

## Switchmode Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with high temperature operation metal. The appropriate barrier technology allows for reliable operation up to 150°C junction temperature. Typical applications are in switching Mode Power Supplies such as adaptors, 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
- \* Pb free
- \* In compliance with EU RoHs directives



### SCHOTTKY BARRIER RECTIFIERS

**15 AMPERES  
45VOLTS**



**TO-277**

### MAXIMUM RATINGS

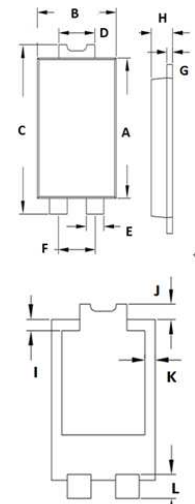
Characteristic	Symbol	S15L45	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	31.5	V
Average Rectifier Forward Current	$I_{F(AV)}$	15	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)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

### THERMAL RESISTANCES

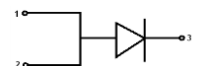
Typical Thermal Resistance junction to case( per diode )	$R_{\theta j-c}$	10	°C/w
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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S15L45			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 15$ Amp $T_C = 25^\circ C$ )	$V_F$	---	---	0.52	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	5.30	5.50
B	3.80	4.20
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	0.32	0.44
J	0.42	0.58
K	0.35	0.45
L	0.70	0.80



# S15L45

FIG-1 FORWARD CURRENT DERATING CURVE

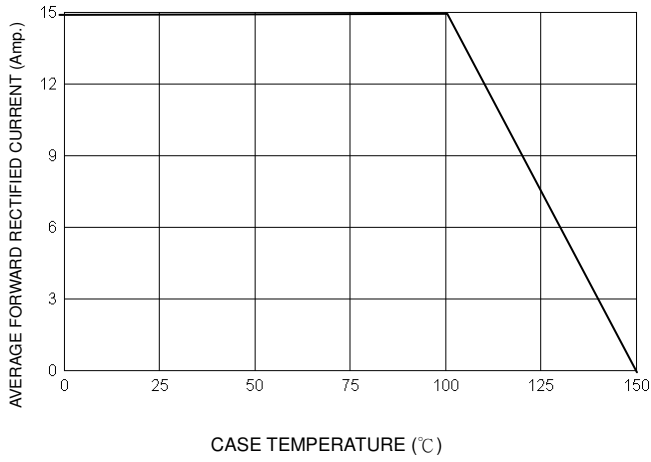


FIG-2 TYPICAL FORWARD CHARACTERISTICS

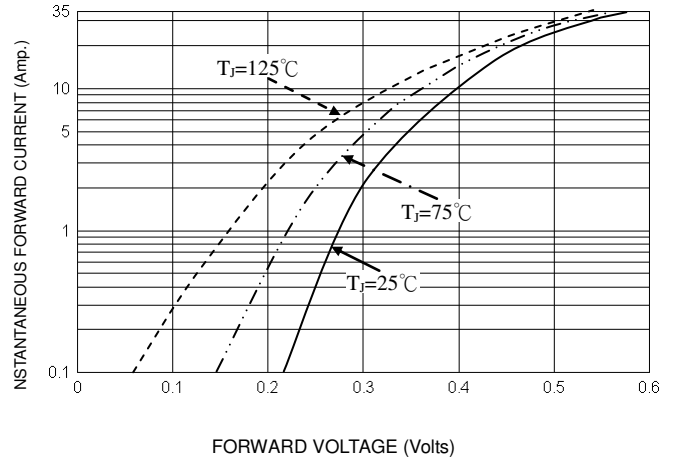


FIG-3 TYPICAL REVERSE CHARACTERISTICS

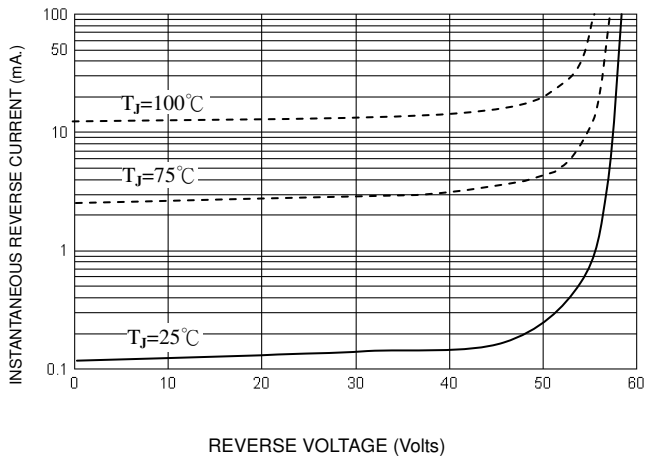


FIG-4 TYPICAL JUNCTION CAPACITANCE

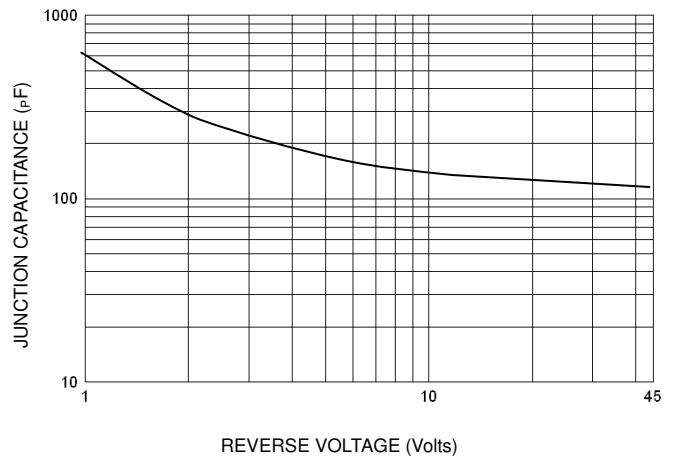
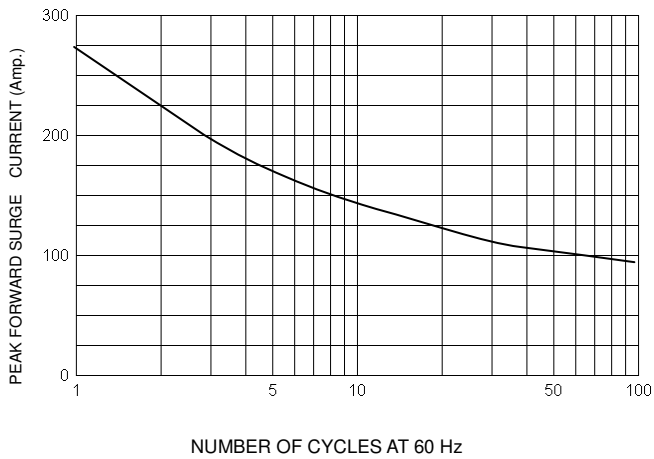


FIG-5 PEAK FORWARD SURGE CURRENT



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