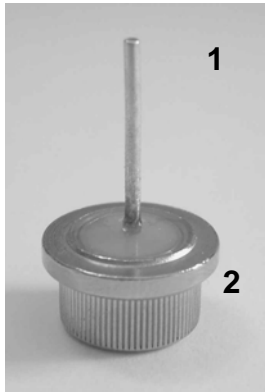
### Features

- Forward current 35A
- Zener voltages 22V, 27V, 33V or 39V
- Plastic sealed press-fit package
- Available in different package modifications

### Applications

- Power supplies
- Rectifier diode in car alternators

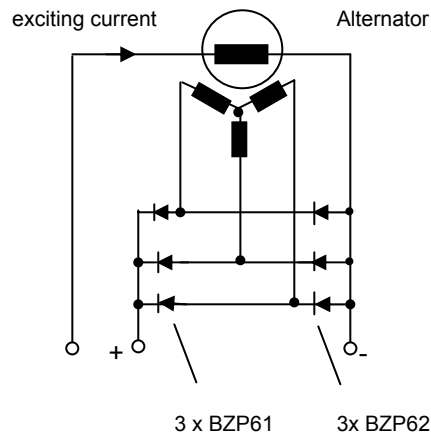
### Pinout details



**BZP61:** 1 - cathode  
2 - anode

**BZP62:** 1 - anode  
2 - cathode

### Typical application circuit

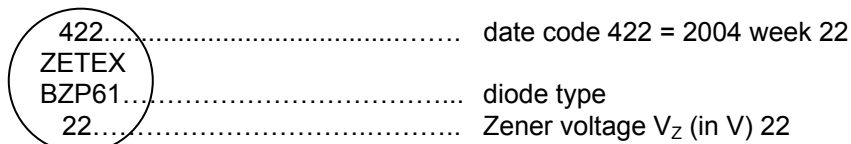


### Ordering information

| Device                  | Quantity per box | Options   |
|-------------------------|------------------|---|
| BZP61-22; ...; BZP61-39 | 500              | The package quantities for the different package modifications are included in "PressFitPackageModifications.pdf" |
| BZP62-22; ...; BZP62-39 | 500              |   |

### Device marking

Devices are identified by type. Colour of marking: BZP61- black, BZP62 – red



# DISCONTINUED BZP61 / BZP62

**Absolute maximum ratings** (at  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise stated)

| Parameter                       |          | Symbol                      |               | Unit                 | Test condition   |                            |
|---------------------------------|----------|-----------------------------|---------------|----------------------|--|----------------------------|
| Z-current<br>(continuous)       | BZP61-22 | BZP62-22                    | $I_z$         | 5.5                  | A  | $T_c = 25^{\circ}\text{C}$ |
|                                 | BZP61-27 | BZP62-27                    |               | 4.5                  |  |                            |
|                                 | BZP61-33 | BZP62-33                    |               | 3.8                  |  |                            |
|                                 | BZP61-39 | BZP62-39                    |               | 3.3                  |  |                            |
| Mean forward current            |          | $I_{F(AV)}$                 | 35            | A                    | sinusoidal,<br>$f = 15 - 1000 \text{ Hz}$                                |                            |
| Surge forward current           |          | $I_{FSM}$                   | 600           | A                    | $T_J = 25^{\circ}\text{C}$ ,<br>half-sine wave,<br>$\leq 10 \text{ ms}$  |                            |
|                                 |          |                             | 500           |                      | $T_J = 175^{\circ}\text{C}$ ,<br>half-sine wave,<br>$\leq 10 \text{ ms}$ |                            |
| Maximum rated value             |          | $\int i^2 dt$               | 1800          | $\text{A}^2\text{s}$ | $T_J = 25^{\circ}\text{C}$ ,<br>half-sine wave,<br>$\leq 10 \text{ ms}$  |                            |
|                                 |          |                             | 1250          |                      | $T_J = 175^{\circ}\text{C}$ ,<br>half-sine wave,<br>$\leq 10 \text{ ms}$ |                            |
| Repetitive peak forward current |          | $I_{FRM} = \pi * I_{F(AV)}$ | 110           | A                    | $f = 15 - 1000 \text{ Hz}$   |                            |
| Effective forward current       |          | $I_{F(RMS)}$                | 55            | A                    | sinusoidal,<br>$f = 15 - 1000 \text{ Hz}$                                |                            |
| Junction temperature            |          | $T_{Jmax}$                  | 140           | $^{\circ}\text{C}$   |  |                            |
| Storage temperature range       |          | $T_{stg}$                   | - 50 to + 140 | $^{\circ}\text{C}$   |  |                            |

## Thermal resistance

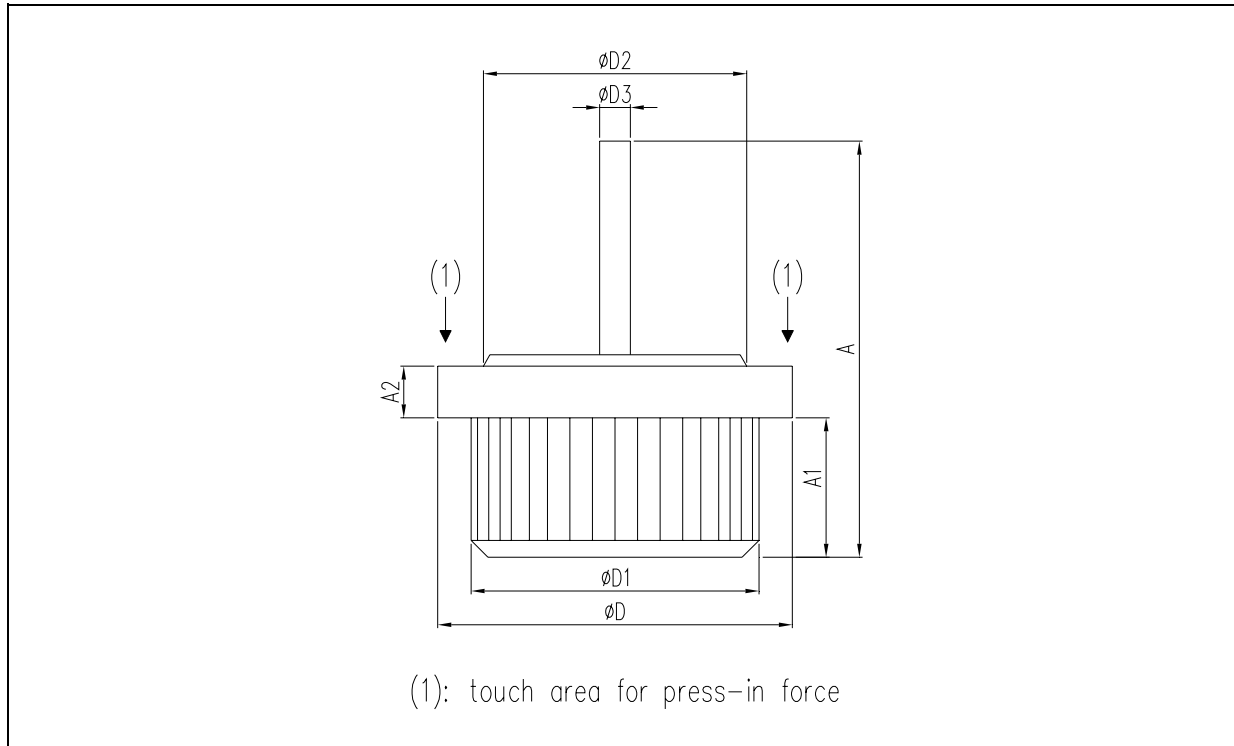
| Parameter        | Symbol          | Value | Unit                 |
|------------------|-----------------|-------|----------------------|
| Junction to case | $R_{\theta JC}$ | 0.8   | $^{\circ}\text{C/W}$ |

# DISCONTINUED **BZP61 / BZP62**

**Electrical characteristics** (at  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise stated)

| Parameter   |          |          | Symbol | Min. | Typ. | Max. | Unit          | Test conditions                                |
|---|----------|----------|--------|------|------|------|---------------|--|
| Z-voltage   | BZP61-22 | BZP62-22 | $V_Z$  | 20.8 | 22   | 23.3 | V             | at $I_Z = 100\text{mA}$                        |
|   | BZP61-27 | BZP62-27 |        | 25.1 | 27   | 28.9 |               |  |
|   | BZP61-33 | BZP62-33 |        | 31   | 33   | 35   |               |  |
|   | BZP61-39 | BZP62-39 |        | 37   | 39   | 41   |               |  |
| Forward voltage                                   |          |          | $V_F$  | -    | 1.0  | 1.1  | V             | $I_F = 35\text{ A}$ ,<br>measuring time<br>1ms |
| Reverse current                                   |          |          | $I_R$  | -    | -    | 200  | $\mu\text{A}$ | at $V_Z = -5\text{V}$                          |
| Dynamical<br>resistance                           | BZP61-22 | BZP62-22 | $r_z$  | -    | -    | 2    | $\Omega$      | at $I_Z = 100\text{mA}$                        |
|   | BZP61-27 | BZP62-27 |        | -    | -    | 3.5  |               |  |
|   | BZP61-33 | BZP62-33 |        | -    | -    | 5    |               |  |
|   | BZP61-39 | BZP62-39 |        | -    | -    | 6    |               |  |
| Dynamical<br>resistance<br>(information<br>value) | BZP61-22 | BZP62-22 | $r_z$  | -    | -    | 200  | m $\Omega$    | at $I_Z = 1\text{A}$                           |
|   | BZP61-27 | BZP62-27 |        | -    | -    | 350  |               |  |
|   | BZP61-33 | BZP62-33 |        | -    | -    | 500  |               |  |
|   | BZP61-39 | BZP62-39 |        | -    | -    | 700  |               |  |
| Dynamical<br>resistance<br>(information<br>value) | BZP61-22 | BZP62-22 | $r_z$  | -    | -    | 20   | m $\Omega$    | at $I_Z = 10\text{A}$                          |
|   | BZP61-27 | BZP62-27 |        | -    | -    | 35   |               |  |
|   | BZP61-33 | BZP62-33 |        | -    | -    | 50   |               |  |
|   | BZP61-39 | BZP62-39 |        | -    | -    | 80   |               |  |

## Packaging details



## Package dimensions

Dimensions in millimeters are control dimensions, dimensions in inches are approximate

| DIM | Millimeters |       |       | Inches |       |       |
|-----|-------------|-------|-------|--------|-------|-------|
|     | MIN         | TYP   | MAX   | MIN    | TYP   | MAX   |
| A   | 18,00       | 18,50 | 19,00 | 0,709  | 0,728 | 0,748 |
| A1  | 5,70        | 6,20  | 6,70  | 0,224  | 0,244 | 0,264 |
| A2  | 2,10        | 2,30  | 2,50  | 0,083  | 0,091 | 0,098 |
| D   | 15,50       | 15,70 | 15,90 | 0,610  | 0,618 | 0,626 |
| D1  | 12,72       | 12,77 | 12,82 | 0,501  | 0,503 | 0,505 |
| D2  | 11,50       | 11,70 | 11,90 | 0,453  | 0,461 | 0,469 |
| D3  | 1,31        | 1,36  | 1,41  | 0,052  | 0,054 | 0,056 |

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