

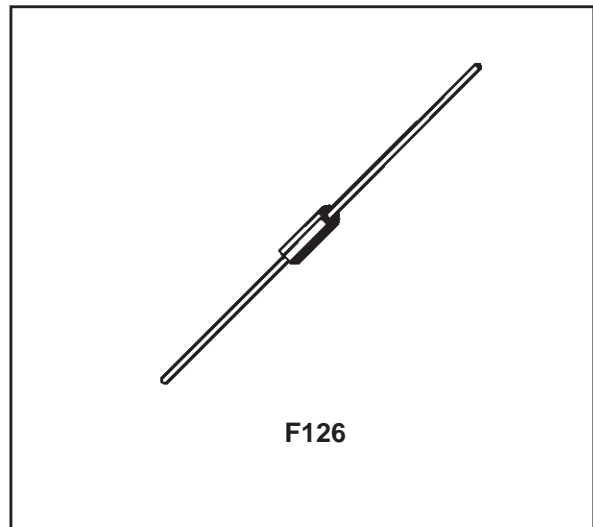
2W ZENER DIODES

FEATURES

- VOLTAGE RANGE : 5.1 V to 200 V
- HERMETICALLY SEALED PLASTIC CASE : F126 PACKAGE
- HIGH SURGE CAPABILITY : 55 W (10 ms) .

DESCRIPTION

2 W silicon Zener diodes.



ABSOLUTE RATINGS (T_{amb} = 25°C)

| Symbol | Parameter | | Value | Unit |
|------------------------------------|--|-------------------------|----------------------|----------|
| P | Power dissipation on infinite heatsink | T _{amb} = 55°C | 2 | W |
| T _{stg} T _j | Storage temperature range Maximum junction temperature | | - 65 to + 175 175 | °C °C |
| T _L | Maximum lead temperature for soldering during 10s at 5mm from case | | 230 | °C |

THERMAL RESISTANCES

| Symbol | Parameter | Value | Unit |
|-----------------------|--|-------|------|
| R _{th} (j-l) | Junction to lead | 60 | °C/W |
| R _{th} (j-a) | Junction to ambient on printed circuit on recommended pad layout | 100 | °C/W |

BZV47C5V1 / BZV47C200

ELECTRICAL CHARACTERISTIC (Tamb= 25°C)

| TYPES | V _{ZT} @ I _{ZT} | | r _{ZK} / I _{ZK} | I _{ZT} | ∞V _Z | I _R / V _R | V _R | I _{ZM} | I _{ZSM} |
|-----------|-----------------------------------|-------------|-----------------------------------|-----------------|----------------------|---------------------------------|----------------|-------------------------------|------------------|
| | min. (1) | max. (1) | max. | (1) | typ. | max. | | T _{amb} =55°C (2) | (3) |
| | V | V | Ω | mA | 10 ⁻⁴ /°C | μA | V | mA | A |
| BZV47C5V1 | 4.8 | 5.4 | 5 | 100 | 1 | 5 | 1 | 370 | 7.8 |
| BZV47C5V6 | 5.2 | 6 | 2 | 100 | 2.5 | 5 | 1 | 330 | 7.1 |
| BZV47C6V2 | 5.8 | 6.6 | 2 | 100 | 3.2 | 5 | 1 | 300 | 6.4 |
| BZV47C7V5 | 7 | 7.9 | 2 | 100 | 4.5 | 5 | 2 | 250 | 5.4 |
| BZV47C10 | 9.4 | 10.6 | 4 | 50 | 5.5 | 5 | 7.6 | 185 | 4 |
| BZV47C12 | 11.4 | 12.7 | 7 | 50 | 6.5 | 1 | 9.1 | 155 | 3.3 |
| BZV47C15 | 13.8 | 15.6 | 10 | 50 | 7 | 1 | 11.4 | 130 | 2.7 |
| BZV47C18 | 16.8 | 19.1 | 15 | 25 | 7.5 | 0.5 | 13.7 | 105 | 2.2 |
| BZV47C20 | 18.8 | 21.2 | 15 | 25 | 7.5 | 0.5 | 15.2 | 94 | 2 |
| BZV47C22 | 20.8 | 23.3 | 15 | 25 | 8 | 0.5 | 16.7 | 86 | 1.8 |
| BZV47C24 | 22.8 | 25.6 | 15 | 25 | 8 | 0.5 | 18.2 | 78 | 1.7 |
| BZV47C27 | 25.1 | 28.9 | 15 | 25 | 8.5 | 0.5 | 20.5 | 69 | 1.5 |
| BZV47C30 | 28 | 32 | 15 | 25 | 8.5 | 0.5 | 22.8 | 62 | 1.3 |
| BZV47C36 | 34 | 38 | 40 | 10 | 8.5 | 0.5 | 27.4 | 52 | 1.1 |
| BZV47C39 | 37 | 41 | 40 | 10 | 9 | 0.5 | 29.6 | 48 | 1 |
| BZV47C47 | 44 | 50 | 45 | 10 | 9 | 0.5 | 35.7 | 40 | 0.85 |
| BZV47C68 | 64 | 72 | 80 | 10 | 9 | 0.5 | 51.7 | 27 | 0.59 |
| BZV47C100 | 94 | 106 | 200 | 5 | 9 | 0.5 | 76 | 18 | 0.4 |
| BZV47C150 | 138 | 156 | 300 | 5 | 9.5 | 0.5 | 114 | 12.8 | 0.27 |
| BZV47C200 | 188 | 212 | 350 | 5 | 9.5 | 0.5 | 152 | 9.4 | 0.20 |

Note 1 : Pulse test : tp ≤ 50ms

Note 2 : On infinite heatsink : L = 10mm

Note 3 : rectangular waveform (tp = 10ms)

Forward voltage drop : VF ≤ 1.2 V (Tamb = 25°C, IF = 500mA)

Fig. 1 : Power dissipation versus ambient temperature.

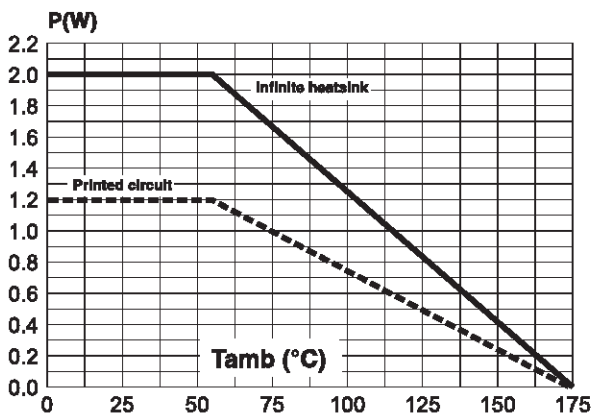


Fig. 2 : Thermal resistance versus lead length.

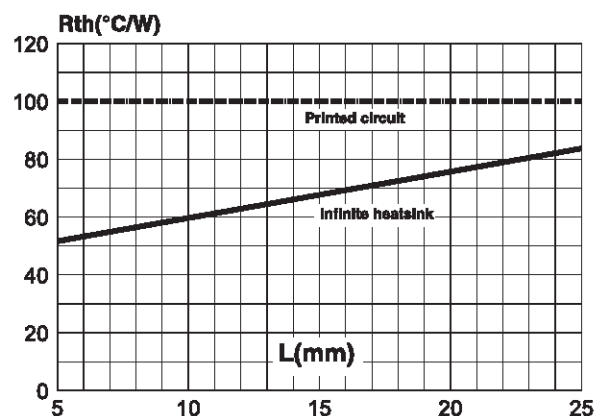


Fig. 3 : Relative variation of thermal impedance junction to ambient versus pulse duration (PC board FR4, $L_{leads} = 10\text{mm}$).

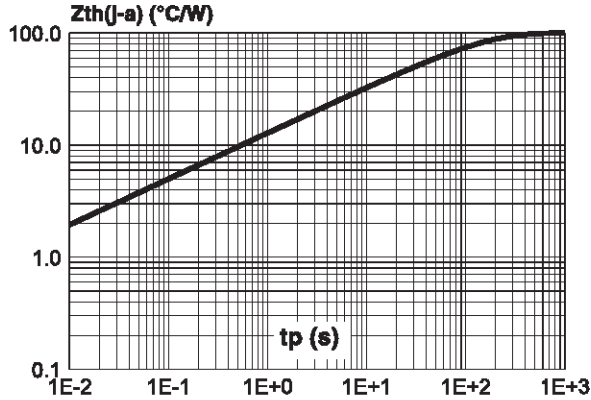


Fig. 5 : Peak forward current versus peak forward voltage drop (typical values).

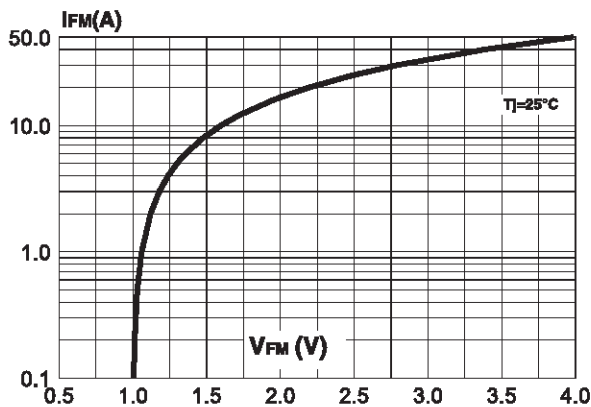


Fig. 7 : Differential resistance versus regulation voltage (typical values).

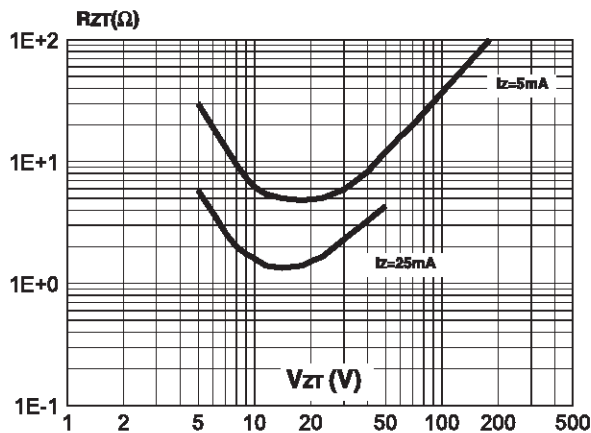


Fig. 4 : Junction capacitance versus reverse voltage applied (typical values).

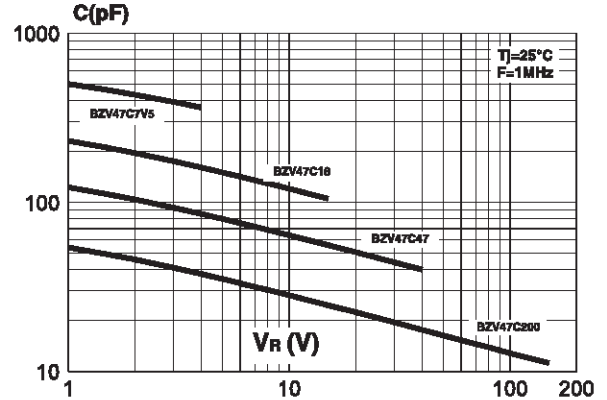


Fig. 6 : Leakage current versus regulation voltage (typical values).

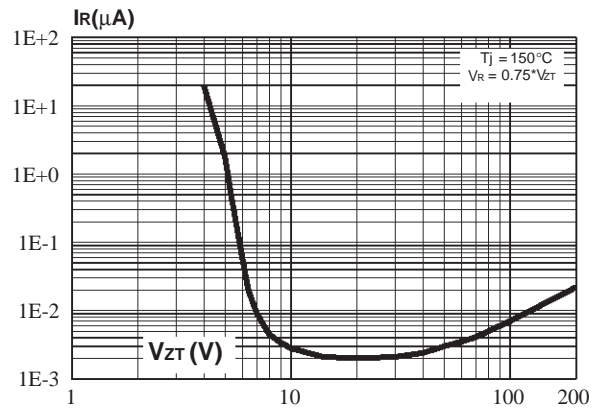
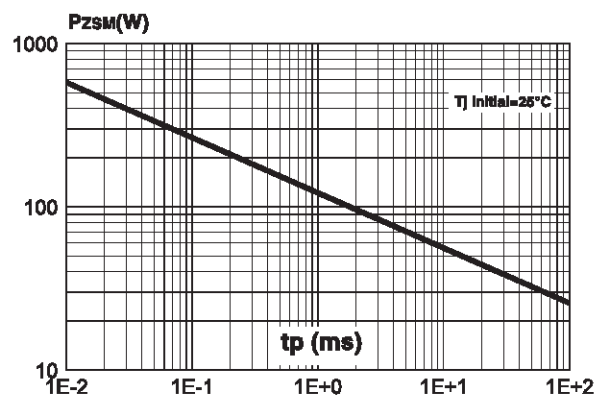


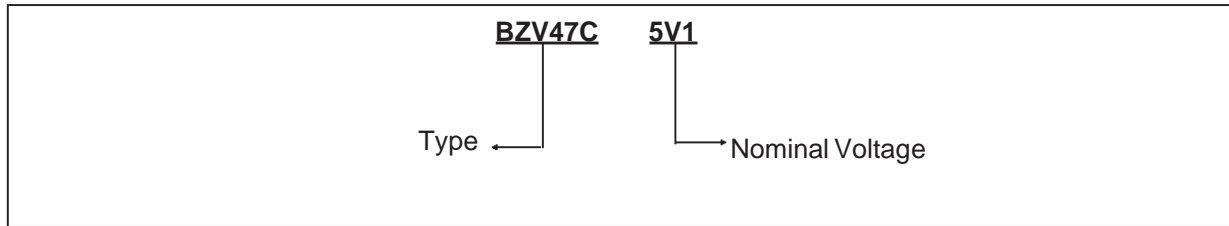
Fig. 8 : Peak pulse power versus pulse duration (rectangular waveform, maximum values).



BZV47C5V1 / BZV47C200

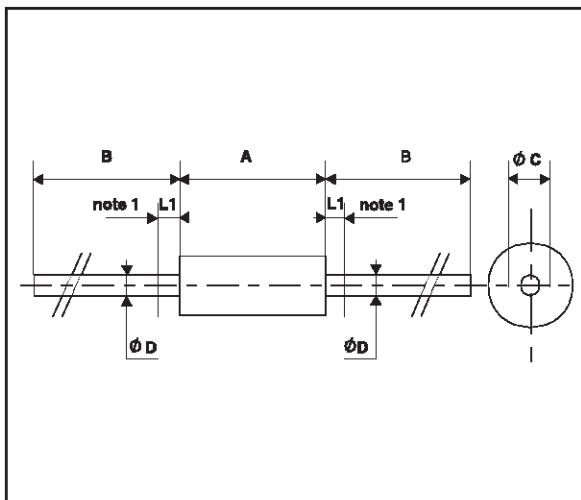
MARKING : Logo, Date Code, Type Code, Cathode Band (for unidirectional types only).

ORDER CODE



PACKAGE MECHANICAL DATA

F126 (Plastic)



| REF. | DIMENSIONS | | | | | |
|---|-------------|------|------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 6.05 | 6.20 | 6.35 | 0.238 | 0.244 | 0.250 |
| B | 26 | | 31 | 1.024 | | 1.220 |
| ØC | 2.95 | 3.00 | 3.05 | 0.116 | 0.118 | 0.120 |
| ØD | 0.76 | 0.81 | 0.86 | 0.030 | 0.032 | 0.034 |
| L1 | | | 1.27 | | | 0.050 |
| Note 1 : The lead is not controlled within zone L1. | | | | | | |

Packaging : standard packaging is in tape and reel.

Weight = 0.40 g.

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