

## Switchmode Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150°C junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, Photovoltaic Solar cell protection, free-wheeling and polarity protection diodes.

### Features

- \* Ultra Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Low Power Loss & High efficiency.
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O



\* In compliance with EU RoHs 2002/95/EC directives

### SCHOTTKY BARRIER RECTIFIERS

**15 AMPERES  
45VOLTS**



TO-277

### MAXIMUM RATINGS

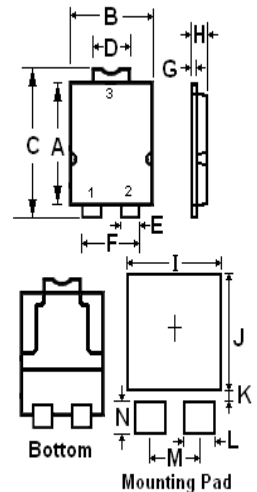
Characteristic	Symbol	S15L45	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	31.5	V
Average Rectifier Forward Current	$I_{F(AV)}$	15	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	30	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	$I_{FSM}$	275	A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150	°C

### THERMAL RESISTANCES

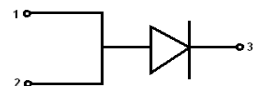
Typical Thermal Resistance junction to case( per diode )	$R_{\theta j-c}$	10	°C/w
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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S15L45			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 0.1$ Amp $T_C = 25^\circ C$ ) ( $I_F = 7.5$ Amp $T_C = 25^\circ C$ ) ( $I_F = 15$ Amp $T_C = 25^\circ C$ )	$V_F$	---	0.20 0.36 0.43	0.24 0.38 0.49	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25^\circ C$ ) ( Rated DC Voltage, $T_C = 100^\circ C$ )	$I_R$		0.5 60		mA



DIM	MILLIMETERS	
	MIN	MAX
A	5.20	5.40
B	4.10	3.90
C	6.40	6.60
D	1.70	1.90
E	0.80	1.00
F	1.80	1.90
G	0.25	0.35
H	1.05	1.15
I	3.36	---
J	4.86	---
K	0.85	---
L	1.40	---
M	1.84	---
N	1.40	---



# S15L45

FIG-1 FORWARD CURRENT DERATING CURVE

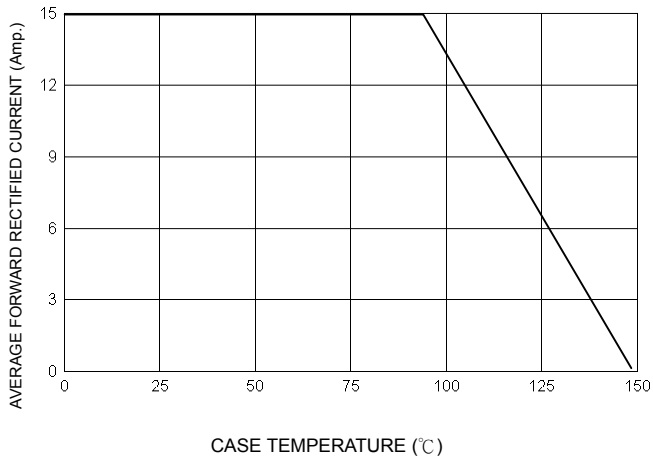


FIG-2 TYPICAL FORWARD CHARACTERISTICS

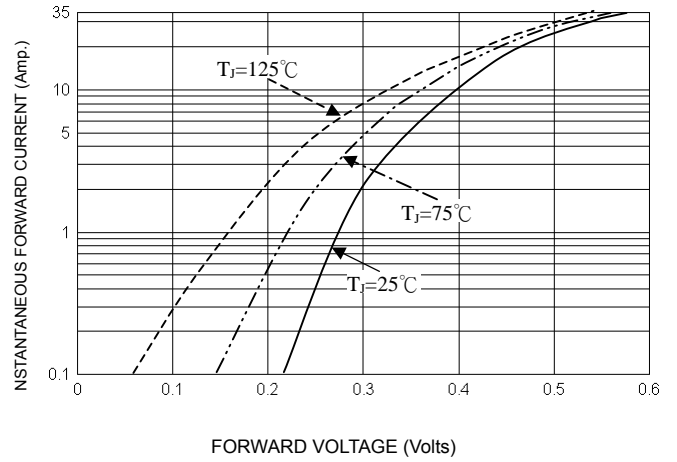


FIG-3 TYPICAL REVERSE CHARACTERISTICS

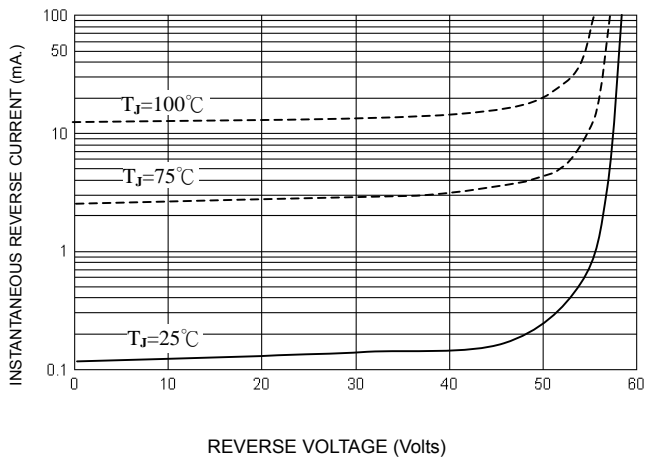


FIG-4 TYPICAL JUNCTION CAPACITANCE

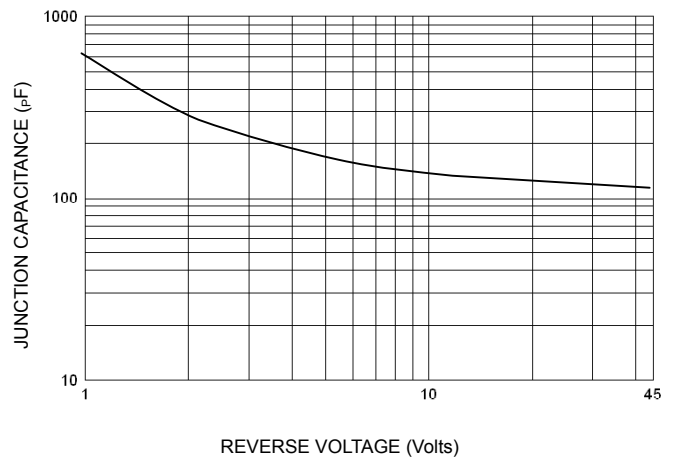
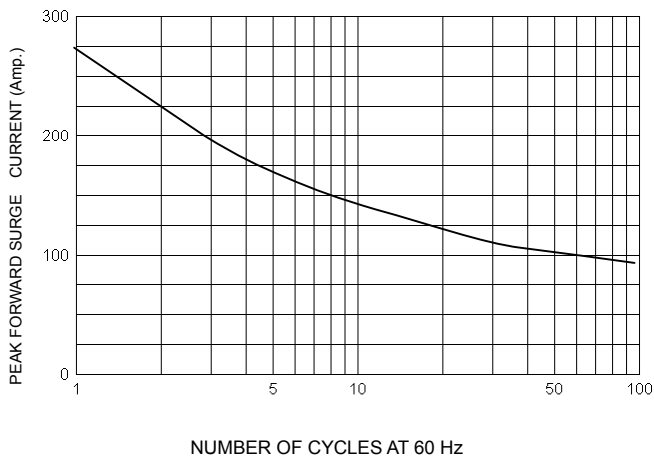


FIG-5 PEAK FORWARD SURGE CURRENT



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