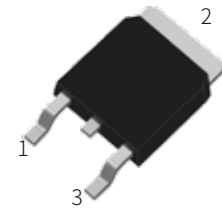
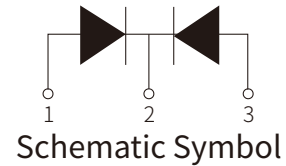


FEATURES

- | Low Power Loss,high Efficiency,high Surge Capacity
- | For Use In Low Voltage,high Frequency Inverters
Free Wheeling,and Polarity Protection Applications
- | Metal Silicon Junction,majority Carrier Conduction
- | High Current Capability,low Forward Voltage Drop
- | Guard Ring For Over Voltage Protection



TO-252



APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

MAXIMUM RATINGS (T_A=25°C)

| Parameter | Symbol | Value | Unit |
|--|--------------------|-----------------------|---------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 100 | V |
| Maximum RMS Voltage | V _{RMS} | 70 | V |
| Maximum DC Blocking Voltage | V _{R(DC)} | 100 | V |
| Maximum Average Forward Current | I _{F(AV)} | 10 | A |
| Peak Forward Surge Current:8.3ms single half sine-wave super mposed on rated load (JEDEC method) | I _{FSM} | 200 | A |
| Maximum Forward Voltage | V _F | 0.85 | V |
| Maximum DC Reverse Current | I _R | T _j =25°C | 0.05 mA |
| | | T _j =125°C | 20 mA |
| Maximum Operating Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{STG} | -40 to 150 | °C |

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

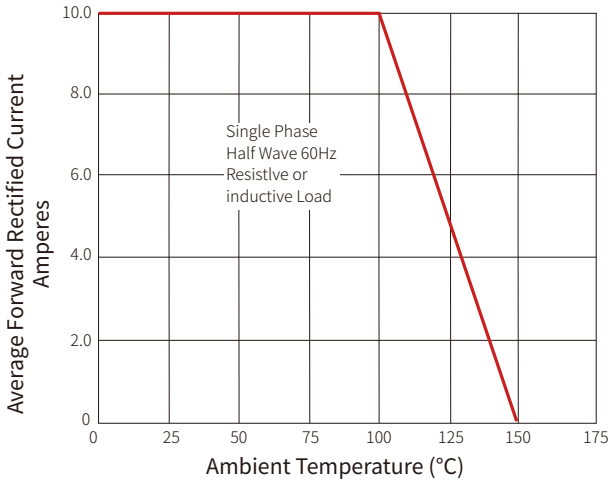


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

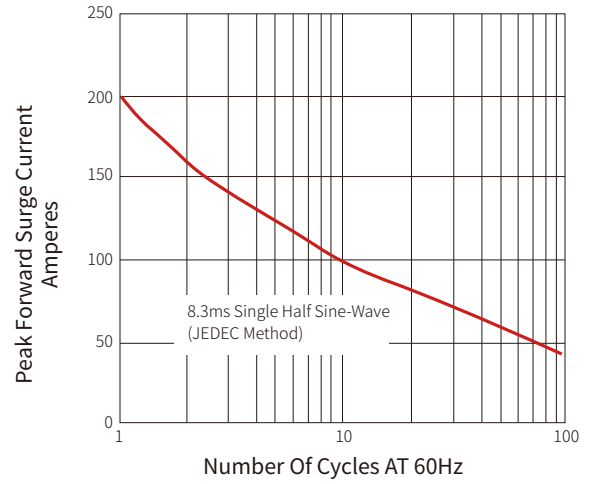


Fig.3 Typical Instantaneous Forward Characteristics

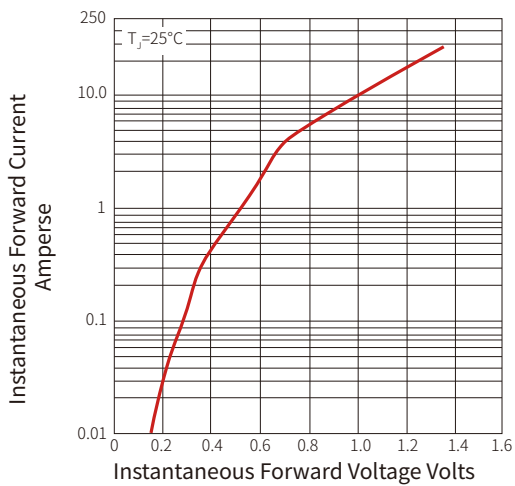
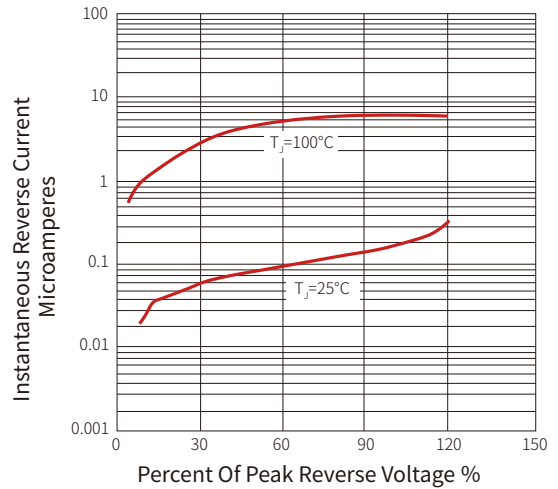
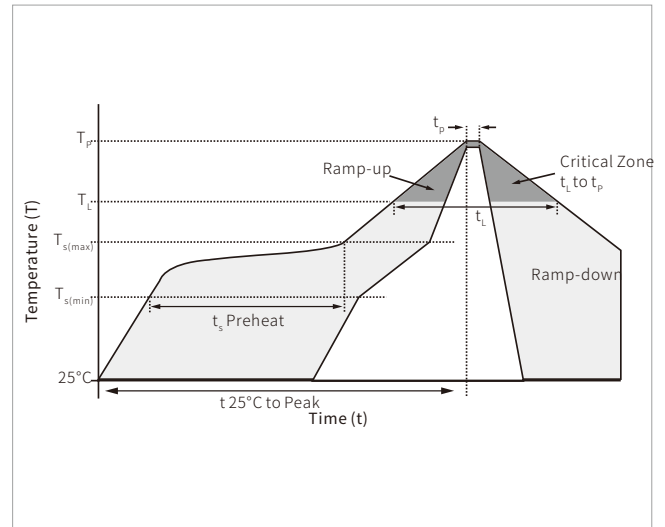


Fig.4 Typical Reverse Characteristics

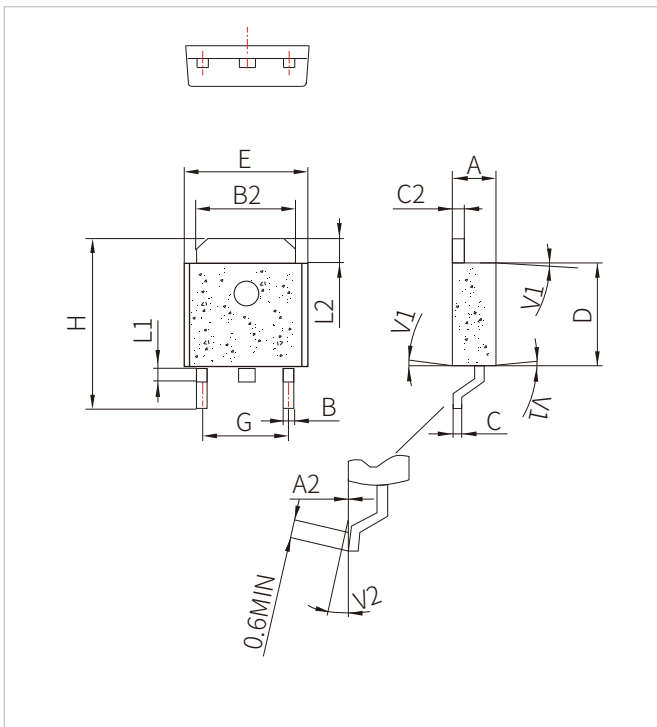


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|---|----------------------------------|--------------------|
| Pre Heat | Temperature Max ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |



TO-252 PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | | | |
|------|-------------|------|------|--------|-------|-------|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 2.10 | | 2.50 | 0.083 | | 0.098 |
| A2 | 0.03 | | 0.23 | 0.001 | | 0.009 |
| B | 0.55 | | 0.65 | 0.022 | | 0.026 |
| B2 | 5.10 | | 5.40 | 0.200 | | 0.213 |
| C | 0.45 | | 0.62 | 0.018 | | 0.024 |
| C2 | 0.48 | | 0.62 | 0.019 | | 0.024 |
| D | 6.00 | | 6.20 | 0.236 | | 0.244 |
| E | 6.40 | | 6.80 | 0.252 | | 0.268 |
| G | 4.40 | | 4.70 | 0.173 | 0.1 | 0.185 |
| H | 9.35 | | 10.7 | 0.368 | | 0.421 |
| L1 | 1.30 | | 1.70 | 0.051 | 0.143 | 0.067 |
| L2 | 1.37 | | 1.50 | 0.054 | | 0.059 |
| V1 | | 4° | | | 0.130 | |
| V2 | 0° | | 8° | 0° | | 8° |

ORDERING INFORMATION

| Part Number | Component Package | Marking | QTY/Reel | Reel Size |
|-------------|-------------------|----------|----------|-----------|
| SMBRD10100 | TO-252 | MBR10100 | 2500PCS | 13" |

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