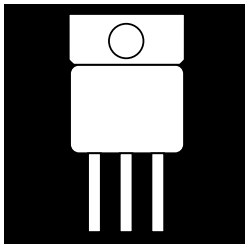
HIGH EFFICIENCY RECTIFIER AND POWER SCHOTTKY IN ONE HERMETIC PACKAGE



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

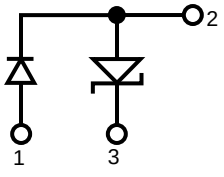
This series of products in a hermetic package is specifically designed for use in MOSFET circuits where high power inductive loads exist. This circuit arrangement eliminates the momentary shoot through condition caused by the slow recovery characteristics of a MOSFET parasitic diode.

PRODUCT SUMMARY@ 25 C

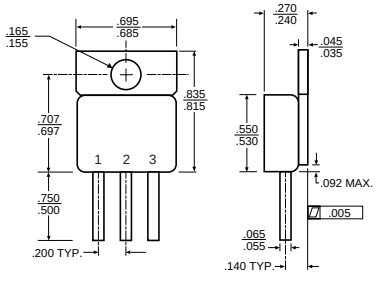
	Schottky Diode		High Speed Rectifier		
PART NUMBER	PIV Volts	I_O Amps	PIV Volts	I_O Amps	t_{rr} n sec
OM5227SC	45	15	50	15	35
OM5228SC	45	15	100	15	35
OM5229SC	45	15	150	15	35
OM5230SC	45	15	200	15	35
OM5231SC	45	15	400	15	50
OM5232SC	45	15	600	15	50

3.2

SCHEMATIC



MECHANICAL OUTLINE



Z-Tab package also available.

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

Rating	Symbol	All P/N	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	45	Volts
Average Rectified Forward Current (Rated V_R) T_C = 125°C	$I_{F(AV)}$	15	Amps
Peak Repetitive Forward Currend (Rated V_R, Square Wave, 20kHz) T_C = 125°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 µs, 1.0 kHz)	I_{RRM}	1.0	Amps
Operating Junction Temperature	T_J	-65 to +150	°C
Storage Temperature	T_{stg}	-65 to +150	°C
Voltage Rate of Change (Rated V_R)	dv/dt	1000	V/µs

THERMAL CHARACTERISTICS

Maximum Thermal Resistance, Junction-to-Case	R_{qJC}	1.8	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) (I_F = 15 Amp, T_C = 125°C) (I_F = 15 Amp, T_C = 25°C)	V_F	 0.57 0.63	Volts
Maximum Instantaeous Reverse Current (1) (Rated dc Voltage, T_C = 125°C) (Rated dc Voltage, T_C = 25°C)	I_R	 40 0.5	mA

* Pulse Test Width = 300 µs, 2% Duty Cycle

ELECTRICAL SPECIFICATION – HIGH EFFICIENCY RECTIFIERS MAXIMUM RATINGS

Rating	Symbol	OM5227	OM5228	OM5229	OM5230	OM5231	OM5232	Unit
Peak Repetitive Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	400	600	Volts
Average Rectified Forward Current (Rated V_R)	$I_{F(AV)}$	15 @ T_C = 125°C						Amps
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz)	I_{FRM}	30 @ T_C = 125°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						°C

THERMAL CHARACTERISTICS

Maximum Thermal Resistance, Junction-to-Case	R_{qJC}	2.0				1.8		°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) (I_F = 15 Amp, T_C = 125°C) (I_F = 15 Amp, T_C = 25°C)	V_F	 .90 1.10	 .90 1.10	 .90 1.10	 .90 1.10	 1.20 1.40	 1.4 1.6	
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T_C = 125°C) (Rated dc Voltage, T_C = 25°C)	I_R	 1000 20					 2000 20	µA
Maximum Reverse Recovery Time (I_F = 0.5A, I_R = 1.0A, I_{REC} = .25A)	t_{rr}	35				60		ns

(1) Pulse Test Width = 300 µs, Duty Cycle 2.0%

Omnirel 205 Crawford Street, Leominster, MA 01453 USA (508) 534-5776 FAX (508) 537-4246