

## Switchmode Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of 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, DC/DC convertes, free-wheeling and polarity protection diodes.

### Features

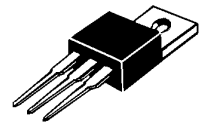
- \* Super Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O



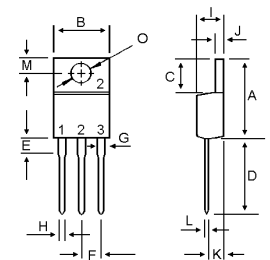
\* In compliance with EU RoHs 2002/95/EC directives

### SCHOTTKY BARRIER RECTIFIERS

**30 AMPERES  
45 VOLTS**



**TO-220AB**



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

### MAXIMUM RATINGS

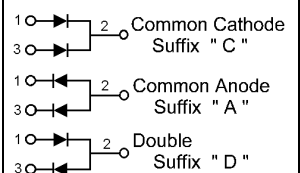
Characteristic	Symbol	SBL3045CL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	31.5	V
Average Rectifier Forward Current (per diode) Total Device (Rated $V_R$ ), $T_C=100^\circ\text{C}$	$I_{F(AV)}$	15 30	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)	$I_{FSM}$	300	A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150	°C

### THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta j-c}$	3.6	°C/w
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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SBL3045CL			Unit
		Min.	Typ.	Max.	
Maximum Instantaneous Forward Voltage (per diode) ( $I_F = 0.1 \text{ Amp } T_C = 25^\circ\text{C}$ ) ( $I_F = 7.5 \text{ Amp } T_C = 25^\circ\text{C}$ ) ( $I_F = 15 \text{ Amp } T_C = 25^\circ\text{C}$ )	$V_F$	---	0.26 0.43 0.50	0.28 0.46 0.52	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$ ) (Rated DC Voltage, $T_C = 100^\circ\text{C}$ )	$I_R$	---	0.10 12	0.5 30	mA



# SBL3045CL

FIG-1 FORWARD CURRENT DERATING CURVE

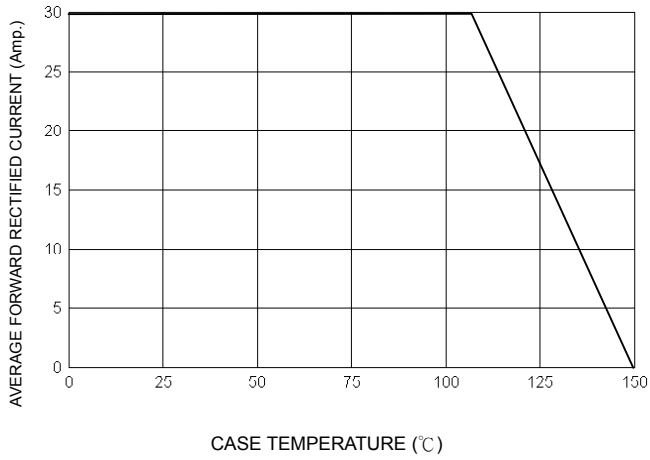


FIG-2 TYPICAL FORWARD CHARACTERISTICS

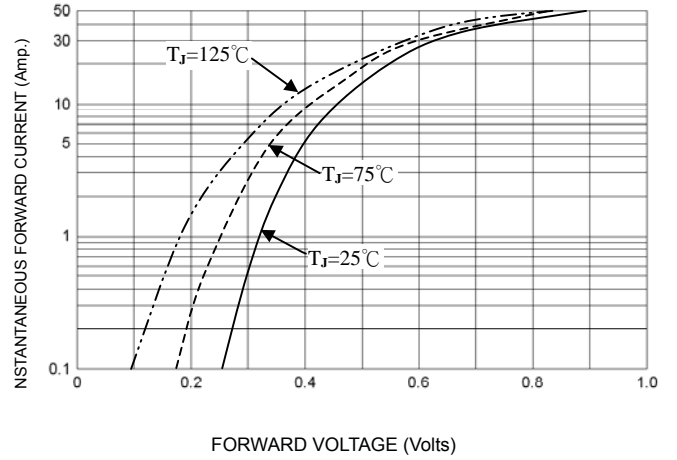


FIG-3 TYPICAL REVERSE CHARACTERISTICS

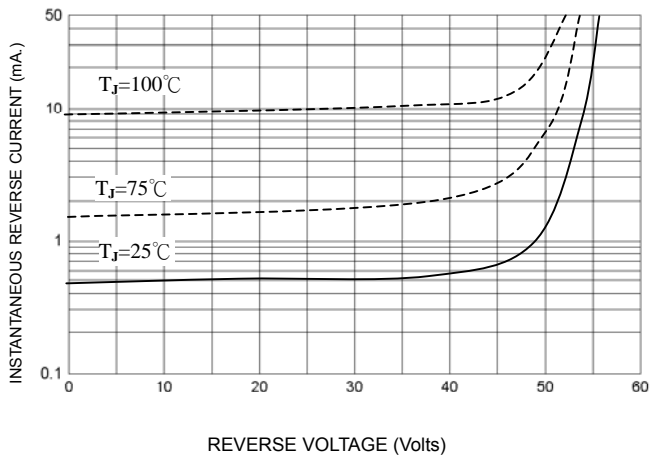


FIG-4 TYPICAL JUNCTION CAPACITANCE

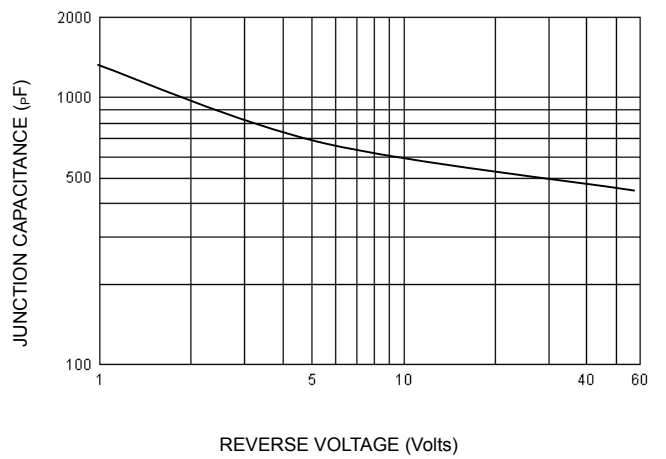
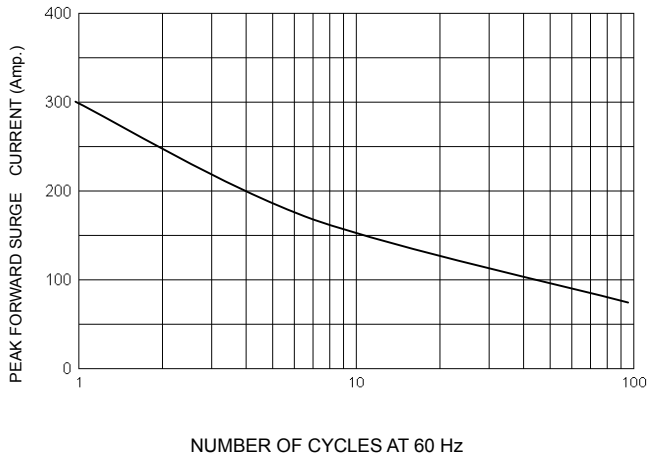


FIG-5 PEAK FORWARD SURGE CURRENT



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