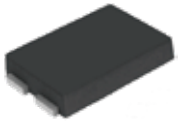
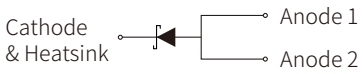
# FEATURES

- Excellent High Temperature Stability
- Low Forward Voltage
- Low Power Loss/high Efficiency
- High Forward Surge Capability
- Ideal For Automated Placement



TO-277B




Schematic Symbol

# APPLICATIONS

- Trench Schottky barrier rectifier is designed for high frequency miniature switched mode powersupplies such as adapters, lighting

# 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 Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 100 | V |
| Maximum Average Forward Rectified Current | | $I_{F(AV)}$ | 15 | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load Per Diode | | $I_{FSM}$ | 250 | A |
| Maximum Instantaneous Forward Voltage Per Diode (Note 1) $T_J$=25°C , $I_F$=15A | | $V_F$ | 0.82 | V |
| Maximum Instantaneous Reverse Current Per Diode at Rated Reverse Voltage | $T_J$=25°C | $I_R$ | 5 | μA |
| Typical Thermal Resistance | | $R_{\theta JL}$ | 11 | °C/W |
| Operating Junction And Storage Temperature Range | | $T_J$,$T_{STG}$ | -55 to 175 | °C |

Note 1: Pulse Test with Pulse Width=300μs, 1% Duty Cycle

# CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

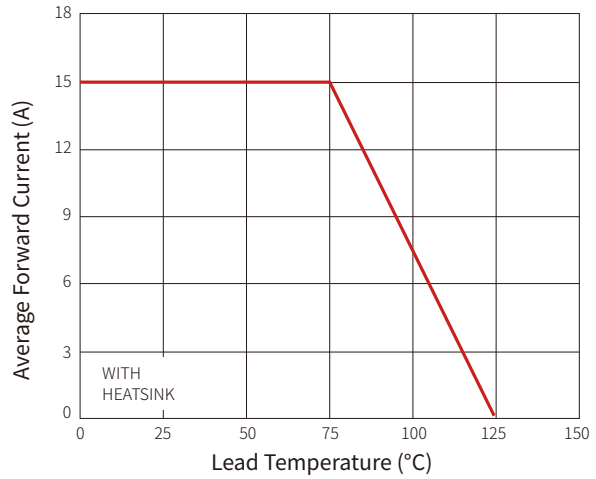



Fig.2 Typical Forward Characteristics

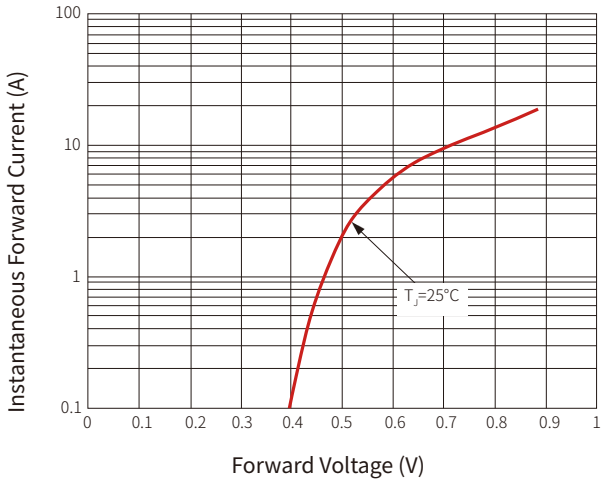



Fig. 3 Maximum Non-repetitive Forward Surge Current

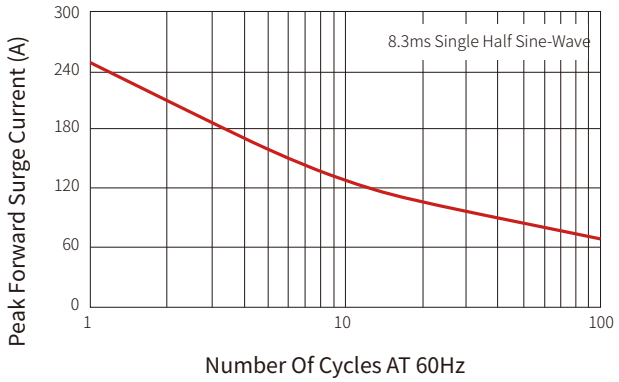
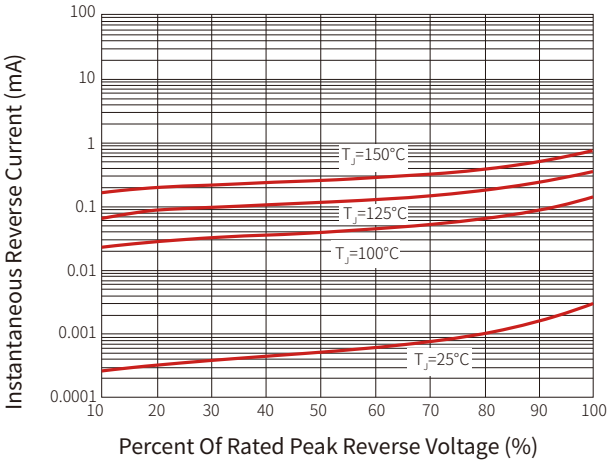
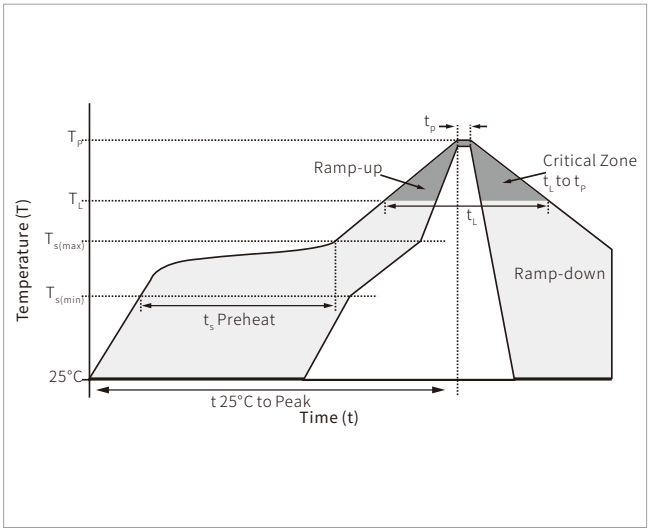



Fig.4 Typical Reverse Characteristics

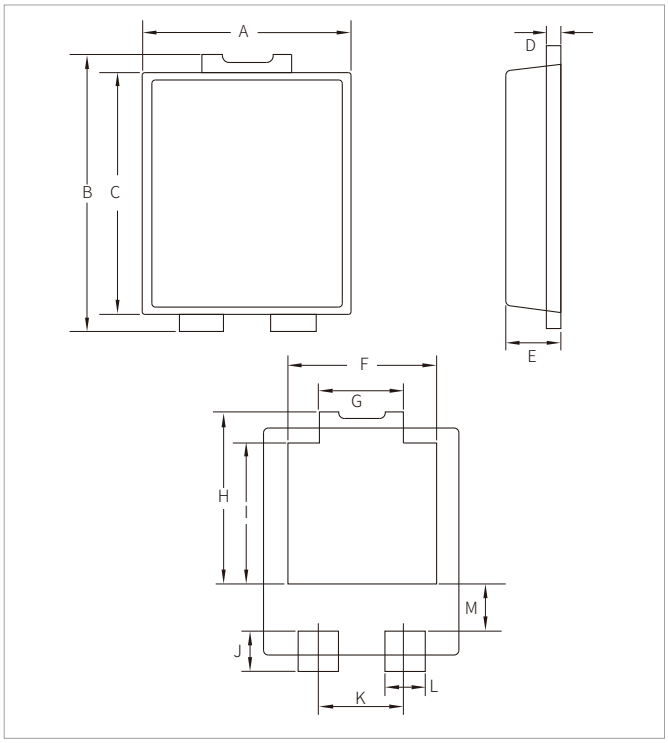


# SOLDERING PARAMETERS

| 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 |

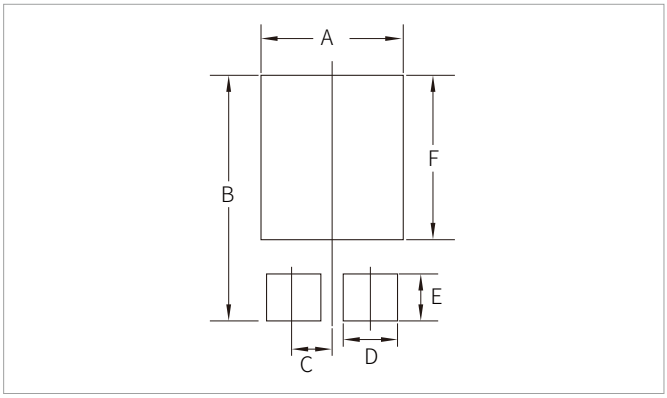



# TO-277B PACKAGE INFORMATION




| Ref. | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 4.00 | 4.60 | 0.157 | 0.181 |
| B | 6.20 | 6.80 | 0.244 | 0.268 |
| C | 5.50 | 6.00 | 0.216 | 0.236 |
| D | 0.25 | 0.40 | 0.010 | 0.016 |
| E | 1.05 | 1.35 | 0.041 | 0.053 |
| F | 3.00 | 3.50 | 0.118 | 0.138 |
| G | 1.70 | 2.00 | 0.067 | 0.079 |
| H | 4.20 | 4.50 | 0.165 | 0.177 |
| I | 3.52Nom | | 0.139Nom | |
| J | 0.85 | 1.10 | 0.033 | 0.043 |
| K | 1.86Nom | | 0.073Nom | |
| L | 0.80 | 1.00 | 0.031 | 0.039 |
| M | 1.10 | 1.40 | 0.043 | 0.055 |

# RECOMMENDED PAD LAYOUT DIMENSIONS




| Ref. | Millimeters | | Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 3.40 | - | 0.134 | - |
| B | 6.90 | | 0.272 | |
| C | 0.95 | | 0.037 | |
| D | 1.30 | - | 0.051 | - |
| E | 1.30 | - | 0.051 | - |
| F | 4.60 | - | 0.181 | - |

# ORDERING INFORMATION

| Part Number | Component Package | Marking | QTY/Reel | Reel Size |
|---|---|---|---|---|
| TSB15100 | TO-277B | SB15100 | 5000PCS | 13” |

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