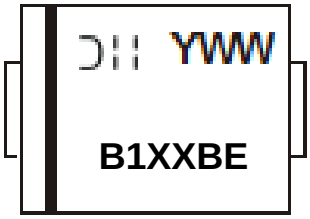
## Marking Information (continued)

SMB




B1XXBE = Product Type Marking Code, ex: B150BE
= Manufacturers' Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 0 for 2020)
WW = Week Code (01 to 53)

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

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

| Characteristic | Symbol | B150AE<br>B150BE | B160AE<br>B160BE | Unit |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_{RM}$ | 50 | 60 | V |
| Average Rectified Output Current | $I_O$ | 1 | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 30 | | A |

## Thermal Characteristics

| Characteristic | | Symbol | Value | Unit |
|---|---|---|---|---|
| Typical Thermal Resistance Junction to Ambient (Note 6) | SMA<br>SMB | $R_{\theta JA}$ | 95<br>90 | °C/W |
| Typical Thermal Resistance Junction to Case (Note 6) | SMA<br>SMB | $R_{\theta JC}$ | 45<br>40 | °C/W |
| Operating and Storage Temperature Range | | $T_J$, $T_{STG}$ | -55 to +150 | °C |

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

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Forward Voltage Drop | $V_F$ | —<br>— | —<br>— | 0.65<br>— | V | $I_F$ = 1A, $T_J$ = +25°C<br>$I_F$ = 1A, $T_J$ = +125°C |
| Leakage Current (Note 7) B150AE/B150BE<br>B160AE/B160BE | $I_R$ | —<br>—<br>— | —<br>—<br>8.0 | 0.1<br>0.2<br>— | mA | $V_R$ = 50V, $T_J$ = +25°C<br>$V_R$ = 60V, $T_J$ = +25°C<br>$V_R$ = 60V, $T_J$ = +125°C |
| Typical Capacitance | $C_T$ | — | 45 | — | pF | $V_R$ = 4.0V, f = 1MHz |

Notes: 6. Device mounted on FR-4 substrate, 0.4" × 0.5", 2oz, single-sided, PC boards with 0.2" × 0.25" copper pad.
7. Short duration pulse test used to minimize self-heating effect.

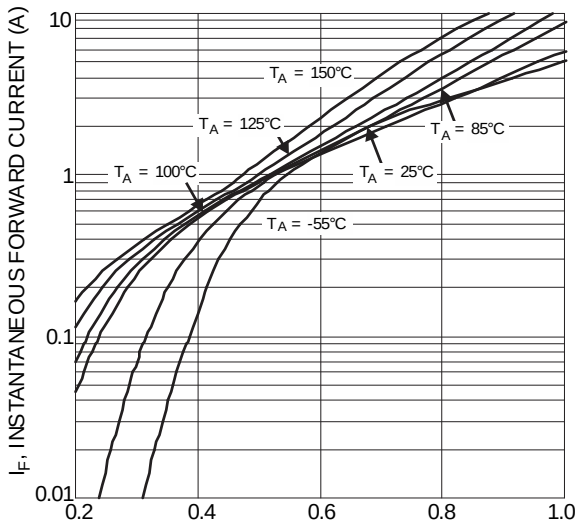



Figure 1 Typical Forward Characteristics

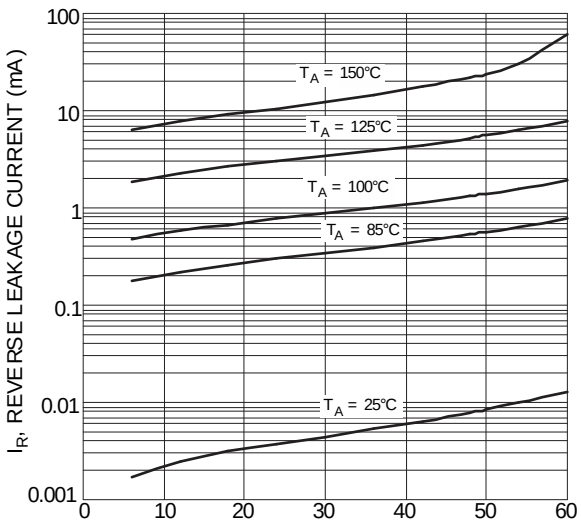



Figure 2 Typical Reverse Characteristics

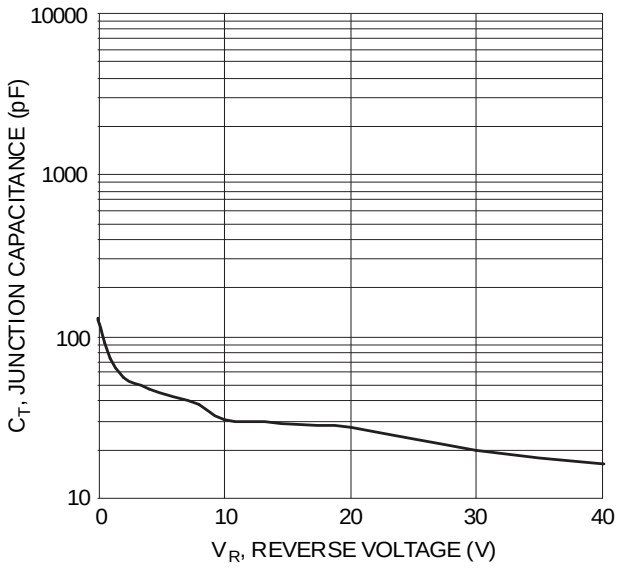



Figure 3 Typical Junction Capacitance

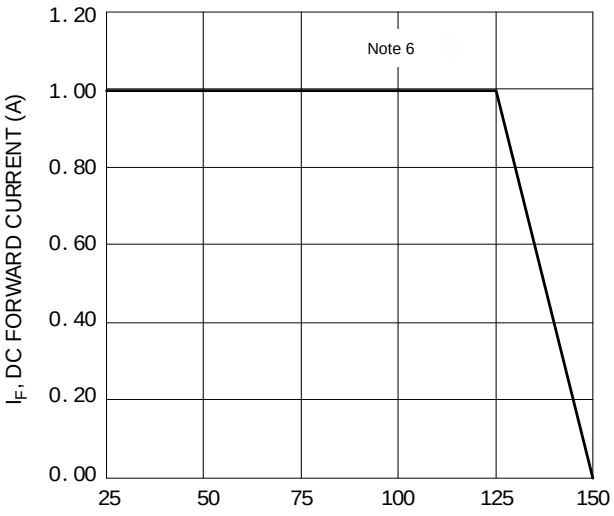
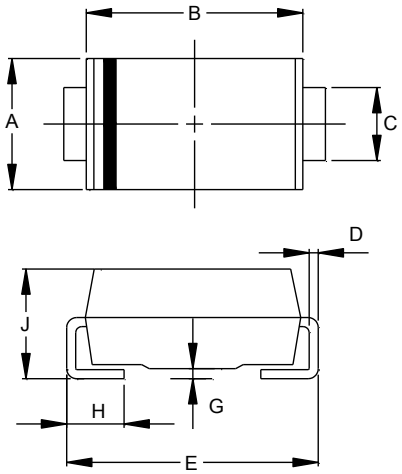



Figure 4. DC Forward Current Derating

## Package Outline Dimensions

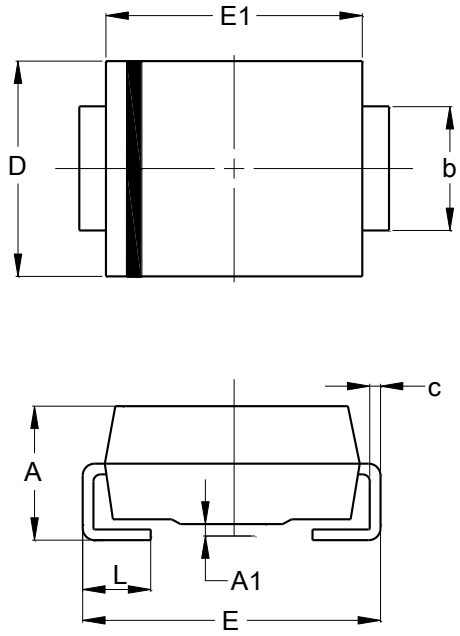
Please see http://www.diodes.com/package-outlines.html for the latest version.

**(1) Package Type: SMA**




| SMA | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 2.29 | 2.92 |
| **B** | 4.00 | 4.60 |
| **C** | 1.27 | 1.63 |
| **D** | 0.15 | 0.31 |
| **E** | 4.80 | 5.59 |
| **G** | 0.05 | 0.20 |
| **H** | 0.76 | 1.52 |
| **J** | 1.96 | 2.40 |
| **All Dimensions in mm** | | |

**(2) Package Type: SMB**

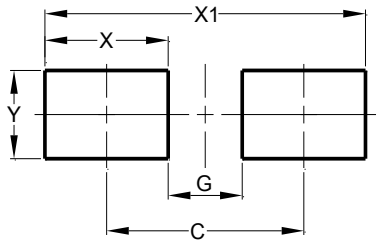



| SMB | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 2.00 | 2.50 |
| **A1** | 0.05 | 0.20 |
| **b** | 1.96 | 2.21 |
| **c** | 0.15 | 0.31 |
| **D** | 3.30 | 3.94 |
| **E** | 5.00 | 5.59 |
| **E1** | 4.06 | 4.57 |
| **L** | 0.76 | 1.52 |
| **All Dimensions in mm** | | |

## Suggested Pad Layout

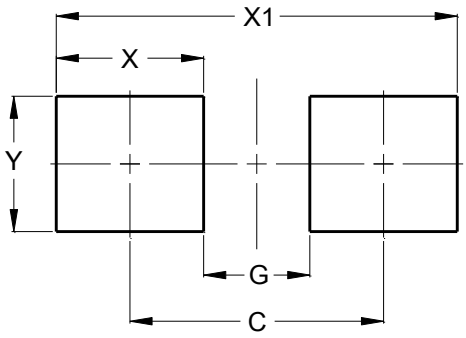
Please see http://www.diodes.com/package-outlines.html for the latest version.

**(1) Package Type: SMA**




| Dimensions | Value (in mm) |
|---|---|
| C | 4.00 |
| G | 1.50 |
| X | 2.50 |
| X1 | 6.50 |
| Y | 1.70 |

**(2) Package Type: SMB**




| Dimensions | Value (in mm) |
|---|---|
| C | 4.30 |
| G | 1.80 |
| X | 2.50 |
| X1 | 6.80 |
| Y | 2.30 |

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