



Micro Commercial Components



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# 2EZ5.1D5 THRU 2EZ75D5

## Features

- Glass Passivation Junction
- Lead Free Finish/RoHS Compliant (Note C) ("P" Suffix designates Compliant. See ordering information)
- Excellent Clamping Capability
- Halogen free available upon request by adding suffix "-HF"

**2 W Glass Passivated  
Junction Silicon  
Zener Diode  
5.1-75 Volts**

## Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- TERMINALS : Solder plated, solderable per MIL-STD-750, method 2026
- POLARITY : Color band denotes positive end (cathode)

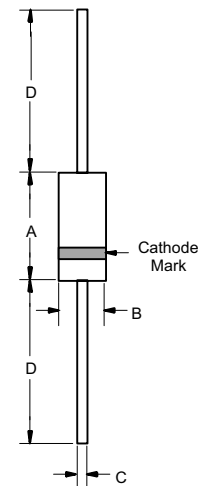
### Maximum Ratings @ 25°C Unless Otherwise Specified

|   |                                       |                            |                        |
|---|---------------------------------------|----------------------------|------------------------|
| Peak Pulse Power Dissipation (Note A)<br>Derate above 75°C  | <b>P<sub>D</sub></b>                  | <b>2<br/>26.7</b>          | <b>Watts<br/>mW/°C</b> |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note B) | <b>I<sub>FSM</sub></b>                | <b>15</b>                  | <b>Amps</b>            |
| Operating And Storage Temperature Range   | <b>T<sub>J</sub>, T<sub>STG</sub></b> | <b>-55°C to<br/>+150°C</b> |                        |

#### NOTES:

- A. Mounted on 5.0mm<sup>2</sup> (.013mm thick) land areas.
- B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
- C. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

DO-41



| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .166   | .205 | 4.10  | 5.20 |      |
| B   | .080   | .107 | 2.00  | 2.70 |      |
| C   | .028   | .034 | .70   | .90  |      |
| D   | 1.000  | ---  | 25.40 | ---  |      |

**2EZ5.1D5 THRU 2EZ75D5**

 ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)  $V_F=1.2\text{ V max}$ ,  $I_F=200\text{ mA}$  for all types

| Type No.<br>(Note 1.) | Nominal Zener<br>Voltage $V_Z@I_{ZT}$<br>volts<br>(Note 2.) | Test<br>current<br>$I_{ZT}$<br>mA | Maximum Zener Impedance (Note 3) |                   |          | Leakage Current   |       | Maximum Zener<br>Current<br>$I_{ZM}$<br>m A |
|-----------------------|---|-----------------------------------|----------------------------------|-------------------|----------|-------------------|-------|---|
|                       |   |                                   | $Z_{ZT} @ I_{ZT}$                | $Z_{ZK} @ I_{ZK}$ | $I_{ZK}$ | $I_R$             | $V_R$ |   |
|                       |   |                                   | Ohms                             | Ohms              | mA       | $\mu\text{A Max}$ | Volts |   |
| 2EZ5.1D5              | 5.1   | 98                                | 3.5                              | 600               | 1        | 5.0               | 1.0   | 356   |
| 2EZ5.6D5              | 5.6   | 89.5                              | 2.5                              | 500               | 1        | 5.0               | 2.0   | 324   |
| 2EZ6.2D5              | 6.2   | 80.5                              | 1.5                              | 700               | 1        | 5.0               | 3.0   | 292   |
| 2EZ6.8D5              | 6.8   | 73.5                              | 2.0                              | 700               | 1        | 5.0               | 4.0   | 266   |
| 2EZ7.5D5              | 7.5   | 66.5                              | 2.0                              | 700               | 0.5      | 5.0               | 5.0   | 242   |
| 2EZ8.2D5              | 8.2   | 61                                | 2.3                              | 700               | 0.5      | 5.0               | 6.0   | 220   |
| 2EZ9.1D5              | 9.1   | 55                                | 2.5                              | 700               | 0.5      | 3.0               | 7.0   | 200   |
| 2EZ10D5               | 10  | 50                                | 3.5                              | 700               | 0.25     | 3.0               | 7.6   | 182   |
| 2EZ11D5               | 11  | 45.5                              | 4.0                              | 700               | 0.25     | 1.0               | 8.4   | 166   |
| 2EZ12D5               | 12  | 41.5                              | 4.5                              | 700               | 0.25     | 1.0               | 9.1   | 152   |
| 2EZ13D5               | 13  | 38.5                              | 5.0                              | 700               | 0.25     | 0.5               | 9.9   | 138   |
| 2EZ14D5               | 14  | 35.7                              | 5.5                              | 700               | 0.25     | 0.5               | 10.6  | 130   |
| 2EZ15D5               | 15  | 33.4                              | 7.0                              | 700               | 0.25     | 0.5               | 11.4  | 122   |
| 2EZ16D5               | 16  | 31.2                              | 8.0                              | 700               | 0.25     | 0.5               | 12.2  | 114   |
| 2EZ17D5               | 17  | 29.4                              | 9.0                              | 750               | 0.25     | 0.5               | 13.0  | 107   |
| 2EZ18D5               | 18  | 27.8                              | 10                               | 750               | 0.25     | 0.5               | 13.7  | 100   |
| 2EZ19D5               | 19  | 26.3                              | 11                               | 750               | 0.25     | 0.5               | 14.4  | 95  |
| 2EZ20D5               | 20  | 25                                | 11                               | 750               | 0.25     | 0.5               | 15.2  | 90  |
| 2EZ22D5               | 22  | 22.8                              | 12                               | 750               | 0.25     | 0.5               | 16.7  | 82  |
| 2EZ24D5               | 24  | 20.8                              | 13                               | 750               | 0.25     | 0.5               | 18.2  | 76  |
| 2EZ27D5               | 27  | 18.5                              | 18                               | 750               | 0.25     | 0.5               | 20.6  | 68  |
| 2EZ30D5               | 30  | 16.6                              | 20                               | 1000              | 0.25     | 0.5               | 22.5  | 60  |
| 2EZ33D5               | 33  | 15.1                              | 23                               | 1000              | 0.25     | 0.5               | 25.1  | 55  |
| 2EZ36D5               | 36  | 13.9                              | 25                               | 1000              | 0.25     | 0.5               | 27.4  | 50  |
| 2EZ39D5               | 39  | 12.8                              | 30                               | 1000              | 0.25     | 0.5               | 29.7  | 47  |
| 2EZ43D5               | 43  | 11.6                              | 35                               | 1500              | 0.25     | 0.5               | 32.7  | 43  |
| 2EZ47D5               | 47  | 10.6                              | 40                               | 1500              | 0.25     | 0.5               | 35.8  | 39  |
| 2EZ51D5               | 51  | 9.8                               | 48                               | 1500              | 0.25     | 0.5               | 38.8  | 36  |
| 2EZ56D5               | 56  | 9.0                               | 55                               | 2000              | 0.25     | 0.5               | 42.6  | 32  |
| 2EZ62D5               | 62  | 8.1                               | 60                               | 2000              | 0.25     | 0.5               | 47.1  | 29  |
| 2EZ68D5               | 68  | 7.4                               | 75                               | 2000              | 0.25     | 0.5               | 51.7  | 27  |
| 2EZ75D5               | 75  | 6.7                               | 90                               | 2000              | 0.25     | 0.5               | 56.0  | 24  |

**Notes:**

1. TOLERANCES - Suffix indicates 5% tolerance any other tolerance will be considered as a special device.
2. ZENER VOLTAGE ( $V_Z$ ) MEASUREMENT - guarantees the zener voltage when measured at 40 ms from the diode body, and an ambient temperature of 25
3. ZENER IMPEDANCE ( $Z_Z$ ) DERIVATION - The zener impedance is derived from the 60 cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$

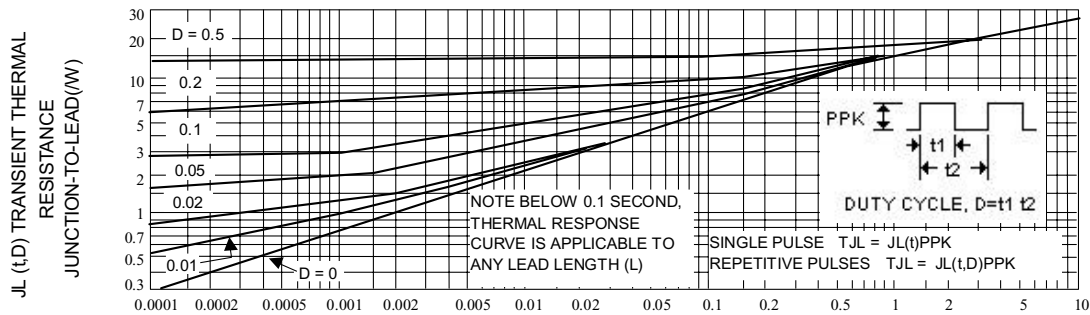


Fig. 2-TYPICAL THERMAL RESPONSE

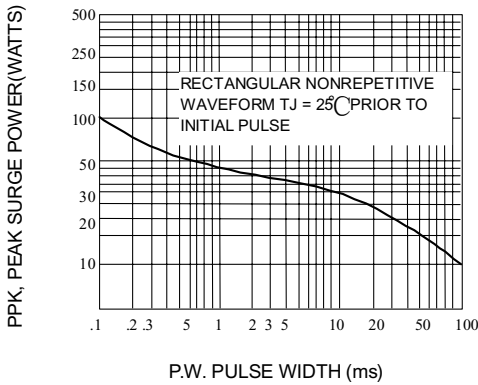


Fig. 3-MAXIMUM SURGE POWER

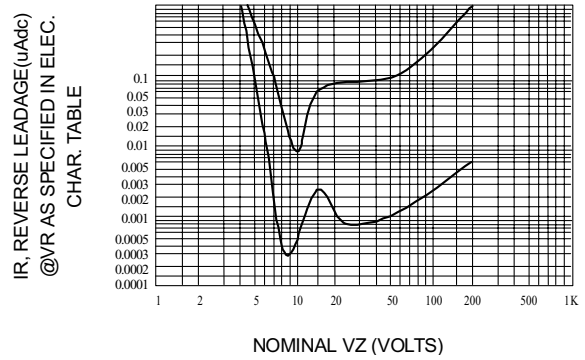


Fig. 4-TYPICAL REVERSE LEAKAGE

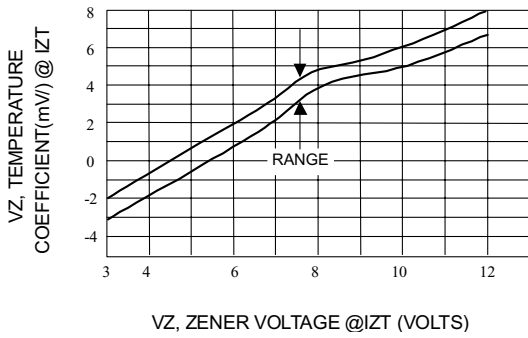


Fig. 5-UNITS 3.9 TO 12 VOLTS

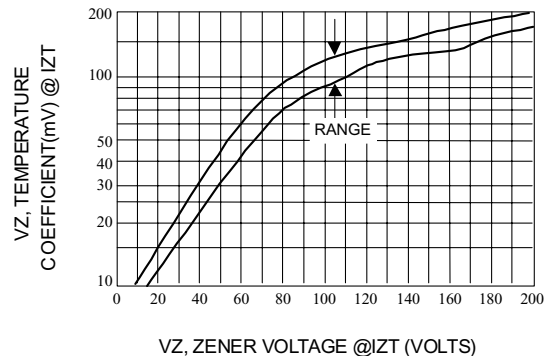


Fig. 6-UNITS 10 TO 200 VOLTS

RATING AND CHARACTERISTICS CURVES  
2EZ5.1 D5 THRU 2EZ75D5

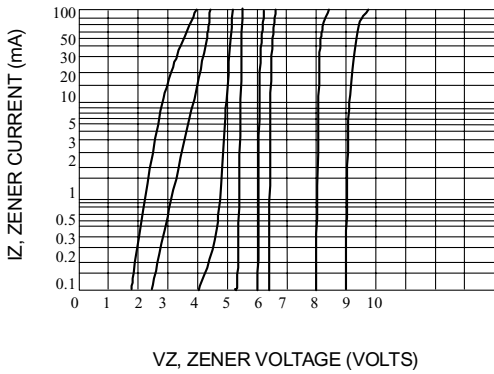


Fig. 7-V<sub>Z</sub> = 3.9 THRU 10 VOLTS

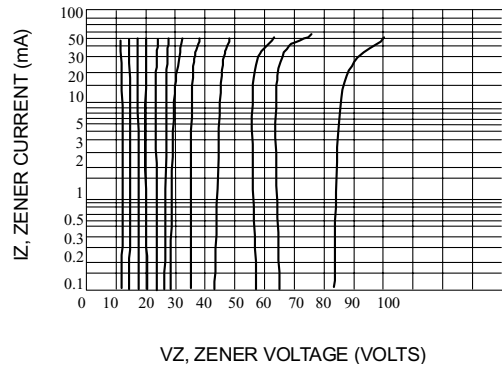


Fig. 8-V<sub>Z</sub> = 12 THRU 82 VOLTS

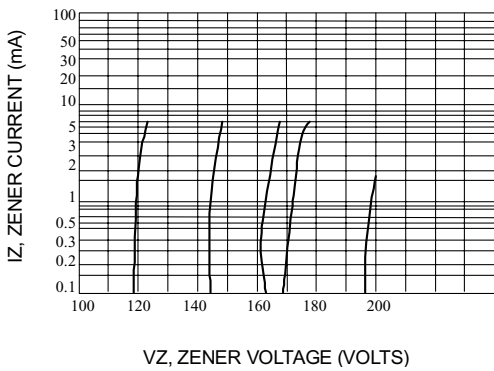


Fig. 9-V<sub>Z</sub> = 100 THRU 200 VOLTS

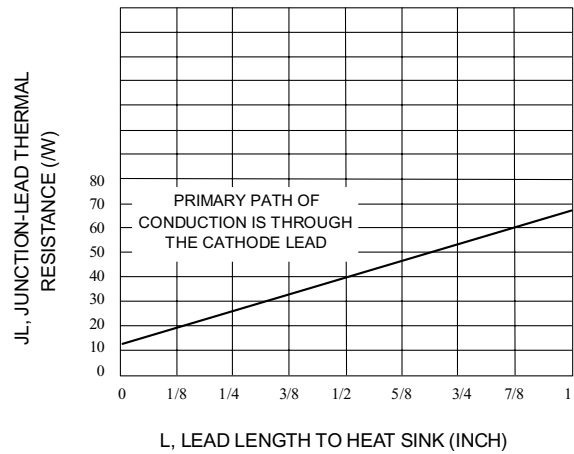


Fig. 10-TYPICAL THERMAL RESISTANCE

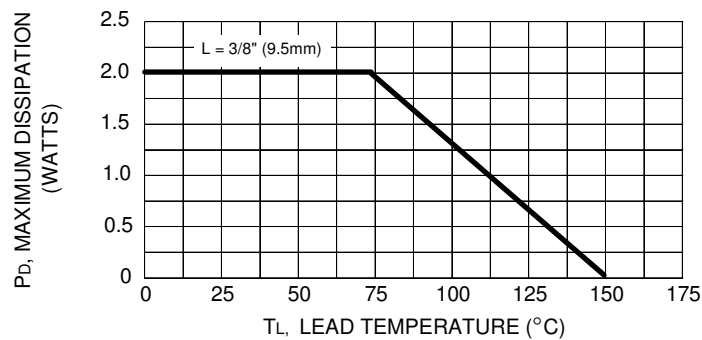


Fig. 11- POWER TEMPERATURE DERATING CURVE



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### Ordering Information :

| Device         | Packing                      |
|----------------|------------------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel        |
| Part Number-AP | Ammo Packing: 5Kpcs/Ammo Box |
| Part Number-BP | Bulk: 50Kpcs/Carton          |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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