

# Trench MOS Barrier Schottky Rectifier

Reverse Voltage - 50 V

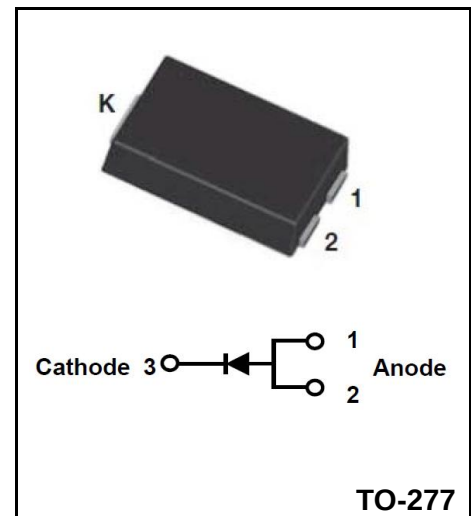
Forward Current - 15 A

## FEATURES

- ♦Advanced trench technology
- ♦ Low forward voltage drop
- ♦ Low power losses
- ♦ High efficiency operation
- ♦Lead free in comply with EU RoHS 2011/65/EU directives

## MECHANICAL DATA

- ♦Case: TO-277
- ♦Terminals: Solderable per MIL-STD-750, Method 2026



## Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified

| Parameter                                                                                    |           | Symbols         | Value      | Units |
|----------------------------------------------------------------------------------------------|-----------|-----------------|------------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                      |           | $V_{RRM}$       | 50         | V     |
| Maximum RMS voltage                                                                          |           | $V_{RMS}$       | 40         | V     |
| Maximum DC Blocking Voltage                                                                  |           | $V_{DC}$        | 50         | V     |
| Maximum Average Forward Rectified Current                                                    | Per diode | $I_{F(AV)}$     | 15         | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave superimposed on rated load per diode |           | $I_{FSM}$       | 280        | A     |
| Operating Temperature Range                                                                  |           | $T_J$           | -55 ~ +150 | °C    |
| Storage Temperature Range                                                                    |           | $T_{STG}$       | -55 ~ +150 | °C    |
| Typical Thermal Resistance Per diode(munted on FR-4 PCB)                                     | TO-277    | $R_{\theta JC}$ | 72         | °C/W  |

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

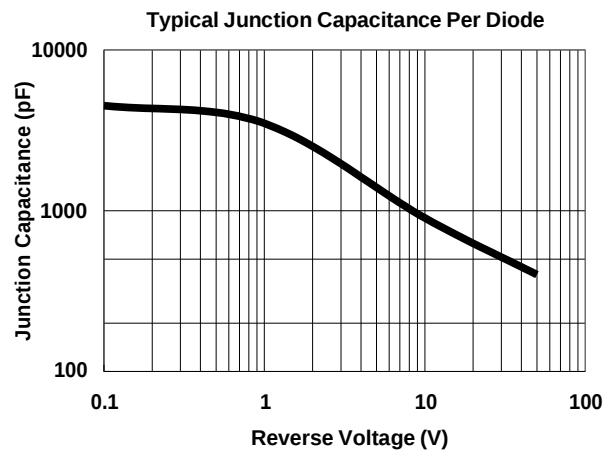
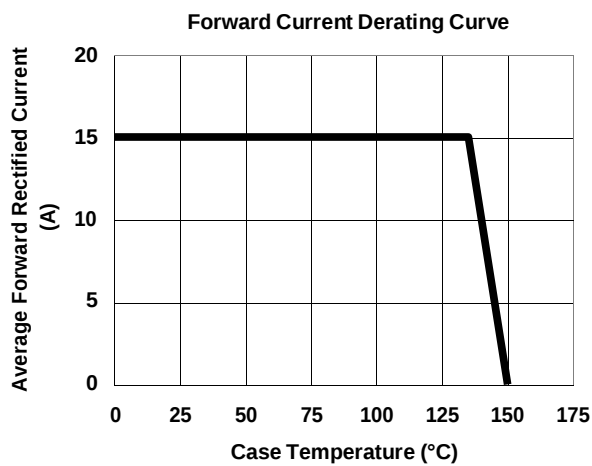
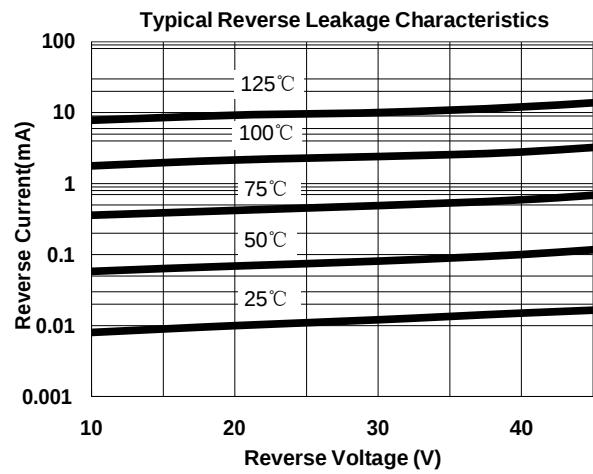
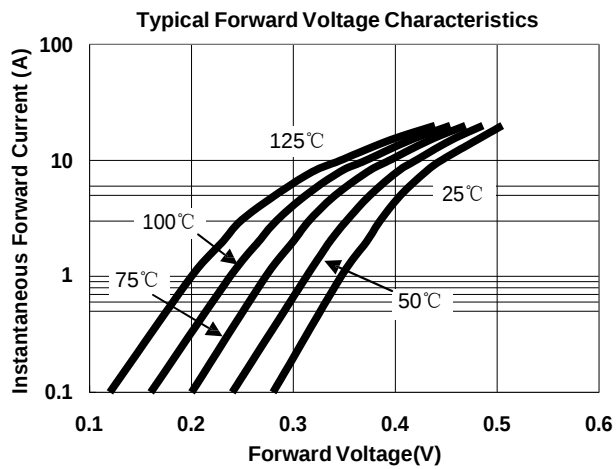
## Electrical Characteristics (Per Leg) unless otherwise specified

| Characteristics                                                  |          | Symbols | Value |      | Units |
|------------------------------------------------------------------|----------|---------|-------|------|-------|
| Forward Voltage Drop(Note2)                                      |          | $V_F$   | Typ   | Max  | V     |
| at $I_F=5A$ Instantaneous forward voltage per diode              | TA=25°C  |         | 0.40  | -    |       |
|                                                                  | TA=125°C |         | 0.29  | -    |       |
| at $I_F=15A$ Instantaneous forward voltage per diode             | TA=25°C  |         | 0.48  | 0.52 |       |
|                                                                  | TA=125°C |         | 0.39  | -    |       |
| Instantaneous reverse current per diode at rated reverse voltage | TA=25°C  | $I_R$   | 20    | 60   | uA    |
|                                                                  | TA=125°C |         | -     | 30   | mA    |

Note2: (1)Pulse test: 300  $\mu s$  pulse width, 1 % duty cycle

(2) Pulse test: Pulse width  $\leq$  40 ms

## RATINGS AND CHARACTERISTIC CURVES



## Marking Diagram



## Ordering information

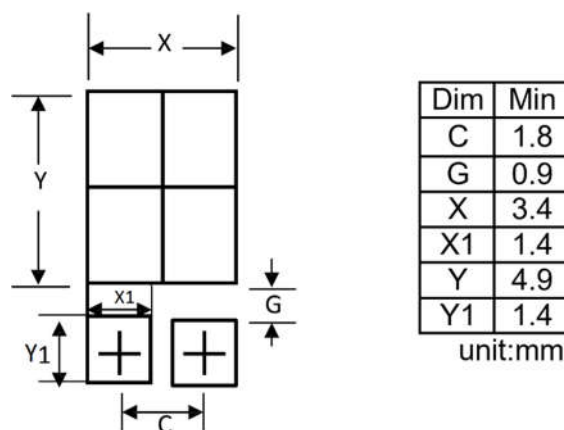
| Package | Packing Description | Packing Quantity             |
|---------|---------------------|------------------------------|
| TO-277  | Tape/Reel, 13" reel | 5000PCS/Reel 50000PCS/Carton |

## Package Dimensions

### TO-277

| Dim. | Millimeter(mm) |      | mil  |      |
|------|----------------|------|------|------|
|      | Min.           | Max. | Min. | Max. |
| A    | 1.1            | 1.2  | 43   | 47   |
| A2   | 0.3            | 0.4  | 12   | 16   |
| b1   | 0.8            | 1    | 32   | 39   |
| b2   | 1.7            | 1.9  | 67   | 75   |
| D    | 3.9            | 4.1  | 154  | 162  |
| D1   | 3.054          |      | 120  |      |
| E    | 6.4            | 6.6  | 252  | 260  |
| e    | 1.84           |      | 73   |      |
| E1   | 5.3            | 5.5  | 209  | 217  |
| E2   | 3.549          |      | 140  |      |
| L    | 0.8            | 1    | 32   | 39   |
| L1   | 0.5            | 0.7  | 20   | 28   |
| W    | 1.1            | 1.4  | 43   | 55   |

## The recommended mounting pad size



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