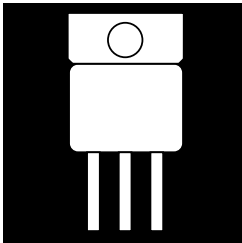


OM5227SC OM5229SC OM5231SC  
OM5228SC OM5230SC OM5232SC

# HIGH EFFICIENCY RECTIFIER AND POWER SCHOTTKY IN ONE HERMETIC PACKAGE



**15 Amp, 50 To 600 Volt, 35 n sec Rectifier  
And 15 Amp, 45 Volt Schottky Combined In  
JEDEC TO-258AA Package**

## FEATURES

- Small Size, High Current
- Hermetic Isolated JEDEC TO-258AA Package
- Power Schottky and High Speed Rectifier Internally Connected
- Low Thermal Resistance
- OM803 Screening Available
- Low Forward Drop
- Available Screened To MIL-S-19500, TX, TXV And S Levels

## DESCRIPTION

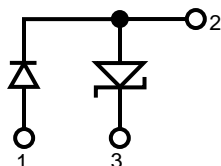
This series of products in a hermetic package is specifically designed for use in MOSFET circuits where high power inductive loads exist. This circuit arrangement eliminates the momentary shoot through condition caused by the slow recovery characteristics of a MOSFET parasitic diode.

## PRODUCT SUMMARY @ 25 C

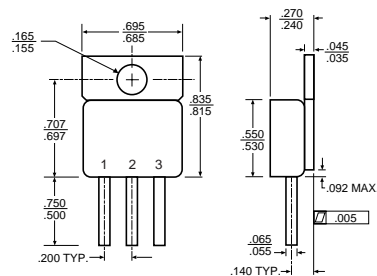
| PART NUMBER | Schottky Diode |                     | High Speed Rectifier |                     |                       |
|-------------|----------------|---------------------|----------------------|---------------------|-----------------------|
|             | PIV Volts      | I <sub>O</sub> Amps | PIV Volts            | I <sub>O</sub> Amps | t <sub>rr</sub> n sec |
| OM5227SC    | 45             | 15                  | 50                   | 15                  | 35                    |
| OM5228SC    | 45             | 15                  | 100                  | 15                  | 35                    |
| OM5229SC    | 45             | 15                  | 150                  | 15                  | 35                    |
| OM5230SC    | 45             | 15                  | 200                  | 15                  | 35                    |
| OM5231SC    | 45             | 15                  | 400                  | 15                  | 50                    |
| OM5232SC    | 45             | 15                  | 600                  | 15                  | 50                    |

3.2

**SCHEMATIC**



**MECHANICAL OUTLINE**



Z-Tab package also available.

OM5227SC - OM5232SC

**ELECTRICAL SPECIFICATION – SCHOTTKY RECTIFIER MAXIMUM RATINGS (ALL PART NUMBERS)**

| Rating   | Symbol                          | All P/N     | Unit                   |
|--|---------------------------------|-------------|------------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                   | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 45          | Volts                  |
| Average Rectified Forward Current (Rated $V_R$ ) $T_C = 125^\circ\text{C}$                               | $I_{F(AV)}$                     | 15          | Amps                   |
| Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20kHz) $T_C = 125^\circ\text{C}$             | $I_{FRM}$                       | 32          | Amps                   |
| Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | $I_{FSM}$                       | 150         | Amps                   |
| Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz)                                      | $I_{RRM}$                       | 1.0         | Amps                   |
| Operating Junction Temperature   | $T_J$                           | -65 to +150 | $^\circ\text{C}$       |
| Storage Temperature  | $T_{stg}$                       | -65 to +150 | $^\circ\text{C}$       |
| Voltage Rate of Change (Rated $V_R$ )  | $dv/dt$                         | 1000        | $\text{V}/\mu\text{s}$ |

**THERMAL CHARACTERISTICS**

|  |                 |     |                           |
|--|-----------------|-----|---------------------------|
| Maximum Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 1.8 | $^\circ\text{C}/\text{W}$ |
|--|-----------------|-----|---------------------------|

**ELECTRICAL CHARACTERISTICS**

|  |       |              |       |
|--|-------|--------------|-------|
| Maximum Instantaneous Forward Voltage (1)<br>( $I_F = 15 \text{ Amp}$ , $T_C = 125^\circ\text{C}$ )<br>( $I_F = 15 \text{ Amp}$ , $T_C = 25^\circ\text{C}$ ) | $V_F$ | 0.57<br>0.63 | Volts |
| Maximum Instantaneous Reverse Current (1)<br>(Rated dc Voltage, $T_C = 125^\circ\text{C}$ )<br>(Rated dc Voltage, $T_C = 25^\circ\text{C}$ )                 | $I_R$ | 40<br>0.5    | mA    |

\* Pulse Test Width = 300  $\mu\text{s}$ , 2% Duty Cycle

**ELECTRICAL SPECIFICATION – HIGH EFFICIENCY RECTIFIERS MAXIMUM RATINGS**

| Rating   | Symbol                          | OM5227                            | OM5228 | OM5229 | OM5230 | OM5231 | OM5232 | Unit             |
|--|---------------------------------|-----------------------------------|--------|--------|--------|--------|--------|------------------|
| Peak Repetitive Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                           | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50                                | 100    | 150    | 200    | 400    | 600    | Volts            |
| Average Rectified Forward Current (Rated $V_R$ )   | $I_{F(AV)}$                     | 15<br>@ $T_C = 125^\circ\text{C}$ |        |        |        |        |        | Amps             |
| Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20 kHz)                                      | $I_{FRM}$                       | 30<br>@ $T_C = 125^\circ\text{C}$ |        |        |        |        |        | Amps             |
| Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | $I_{FSM}$                       | 150                               |        |        |        |        |        | Amps             |
| Operating Temperature and Storage Temperature  | $T_J, T_{stg}$                  | -65 to +150                       |        |        |        |        |        | $^\circ\text{C}$ |

**THERMAL CHARACTERISTICS**

|  |                 |     |     |                           |
|--|-----------------|-----|-----|---------------------------|
| Maximum Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 2.0 | 1.8 | $^\circ\text{C}/\text{W}$ |
|--|-----------------|-----|-----|---------------------------|

**ELECTRICAL CHARACTERISTICS**

|  |          |             |             |             |             |              |            |            |               |
|--|----------|-------------|-------------|-------------|-------------|--------------|------------|------------|---------------|
| Maximum Instantaneous Forward Voltage (1)<br>( $I_F = 15 \text{ Amp}$ , $T_C = 125^\circ\text{C}$ )<br>( $I_F = 15 \text{ Amp}$ , $T_C = 25^\circ\text{C}$ ) | $V_F$    | .90<br>1.10 | .90<br>1.10 | .90<br>1.10 | .90<br>1.10 | 1.20<br>1.40 | 1.4<br>1.6 |            |               |
| Maximum Instantaneous Reverse Current (1)<br>(Rated dc Voltage, $T_C = 125^\circ\text{C}$ )<br>(Rated dc Voltage, $T_C = 25^\circ\text{C}$ )                 | $I_R$    | 1000<br>20  |             |             |             |              |            | 2000<br>20 | $\mu\text{A}$ |
| Maximum Reverse Recovery Time ( $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{REC} = .25\text{A}$ )  | $t_{rr}$ | 35          |             |             |             | 60           |            | ns         |               |

(1) Pulse Test Width = 300  $\mu\text{s}$ , Duty Cycle 2.0%

3.2