NEW PRODUCT

## Maximum Ratings (@$T_A$ = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Peak Pulse Power Dissipation (Note 5) 10/1000µs<br>(Note 6) 8/20µs | $P_{PK}$ | 225<br>1125 | W |
| Peak Forward Surge Current, 8.3ms Single Half Sine Wave | $I_{FSM}$ | 35 | A |

## Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| DC Steady-State Power Dissipation (Note 8) | $P_D$ | 1.0 | W |
| Thermal Resistance, Junction to Ambient (Note 8) | $R_{\theta JA}$ | 330 | °C/W |
| Thermal Resistance, Junction to Soldering Point (Note 9) | $R_{\theta JS}$ | 70 | °C/W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -65 to +150 | °C |

## Electrical Characteristics (@$T_A$ = +25°C, unless otherwise specified.)

| Part Number | Reverse Standoff Voltage | Breakdown Voltage $V_{BR}$ @ $I_T$ (Note 10) | | Test Current | Max. Reverse Leakage @ $V_{RWM}$ | Max. Clamping Voltage @ $I_{PP}$ | Max. Peak Pulse Current (Note 5) | Marking Code |
|---|---|---|---|---|---|---|---|---|
| | $V_{RWM}$ (V) | Min (V) | Max (V) | $I_T$ (mA) | $I_R$ (µA) | $V_C$ (V) | $I_{PP}$ (A) | |
| DPD13AWF | 13 | 14.4 | 15.9 | 1.0 | 1.0 | 21.5 | 10.5 | TBG |

Notes:
5. Non-Repetitive current pulse as shown in figure 2 and derated above $T_A$ = +25°C as per figure 2.
6. Non-Repetitive current pulse as shown in figure 3 and derated above $T_A$ = +25°C as per figure 3.
7. 1/2 sine wave (or eTuivalent sTuare wave), pulse width = 8.3ms, duty cycle = 4 pulses/minute maximum.
8. Device mounted on 1"x1", FR-4 PCB; 2 oz. Cu pad layout. Cathode pad dimensions 5.5mm x 3.5mm. Anode pad dimensions 2.25mm x 3.5mm.
9. Theoretical $R_{\theta JS}$ calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
10. $V_{BR}$ measured at pulse test current $I_T$ with tp ≤5.0ms at $T_A$ = +25°C.

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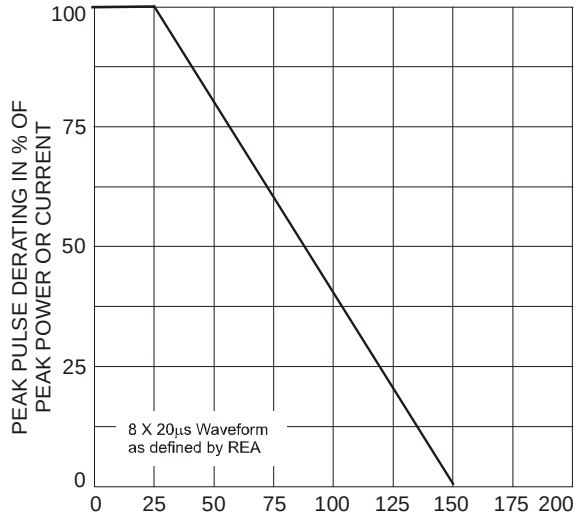


Fig. 1 Pulse Derating Curve

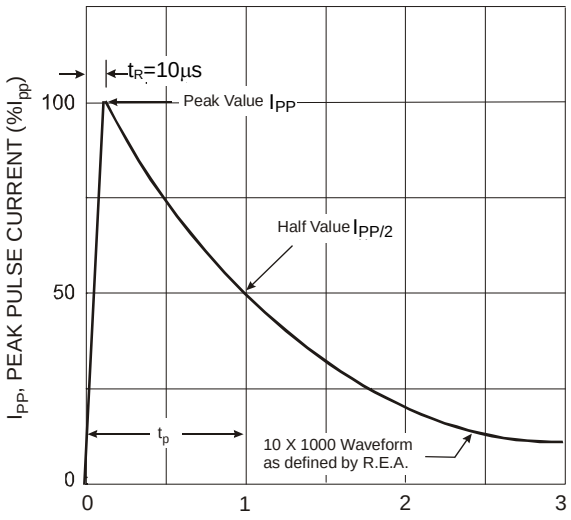


Fig. 2 Pulse Waveform

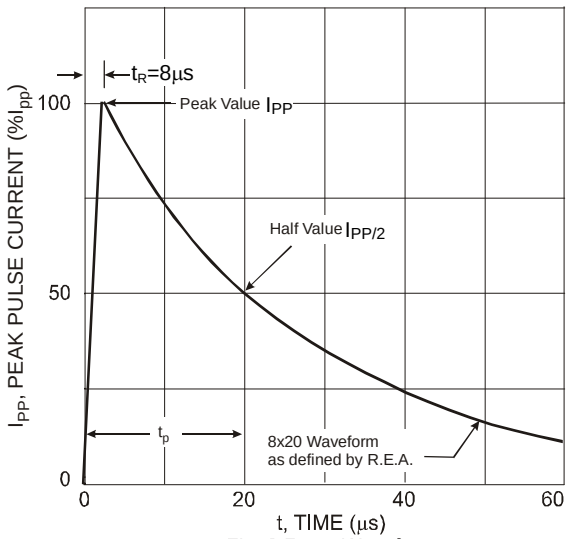


Fig. 3 Pulse Waveform

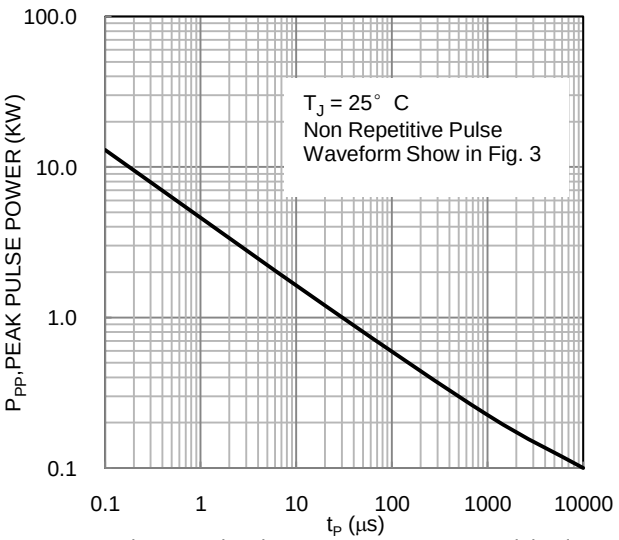


Fig. 4 Peak pulse power versus exponential pulse duration

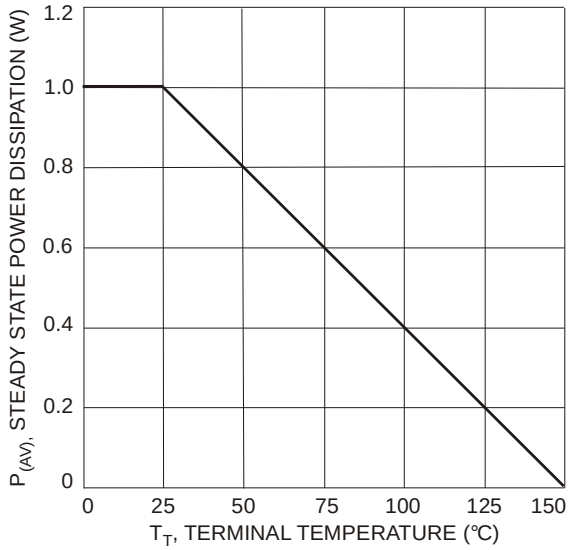


Fig. 5 Steady State Power Derating Curve

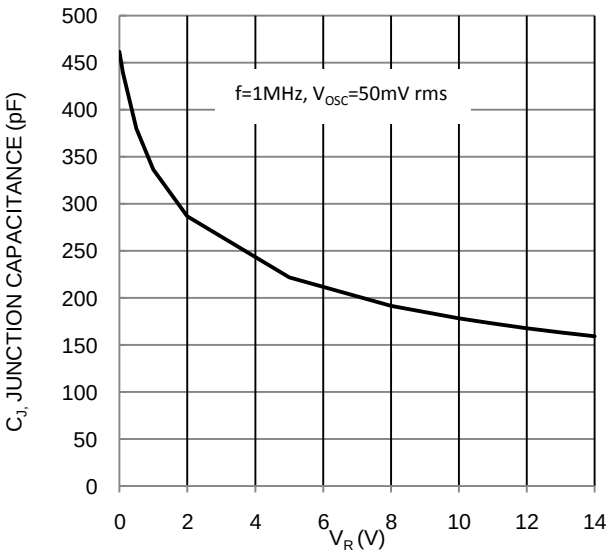


Fig. 6 Junction Capacitance versus Reverse Voltage

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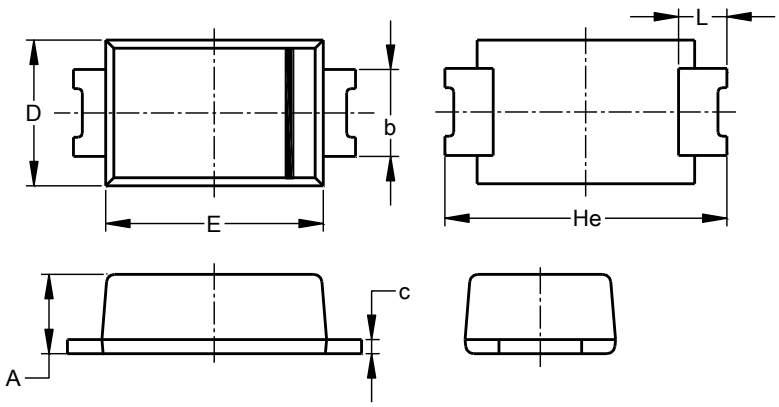
## Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOD123F (Type B)**

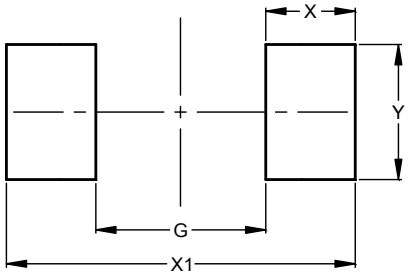



| SOD123F (Type B) | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 0.81 | 1.15 | — |
| **b** | 0.80 | 1.35 | — |
| **c** | 0.05 | 0.30 | — |
| **D** | 1.70 | 1.90 | 1.80 |
| **E** | 2.60 | 2.80 | 2.70 |
| **He** | 3.30 | 3.70 | 3.50 |
| **L** | 0.35 | 0.85 | — |
| **All Dimensions in mm** | | | |

## Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

**SOD123F (Type B)**




| Dimensions | Value (in mm) |
|---|---|
| **G** | 1.90 |
| **X** | 1.00 |
| **X1** | 3.90 |
| **Y** | 1.50 |

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