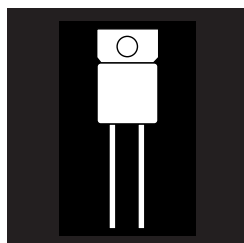


OM5010ST  
OM5011ST

# HERMETIC JEDEC TO-257AA HIGH EFFICIENCY, SOFT RECOVERY RECTIFIER



12 Amp, 800 & 1000 Volts, 50 nsec trr

## FEATURES

- Small Size
- Ultra Fast Recovery
- Soft Recovery Behavior
- Extremely Low Losses At High Switching Speeds
- Low  $I_{RM}$  Rating
- Hermetic And Isolated Package
- Available Screened To MIL-S-19500, TX, TXV And S Levels

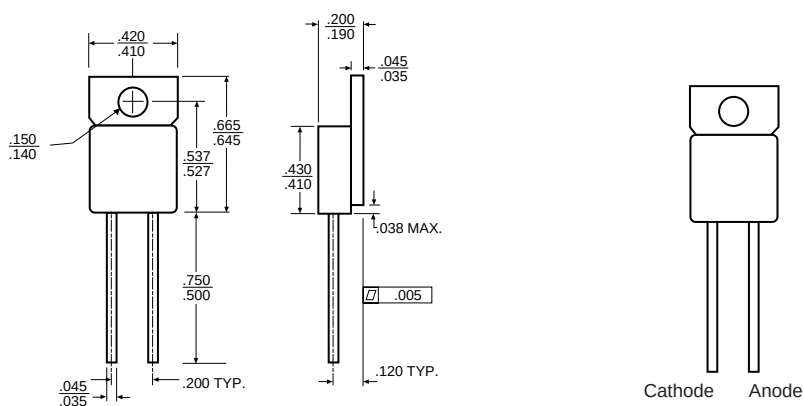
## DESCRIPTION

This soft recovery, high speed rectifier is ideally suited for high performance in high voltage switching applications. The performance of this rectifier minimizes losses in power conversion and motor control circuits complementing the switching characteristics of power MOSFETs, IGBTs, and bipolar transistors.

## ABSOLUTE MAXIMUM RATINGS $T_C = 25^\circ\text{C}$

Peak Inverse Voltage..... 800 & 1000 V  
Maximum Average D.C. Output Current @  $T_C = 100^\circ\text{C}$ ..... 12 A  
Surge Current (Non-Repetitive 8.3 nsec) ..... 70 A  
Thermal Resistance, Junction-To-Case.....  $2.0^\circ\text{C/W}$   
Operating and Storage Temperature Range.....  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$

3.2



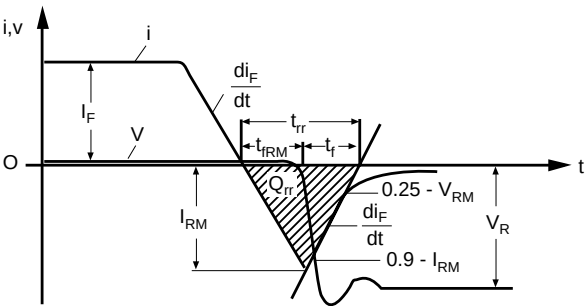
ELECTRICAL CHARACTERISTICS

| Type     | PIV  | Maximum Forward Voltage @ 12 A |                         | Maximum Reverse Current @ .8x PIV |                         | Maximum Reverse Recovery Time |
|----------|------|--------------------------------|-------------------------|-----------------------------------|-------------------------|-------------------------------|
|          |      | T <sub>j</sub> = 25° C         | T <sub>j</sub> = 150° C | T <sub>j</sub> = 25° C            | T <sub>j</sub> = 125° C |                               |
| OM5010ST | 800  | 2.9 V                          | 2.7 V                   | 150 µA                            | 4 mA                    | 50                            |
| OM5011ST | 1000 |                                |                         |                                   |                         |                               |

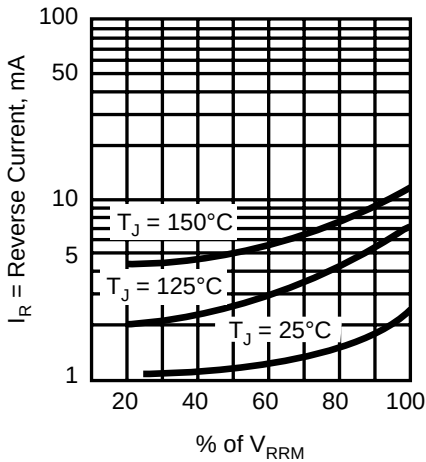
TURN-OFF CHARACTERISTICS

| Symbols         | Test Conditions                                                                                                                                                           | Min. | Typ. | Max. | Units |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|-------|
| T <sub>rr</sub> | I <sub>F</sub> = 0.5 A; I <sub>R</sub> = 1 A; T <sub>J</sub> = 25°C<br>I <sub>F</sub> = 1 A; di <sub>F</sub> /dt = -15 A/µs; V <sub>R</sub> = 30 V; T <sub>J</sub> = 25°C | -    | -    | 50   | ns    |
| I <sub>RM</sub> | V <sub>R</sub> = 540 V; I <sub>F</sub> = 12 A<br>L .05 µH; T <sub>J</sub> = 100°C; di <sub>F</sub> /dt = -100 A/µs                                                        | -    | 6.5  | 7.2  | A     |

DEFINITION OF TURN-OFF CHARACTERISTICS



TYPICAL REVERSE CURRENT



TYPICAL FORWARD VOLTAGE

