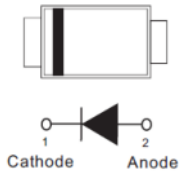
# MER2DMB

## Surface Mount Super Fast Recovery Rectifier

| Voltage | 200 V | Current | 2 A |
|---|---|---|---|

SMB






### Features

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case : SMB Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.092 grams

### Maximum Ratings and Thermal Characteristics ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | | SYMBOL | LIMIT | UNITS |
|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 200 | V |
| Maximum RMS Voltage | | $V_{RMS}$ | 140 | V |
| Maximum DC Blocking Voltage | | $V_{DC}$ | 200 | V |
| Maximum Average Forward Current | | $I_{F(AV)}$ | 2 | A |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load | | $I_{FSM}$ | 60 | A |
| Typical Junction Capacitance<br>Measured at 1 MHZ And Applied $V_R$ = 4 V | | $C_J$ | 25 | pF |
| Typical Thermal Resistance | (Note 1)<br>(Note 2)<br>(Note 2) | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 135<br>14<br>17 | °C/W |
| Operating Junction Temperature Range | | $T_J$ | -55~175 | °C |
| Storage Temperature Range | | $T_{STG}$ | -55~175 | °C |

# MER2DMB

## Electrical Characteristics ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$ = 1 A, $T_J$ = 25 °C | - | 0.83 | - | V |
| | | $I_F$ = 2 A, $T_J$ = 25 °C | - | - | 0.95 | V |
| | | $I_F$ = 1 A, $T_J$ = 125 °C | - | 0.7 | - | V |
| | | $I_F$ = 2 A, $T_J$ = 125 °C | - | 0.78 | - | V |
| Reverse Current | $I_R$ | $V_R$ = 160 V, $T_J$ = 25 °C | - | 5 | - | nA |
| | | $V_R$ = 200 V, $T_J$ = 25 °C | - | - | 1 | uA |
| | | $V_R$ = 200 V, $T_J$ = 125 °C | - | - | 40 | |
| Reverse Recovery Time | $T_{RR}$ | $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{RR}$ = 0.25 A, $T_J$ = 25 °C | - | - | 35 | ns |
| Reverse Recovery Time | $T_{RR}$ | $I_F$ = 2 A, $V_R$ = 200 V di/dt = 300 A/uS $T_J$ = 25 °C | - | 17 | - | ns |
| Peak Recovery Current | $I_{RRM}$ | | - | 3.9 | - | A |
| Reverse Recovery Charge | $Q_{RR}$ | | - | 39 | - | nC |
| Reverse Recovery Time | $T_{RR}$ | $I_F$ = 2 A, $V_R$ = 200 V di/dt = 300A/uS $T_J$ = 125 °C | - | 26 | - | ns |
| Peak Recovery Current | $I_{RRM}$ | | - | 5.6 | - | A |
| Reverse Recovery Charge | $Q_{RR}$ | | - | 83 | - | nC |

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 $cm^2$ copper pad area.

# MER2DMB

## TYPICAL CHARACTERISTIC CURVES

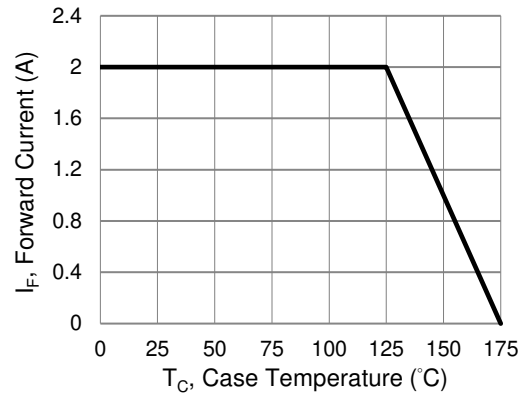



Fig.1 Forward Current Derating Curve

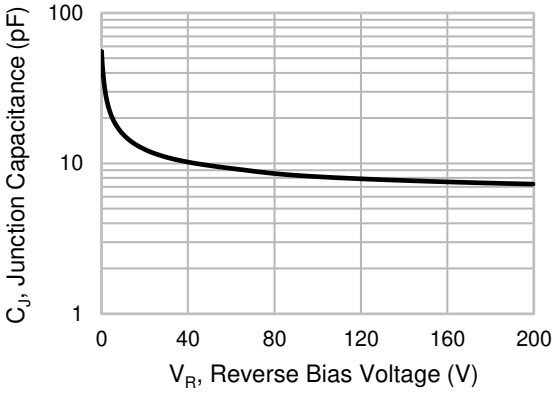



Fig.2 Typical Junction Capacitance

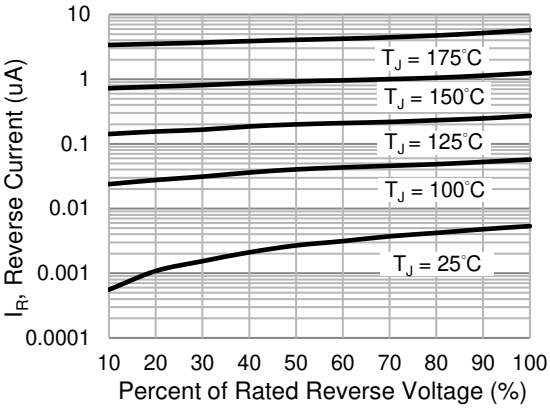



Fig.3 Typical Reverse Characteristics

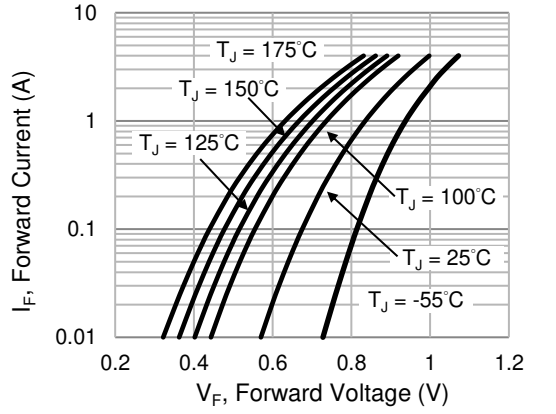



Fig.4 Typical Forward Characteristics

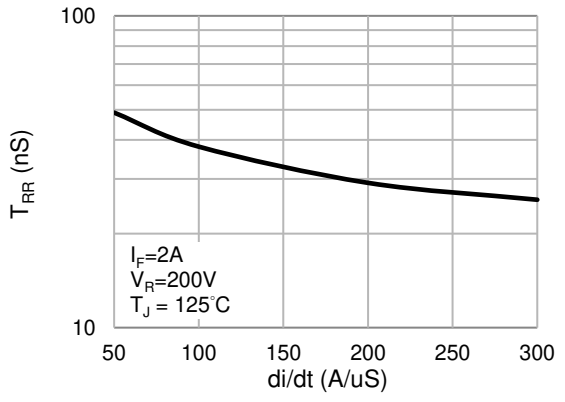



Fig.5 Typical Reverse Recovery Time Versus di/dt

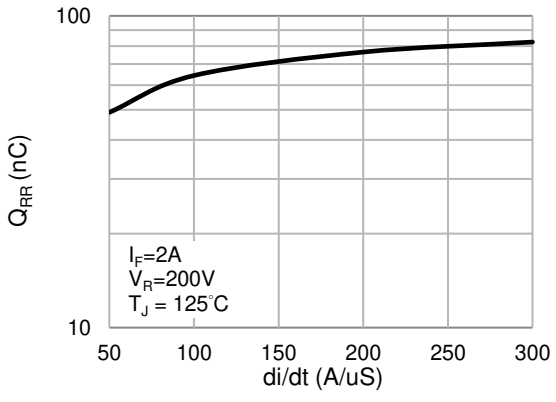



Fig.6 Typical Reverse Recovery Charge Versus di/dt

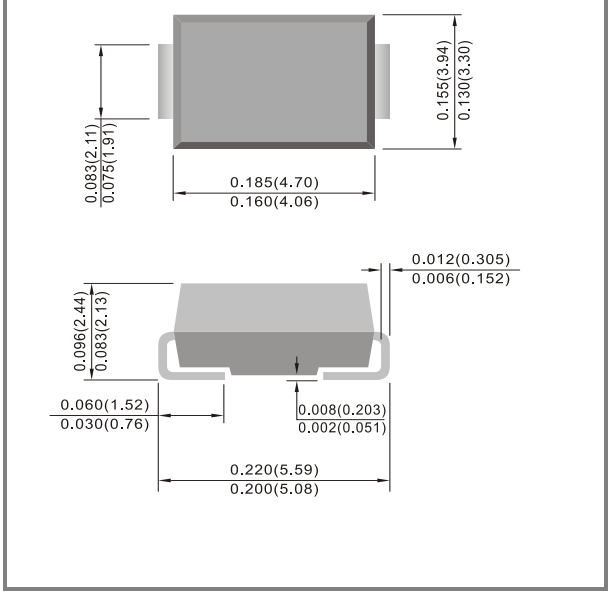
# MER2DMB

## Part No. Packing Code Version

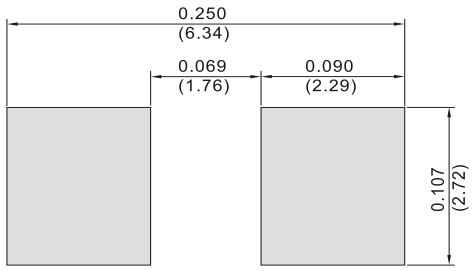
| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|---|---|---|---|---|
| MER2DMB_R2_00601 | SMB | 3K pcs / 13” reel | MER2DB | Halogen free RoHS compliant |

## Packaging Information & Mounting Pad Layout

SMB Dimension — Unit: inch(mm)




SMB Pad Layout — Unit: inch(mm)



# MER2DMB

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