

Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21

Mechanical Data

- Case: Epoxy, molded
- Finish: All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C max. for 10 sec

Applications

- SMPS
- Adapter
- Server power

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

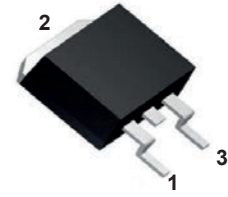
| Parameter | Symbol | Value | Unit |
|--|--------------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 45 | V |
| Maximum RMS Voltage | V _{RMS} | 32 | V |
| Maximum DC Blocking Voltage | V _{DC} | 45 | V |
| Maximum Average Forward Current | I _{F(AV)} | 10 | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 150 | A |
| Thermal Resistance, Junction to Case | R _{θJC} | 2.0 | °C/W |
| Thermal Resistance, Junction to Ambient | R _{θJA} | 62.5 | °C/W |
| Operating Junction Temperature Range | T _J | -55 to +150 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |

Electrical Characteristics (T_A=25°C unless otherwise specified)

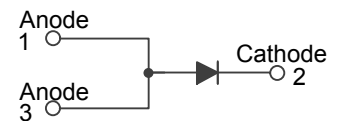
| Parameter | Symbol | Test Conditions | Typ | Max | Unit |
|--|----------------|--|------|------|------|
| Forward Drop Voltage ¹ | V _F | I _F =10A, T _J =25°C | 0.53 | 0.57 | V |
| | | I _F =10A, T _J =125°C | - | 0.51 | |
| Reverse Leakage Current @V _R ² | I _R | T _J =25°C | - | 200 | uA |
| | | T _J =100°C | - | 15 | mA |

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%.
2. Pulse test with PW=30ms.



TO-263 (D²PAK)



Schematic Diagram

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

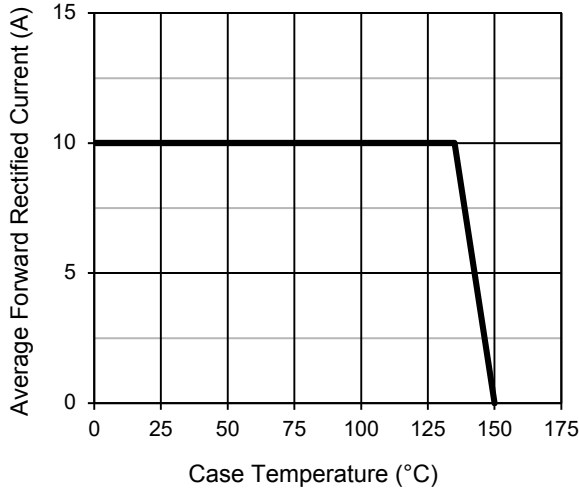


Figure 1. Forward Current Derating Curve

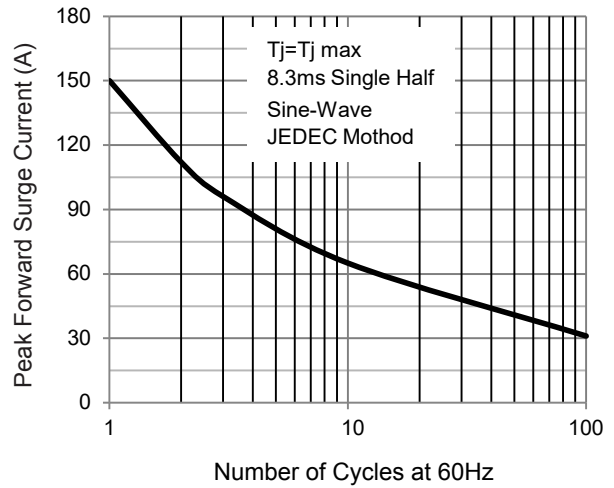


Figure 2. Maximum Non-Repetitive Surge Current

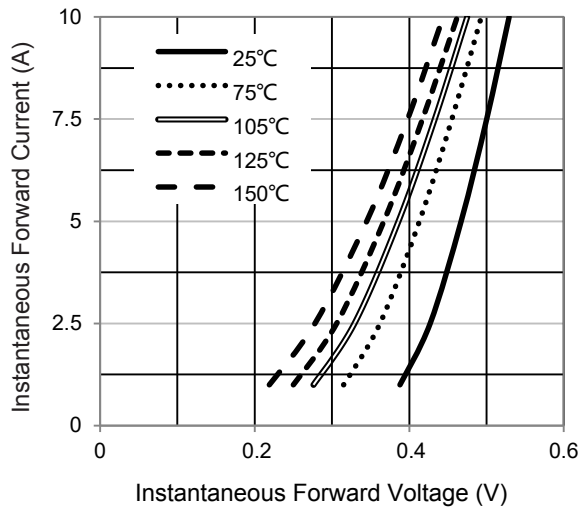


Figure 3. Typical Forward Voltage Characteristics

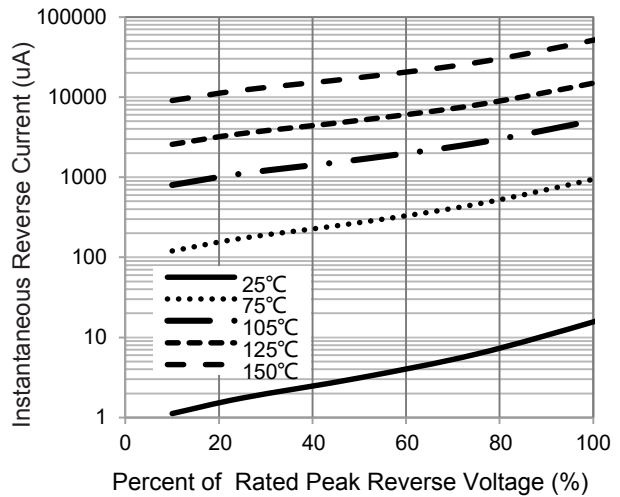


Figure 4. Typical Reverse Current Characteristics

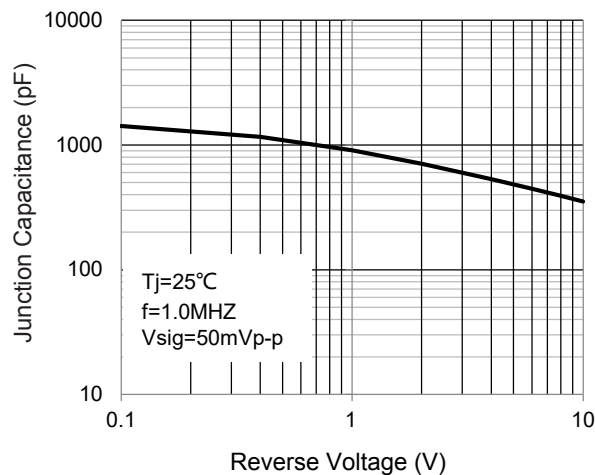
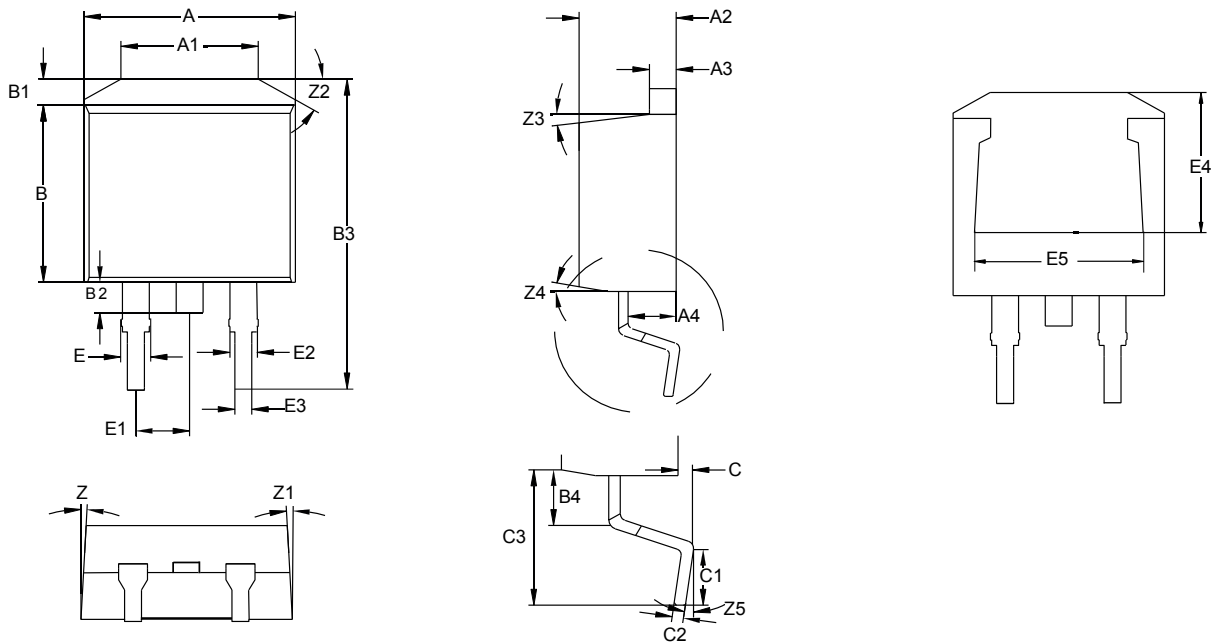


Figure 5. Typical Junction Capacitance

Package Outline Dimensions TO-263 (D²PAK)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 9.80 | 10.20 | 0.386 | 0.402 |
| A1 | 6.50 | - | 0.256 | - |
| A2 | 4.40 | 4.80 | 0.173 | 0.189 |
| A3 | 1.17 | 1.37 | 0.046 | 0.054 |
| A4 | 2.37 | 2.97 | 0.093 | 0.117 |
| B | 8.50 | 8.90 | 0.335 | 0.350 |
| B1 | 1.07 | 1.47 | 0.042 | 0.058 |
| B2 | 1.20 | 1.80 | 0.047 | 0.071 |
| B3 | 15.00 | 15.60 | 0.591 | 0.614 |
| B4 | 1.80 | 2.20 | 0.071 | 0.087 |
| C | 0.00 | 0.25 | 0.000 | 0.010 |
| C1 | 2.34 | 2.74 | 0.092 | 0.108 |
| C2 | 0.30 | 0.50 | 0.012 | 0.020 |
| C3 | 5.00 | 5.60 | 0.197 | 0.220 |
| E | 1.17 | 1.57 | 0.046 | 0.062 |
| E1 | 2.44 | 2.64 | 0.096 | 0.104 |
| E2 | 1.17 | 1.37 | 0.046 | 0.054 |
| E3 | 0.70 | 0.90 | 0.028 | 0.035 |
| E4 | 6.47 | 6.87 | 0.255 | 0.270 |
| E5 | 8.30 | 8.70 | 0.327 | 0.343 |
| Z | 3° NOM | | 3° NOM | |
| Z1 | 3° NOM | | 3° NOM | |
| Z2 | 30° NOM | | 30° NOM | |
| Z3 | 7° NOM | | 7° NOM | |
| Z4 | 7° NOM | | 7° NOM | |
| Z5 | -4° | 4° | -4° | 4° |

Order Information

| Device | Package | Marking | Carrier | Quantity |
|-------------|-----------------------------|----------|-------------|----------------|
| GSMBRB1045T | TO-263 (D ² PAK) | MBRB1045 | Tape & Reel | 800 Pcs / Reel |

For more information, please contact us at: inquiry@goodarksemi.com