

**Maximum Ratings (Per Leg)** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitance load, derate current by 20%.

| Characteristic  | Symbol           | Value  | Unit |
|---|------------------|--------|------|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub> | 60     | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub> |        |      |
| DC Blocking Voltage   | V <sub>RM</sub>  |        |      |
| Average Rectified Output Current (Per Leg)<br>(Total)   | I <sub>O</sub>   | 3<br>6 | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub> | 80     | A    |
| Repetitive Peak Avalanche Power (1μs, +25°C)  | P <sub>ARM</sub> | 8550   | W    |
| Non-Repetitive Avalanche Energy<br>(T <sub>J</sub> = +25°C, I <sub>AS</sub> = 5A, L = 10mH)         | E <sub>AS</sub>  | 116    | mJ   |

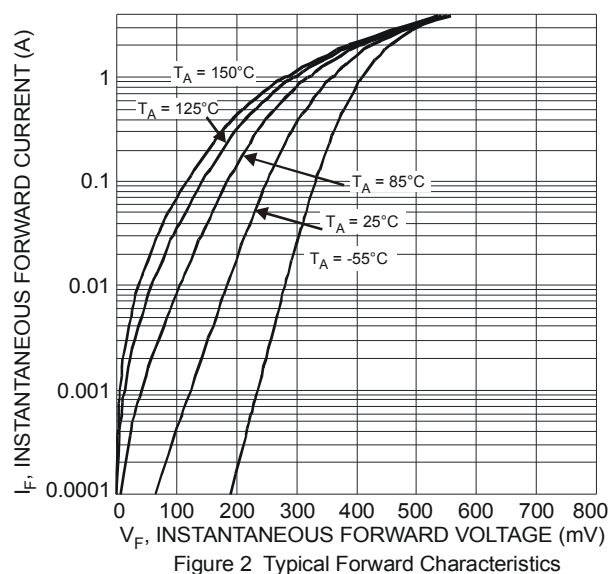
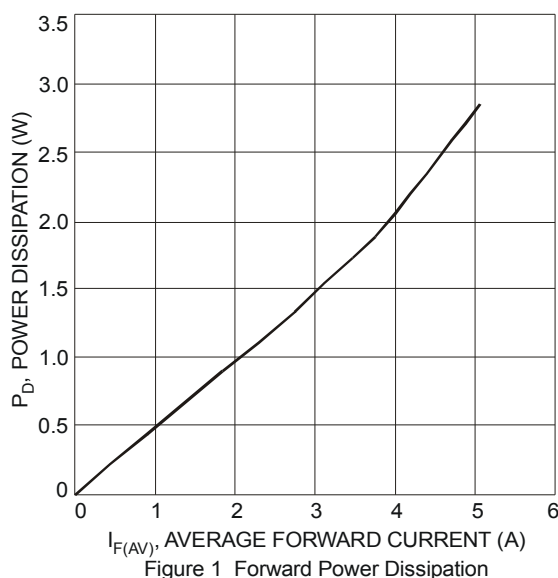
**Thermal Characteristics (Per Leg)**

| Characteristic                                | Symbol                            | Value       | Unit |
|---|-----------------------------------|-------------|------|
| Typical Thermal Resistance (per leg) (Note 5) | R <sub>θJC</sub>                  | 2           | °C/W |
| Operating and Storage Temperature Range       | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

**Electrical Characteristics (Per Leg)** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic           | Symbol         | Min | Typ | Max  | Unit | Test Condition                                |
|--------------------------|----------------|-----|-----|------|------|---|
| Leakage Current (Note 6) | I <sub>R</sub> | -   | -   | 0.3  | mA   | V <sub>R</sub> = 60V, T <sub>J</sub> = +25°C  |
|                          |                | -   | 5   | -    |      | V <sub>R</sub> = 60V, T <sub>J</sub> = +125°C |
| Forward Voltage Drop     | V <sub>F</sub> | -   | -   | 0.57 | V    | I <sub>F</sub> = 3A, T <sub>J</sub> = +25°C   |

Notes: 5. Device mounted on Polyimide substrate, 125mm<sup>2</sup> Copper pad, double-sided, PC Board.  
 6. Short duration pulse test used to minimize self-heating effect.



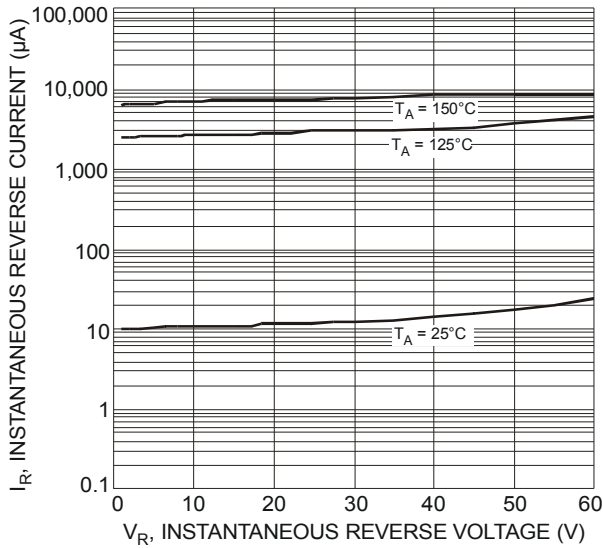


Figure 3 Typical Reverse Characteristics

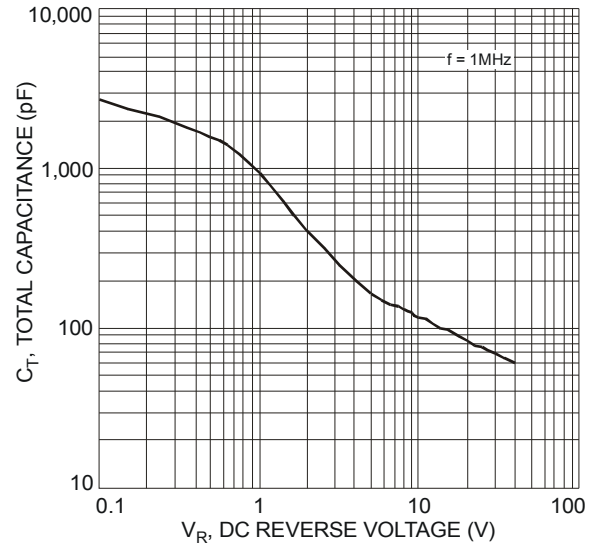


Figure 4 Total Capacitance vs. Reverse Voltage

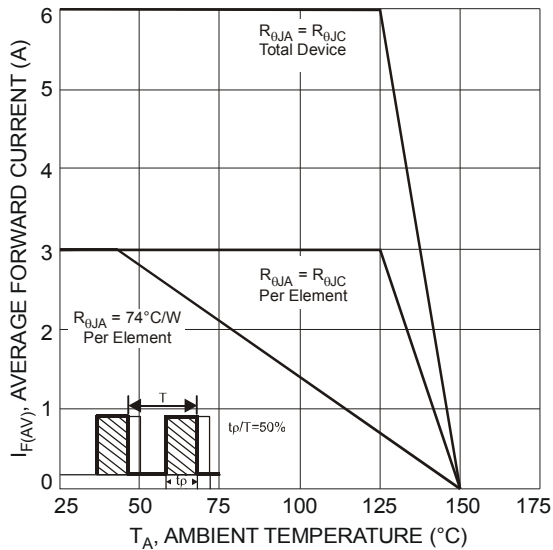


Figure 5 Forward Current Derating Curve

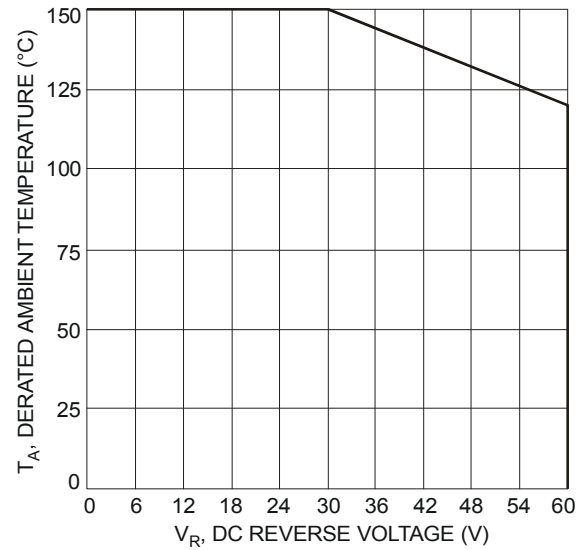


Figure 6 Operating Temperature Derating

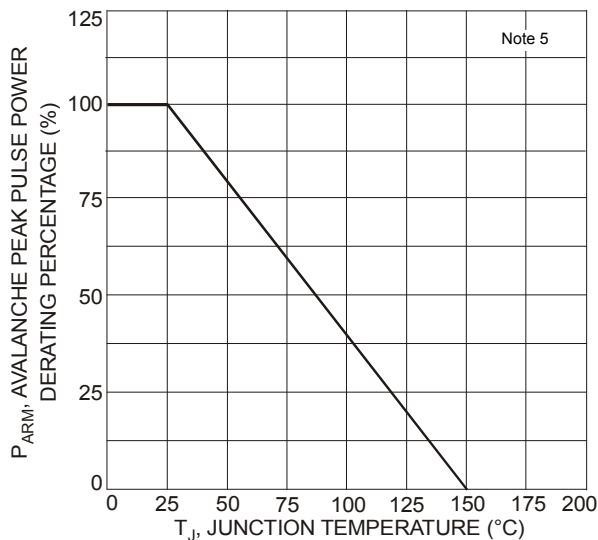


Figure 7 Pulse Derating Curve

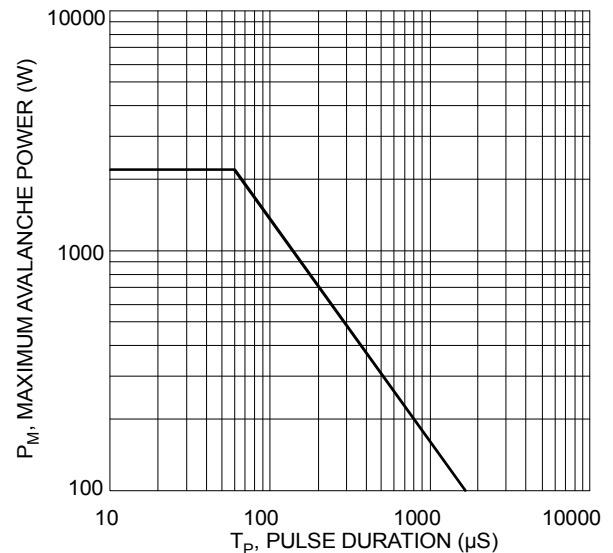


Figure 8 Maximum Avalanche Power

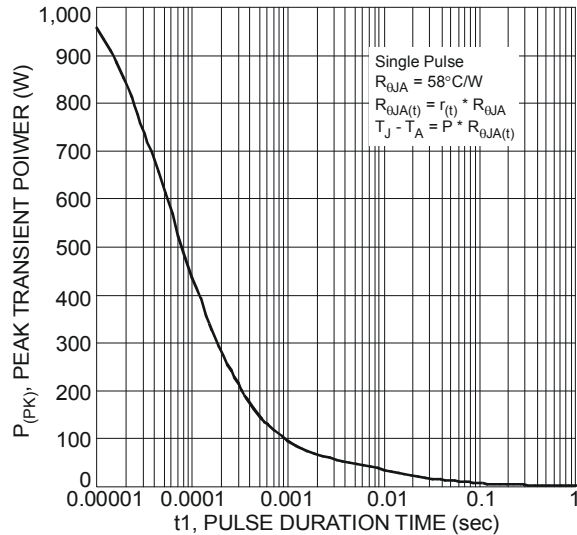


Figure 9 Single Pulse Maximum Power Dissipation

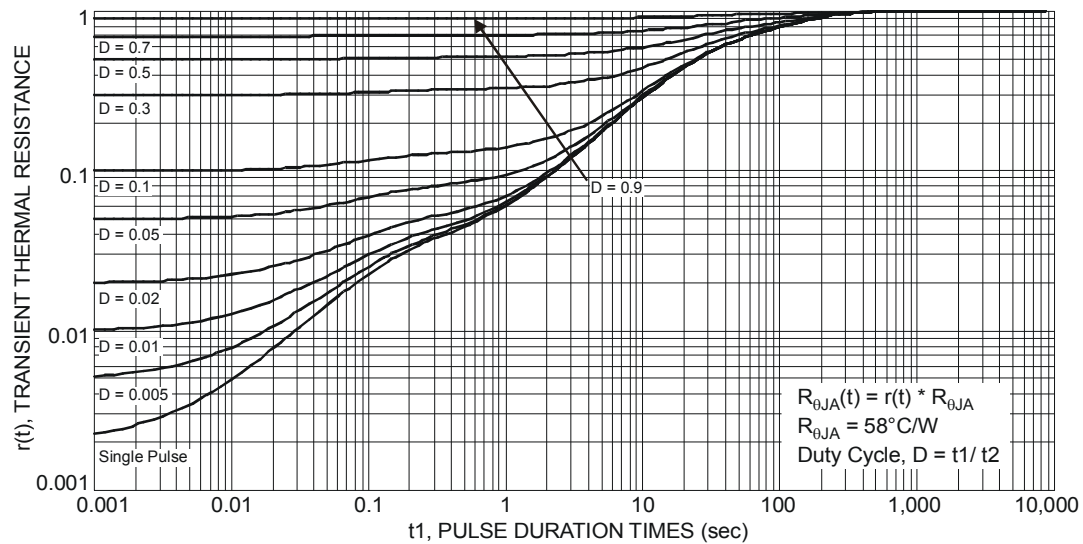
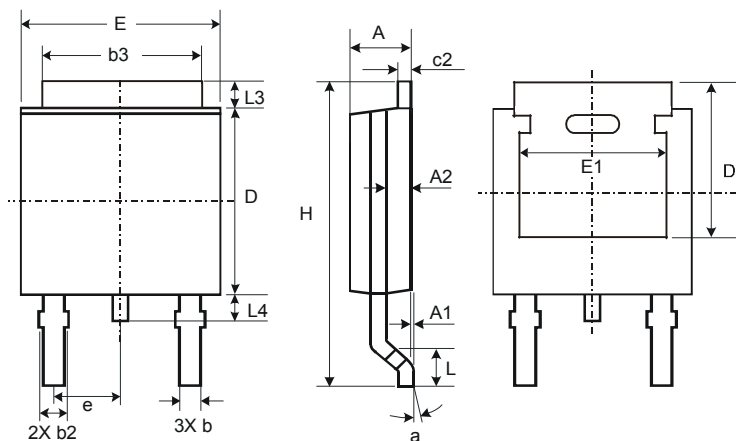


Figure 10 Transient Thermal Resistance

## Package Outline Dimensions

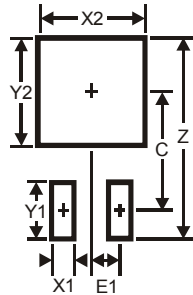
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



| TO252                |      |       |       |
|----------------------|------|-------|-------|
| Dim                  | Min  | Max   | Typ   |
| A                    | 2.19 | 2.39  | 2.29  |
| A1                   | 0.00 | 0.13  | 0.08  |
| A2                   | 0.97 | 1.17  | 1.07  |
| b                    | 0.64 | 0.88  | 0.783 |
| b2                   | 0.76 | 1.14  | 0.95  |
| b3                   | 5.21 | 5.46  | 5.33  |
| c2                   | 0.45 | 0.58  | 0.531 |
| D                    | 6.00 | 6.20  | 6.10  |
| D1                   | 5.21 | —     | —     |
| e                    | —    | —     | 2.286 |
| E                    | 6.45 | 6.70  | 6.58  |
| E1                   | 4.32 | —     | —     |
| H                    | 9.40 | 10.41 | 9.91  |
| L                    | 1.40 | 1.78  | 1.59  |
| L3                   | 0.88 | 1.27  | 1.08  |
| L4                   | 0.64 | 1.02  | 0.83  |
| a                    | 0°   | 10°   | —     |
| All Dimensions in mm |      |       |       |

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 11.6          |
| X1         | 1.5           |
| X2         | 7.0           |
| Y1         | 2.5           |
| Y2         | 7.0           |
| C          | 6.9           |
| E1         | 2.3           |

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