

# S40T100C

## 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 adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

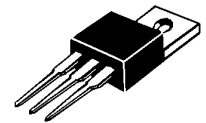
### Features

- \* 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-0
- \* *Pb free*
- \* *In compliance with EU RoHs directives*

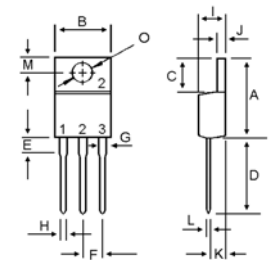


**SCHOTTKY BARRIER  
RECTIFIERS**

**40 AMPERES  
100 VOLTS**



**TO-220AB**



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	16.00
B	9.78	10.42
C	5.02	6.60
D	13.00	14.62
E	3.10	4.19
F	2.41	2.67
G	1.10	1.67
H	0.69	1.01
I	4.22	4.98
J	1.14	1.40
K	2.20	3.30
L	0.28	0.61
M	2.48	3.00
O	3.50	4.00

### MAXIMUM RATINGS

Characteristic	Symbol	S40T100C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current ( per diode ) Total Device (Rated $V_R$ ),	$I_{F(AV)}$	20 40	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	40	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 device )	$R_{\theta jc}$	4.4	°C/w
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### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ( per diode ) ( $I_F = 20$ Amp $T_C = 25^\circ C$ ) ( $I_F = 20$ Amp $T_C = 125^\circ C$ )	$V_F$	---	0.65 0.62	0.72 ---	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25^\circ C$ ) ( Rated DC Voltage, $T_C = 125^\circ C$ )	$I_R$	---	30 20	50 ---	$\mu A$ mA

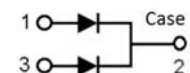


FIG-1 FORWARD CURRENT DERATING CURVE

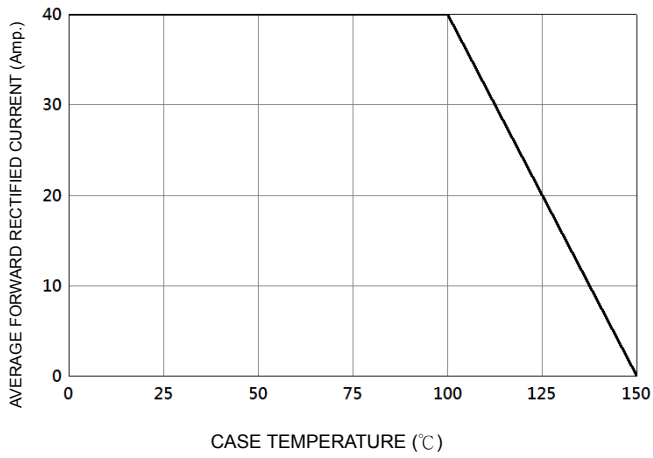


FIG-2 TYPICAL FORWARD CHARACTERISTICS

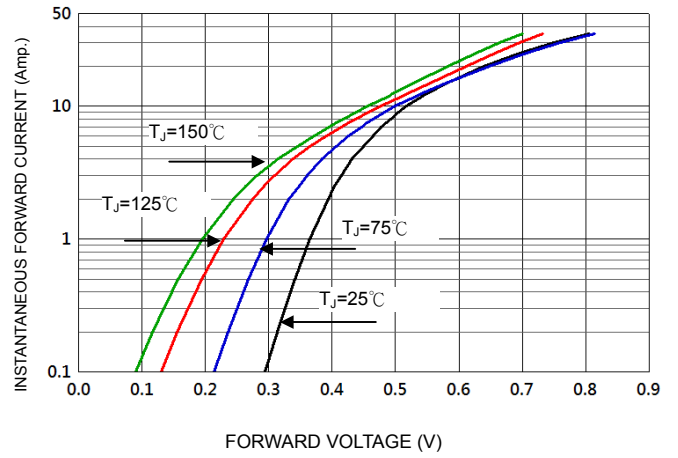


FIG-3 TYPICAL REVERSE CHARACTERISTICS

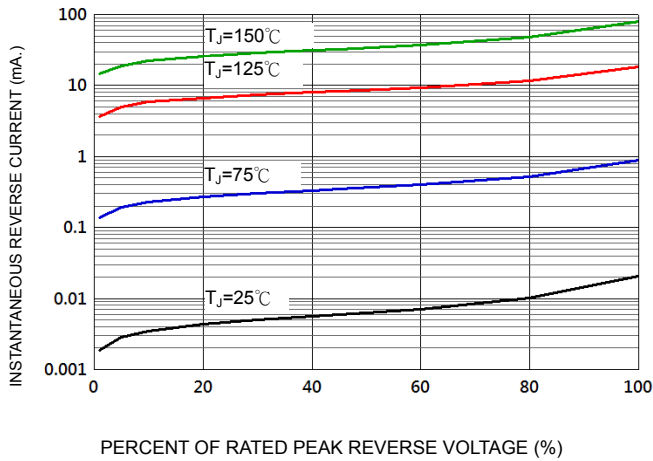


FIG-4 TYPICAL JUNCTION CAPACITANCE

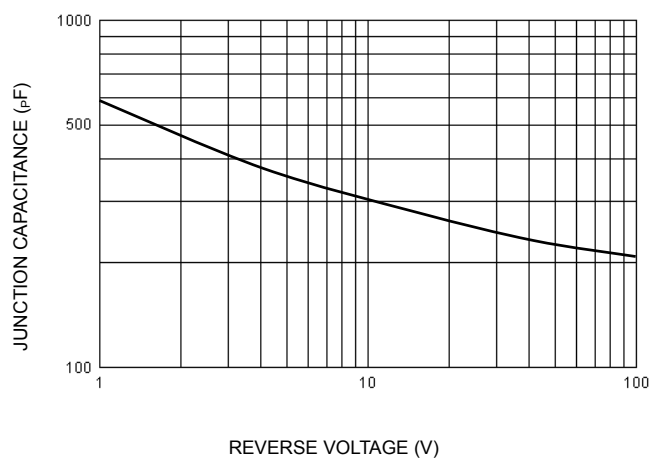


FIG-5 PEAK FORWARD SURGE CURRENT

