# Schottky Rectifier

**$I_F$ = 10 A**
**$V_R$ = 45 V**
**$V_F$ = 0.42V**

**Major Ratings and Characteristics**

| Characteristics | Values | Units |
|---|---|---|
| $I_F$ | 10 | A |
| $I_{FSM}$ | 150 | A |
| $V_R$ | 45 | V |
| $V_F$ | 0.42 | V |
| $T_J$ | 150 | ℃ |
| T storage | -55 ~150 | ℃ |

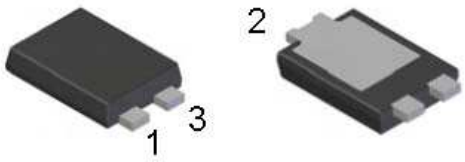
**Description/ Features**

This low cost Schottky rectifier has been optimized for low reverse leakage at high temperature. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical applications are in switching power supplies, converters, free-wheeling diodes, and reverse battery protection.

- 150℃ Tj operation
- Low Power Loss, High Efficiency
- Low forward voltage drop
- High surge capacity
- Lead Free Finish/ROHS Compliant(Note 1)

## Case Styles

**TO-277**





1、 ANODE
2、 CATHODE
3、 ANODE

**Ordering Information**

| Part Number | Package | Packaging |
|---|---|---|
| MV10T45 | TO-277 | Tape & Reel |

**Electrical Characteristics**(Tamb=25℃)

| **Characteristic** | **Symbol** | **Value** | | **Unit** |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 45 | | V |
| Working Peak Reverse Voltage | $V_{RWM}$ | | | |
| DC Blocking Voltage | $V_R$ | | | |
| Average Rectifier Output Current | $I_F$ | 10 | | A |
| Non-Repetitive Peak Surge Current<br>(Surge applied at rated load conditions<br>halfwave, single phase,60Hz) | $I_{FSM}$ | 150 | | A |
| Maximum Instantaneous Forward Voltage<br>@$I_F$=2A,Tc=25℃<br>@$I_F$=2A,Tc=125℃<br>@$I_F$=5A,Tc=25℃<br>@$I_F$=5A,Tc=125℃<br>@$I_F$=10A,Tc=25℃<br>@$I_F$=10A,Tc=125℃ | $V_F$ | TYP.<br>0.33<br>0.26<br>0.38<br>0.32<br>0.42<br>0.38 | MAX.<br>0.36<br>0.31<br>0.41<br>0.37<br>0.46<br>0.42 | V |
| Peak Reverse Current @Ta=25℃<br>at Rated DC Blocking Voltage @Ta=125℃ | $I_R$ | 0.3<br>20 | | mA |
| Typical Junction Capacitance | $C_J$ | 600 | | pF |
| Maximum Operating Junction Temperature | $T_j$ | 150 | | ℃ |
| Storage Temperature | $T_{STG}$ | -55~150 | | |
| Maximum Thermal Resistance（Note 2） | $\theta_{JA}$ | 31 | | ℃/W |
| | $\theta_{JM}$ | 4 | | ℃/W |

Notes:1.High Temperature Solder Exemption Applied, See EU Directive Annex 7.

2. $\theta_{JM}$ :Junction to cathode terminal.The device mounted on 1in$^2$ FR4 board with 2OZ. copper.

## Characteristics Curve

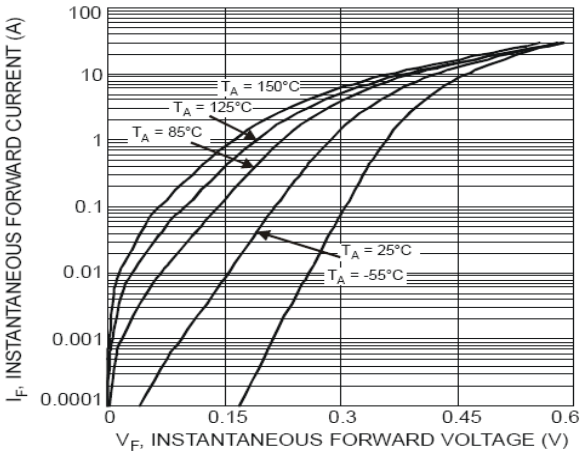



**Figure 1.Typical Forward Voltage Per Diode**

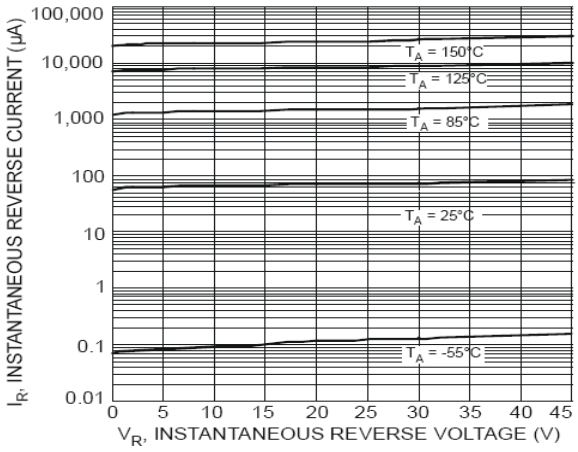



**Figure 2.Typical Reverse Current Per Diode**

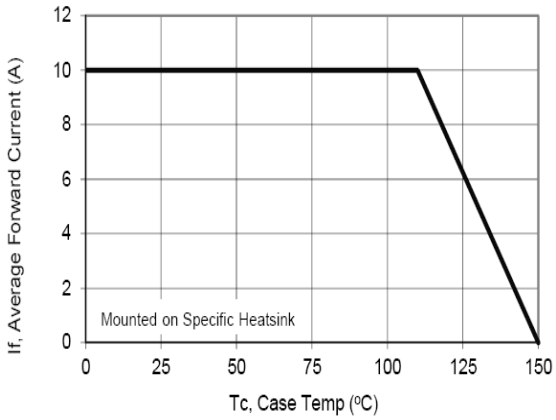
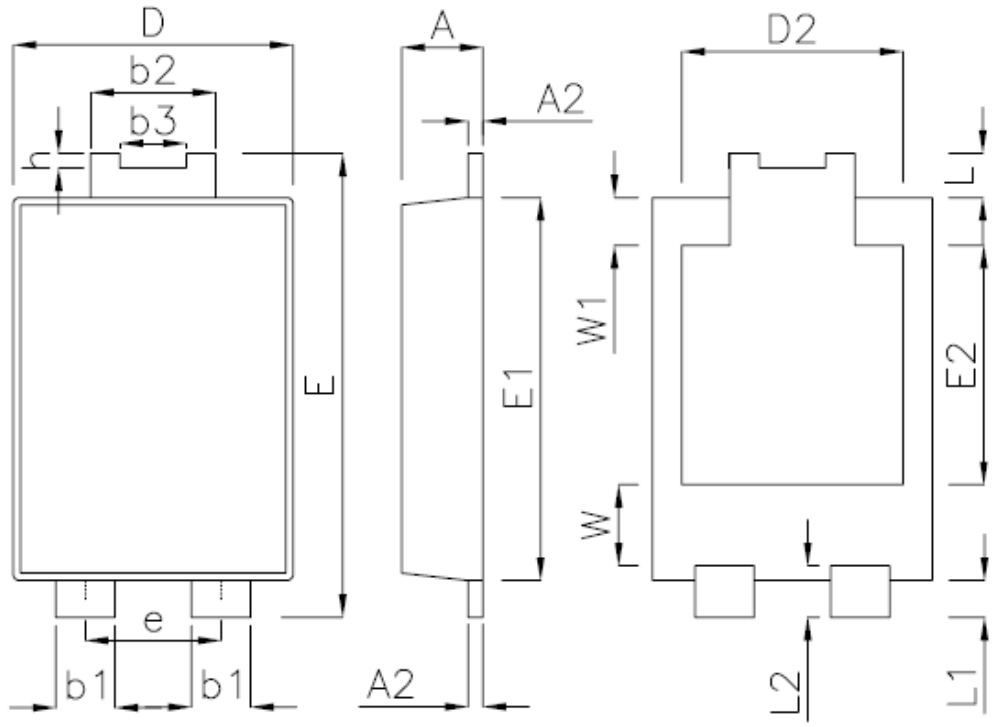



**Figure3.Average Forward Forward Current vs Case Temperature Per Diode**

## TO-277 Mechanical Data

UNIT.: mm

| SYMBOL | MIN | MAX | SYMBOL | MIN | MAX |
|---|---|---|---|---|---|
| A | 1.05 | 1.20 | e | 1.65 | 1.95 |
| A2 | 0.30 | 0.45 | E1 | 5.30 | 5.80 |
| b1 | 0.80 | 1.00 | E2 | 3.10 | 3.60 |
| b2 | 1.70 | 1.90 | L | 0.50 | 0.70 |
| b3 | 0.70 | 0.90 | L1 | 0.50 | 0.70 |
| L2 | 0.80 | 1.10 | h | 0.10 | 0.20 |
| D | 3.85 | 4.30 | D2 | 2.90 | 3.30 |
| W | 1.10 | 1.40 | E | 6.30 | 6.60 |
| W1 | 0.30 | 0.50 | | | |




Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial Level and Lead-Free.
Qualification Standards can be found on GS's Web site.
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