

## 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 adaptors, Photovoltaic Solar cell protection, free-wheeling and polarity protection diodes.

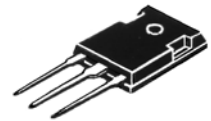
### Features

- \* 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
- \* ESD: 4KV(Min.) Human-Body Model
- \* Flammability Classification 94V-O
- \* *Pb free*
- \* *In compliance with EU RoHs directives*
- \* Mounting Torque: 5 in-lbs.Max.

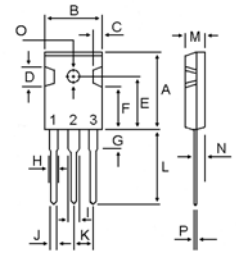


### SCHOTTKY BARRIER RECTIFIERS

**60 AMPERES  
45VOLTS**



**TO-3P**



DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70

### MAXIMUM RATINGS

Characteristic	Symbol	S60D45CL	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 ( per diode ) Total Device (Rated $V_R$ ),	$I_{F(AV)}$	30 60	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	$I_{FSM}$	300	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 )	$R_{\theta J-c}$	6.8	°C/w
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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S60D45CL			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 0.1$ Amp $T_C = 25^\circ C$ ) ( $I_F = 30.0$ Amp $T_C = 25^\circ C$ )	$V_F$	---	0.30 0.55	---	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25^\circ C$ ) ( Rated DC Voltage, $T_C = 125^\circ C$ )	$I_R$	---	0.20 45	0.30 ---	mA

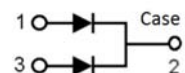


FIG-1 FORWARD CURRENT DERATING CURVE

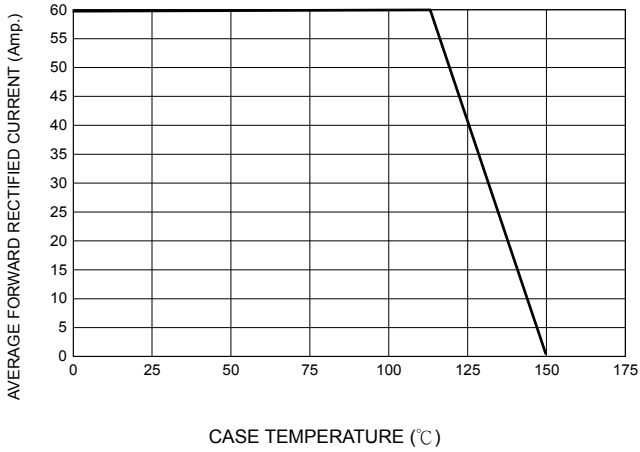


FIG-2 TYPICAL FORWARD CHARACTERISTICS

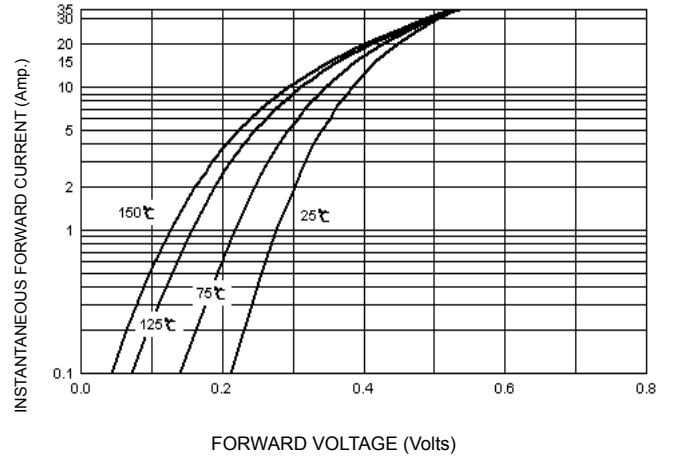


FIG-3 TYPICAL REVERSE CHARACTERISTICS

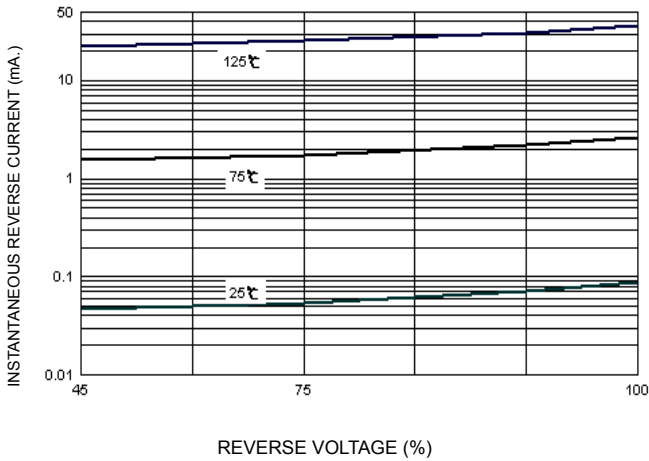


FIG-4 TYPICAL JUNCTION CAPACITANCE

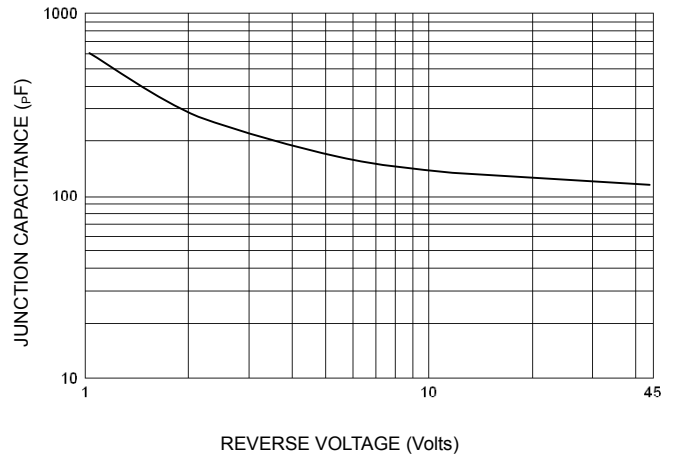
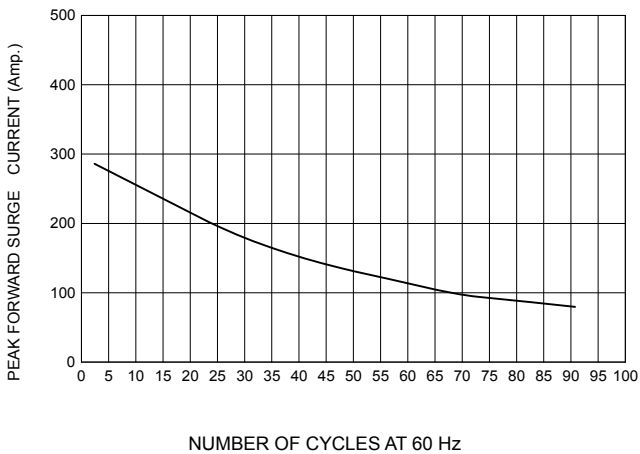


FIG-5 PEAK FORWARD SURGE CURRENT



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