



DESCRIPTION

The MBR140SF is available in SOD-123 Package

- Guarding for Stress Protection
- Low Forward Voltage
- Free wheeling , and polanty protection applications

MECHANICAL DATA

Case: Molded plastic body

Terminals : Plated leads solderable per

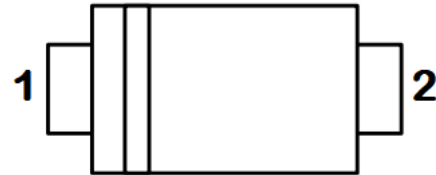
MIL-STD-750,Method2026

Approx Weight:11.7mg

ORDERING INFORMATION

| Package Type | Part Number |
|--|---------------|
| SOD-123 | MBR140SF |
| SPQ | 3,000pcs/Reel |
| AiT provides all RoHS Compliant Products | |

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

@ T_A = 25°C, unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|--|---------------------|-------------|------|
| Peak repetitive peak reverse voltage | V _{RRM} | 40 | V |
| Working peak reverse voltage | V _{RWM} | | |
| DC Blocking voltage | V _R | | |
| RMS Reverse voltage | V _{R(RMS)} | 28 | V |
| Average rectified output current | I _O | 1 | A |
| Peak forward surge current @τ=8.3ms | I _{FSM} | 25 | A |
| Repetitive peak forward current | I _{FRM} | 625 | mA |
| Power dissipation | P _d | 250 | mW |
| Thermal resistance junction to ambient | R _{θJA} | 500 | K/W |
| Storage temperature | T _{STG} | -65 to +150 | °C |
| Non-Repetitive peak reverse voltage | V _{RM} | 20 | V |

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability

ELECTRICAL CHARACTERISTICS

@ T_A = 25°C, unless otherwise specified.

| Parameter | Symbol | Conditions | Min. | Max. | Unit |
|---------------------------------|-------------------|------------------------------|------|------|------|
| Reverse breakdown voltage | V _(BR) | I _R =1mA | 40 | - | V |
| Reverse voltage leakage current | I _R | V _R =20V | - | 1 | mA |
| Forward voltage | V _F | I _F =1A | - | 0.6 | V |
| Diode capacitance | C _D | V _R =4V, f=1.0MHz | - | 120 | pF |



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. FORWARD CURRENT DERATING CURVE

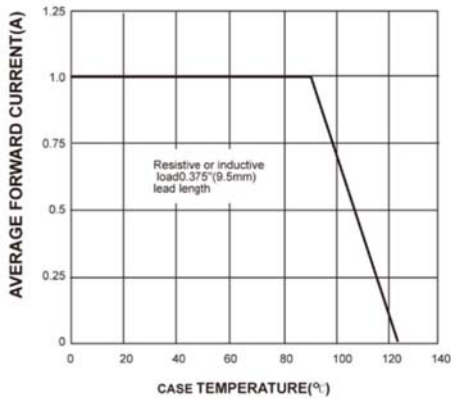


Fig 2. MAXMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

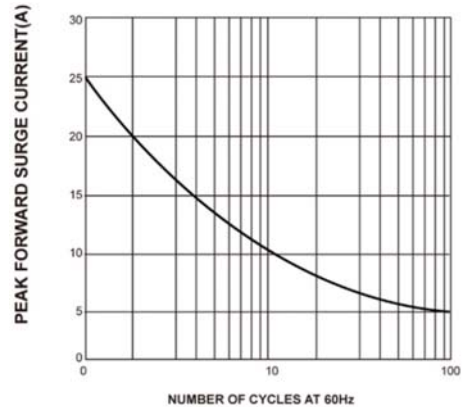


Fig.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

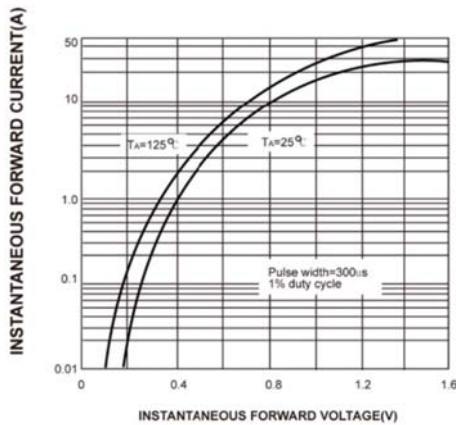


Fig.4 TYPICAL REVERSE CHARACTERISTICS

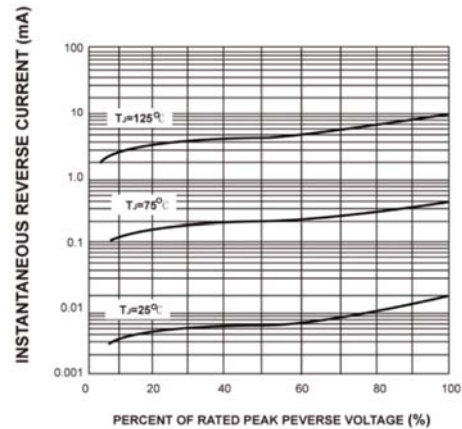


Fig.5 TYPICAL JUNCTION CAPACITANCE

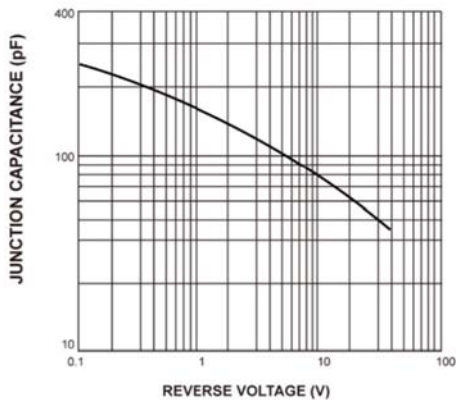
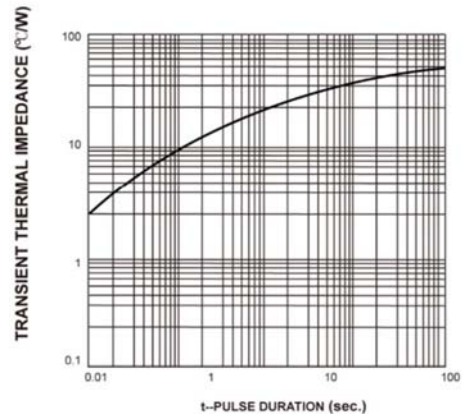


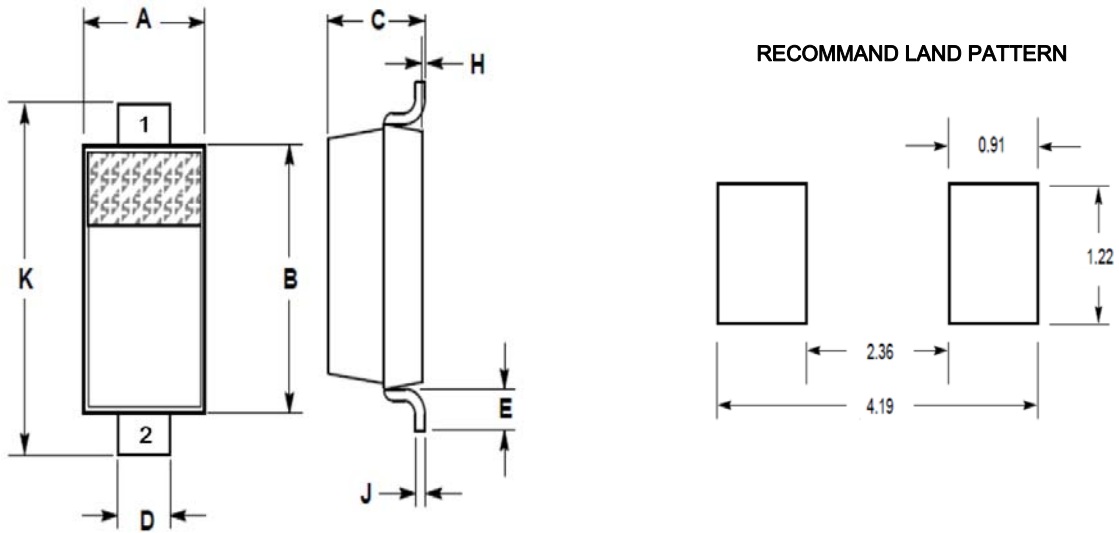
Fig.6 TYPICAL TRANSIENT THERMAL IMPEDANCE





PACKAGE INFORMATION

Dimension in SOD-123 (Unit: mm)



| Symbol | Min. | Max. |
|--------|------|------|
| A | 1.40 | 1.80 |
| B | 2.55 | 2.85 |
| C | 0.95 | 1.35 |
| D | 0.50 | 0.70 |
| E | 0.25 | - |
| H | 0.00 | 0.10 |
| J | - | 0.15 |
| K | 3.55 | 3.85 |



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