MOSPEC

S40C45CL

Switchmode Schottky Barrier Power Rectifiers

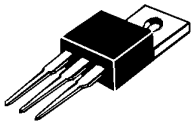
Using the Schottky Barrier principle with high temperature operation metal. The properitary barrier technology allows for reliable operation up to 150℃ junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, Photovoltaic Solar cell protection,free-wheeling and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

SCHOTTKY BARRIER RECTIFIERS

40 AMPERES 45VOLTS

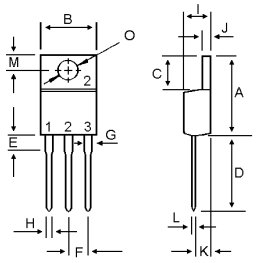
Features

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

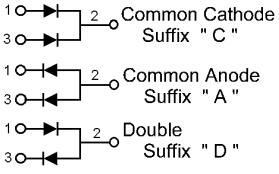


TO-220AB

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



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	S40C45CL	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℃	$I_{F(AV)}$	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	℃

THERMAL RESISTANCES

Maximum Thermal Resistance junction to case	$R_{\theta j\text{-}c}$	3.2	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S40C45CL			Unit
Maximum Instantaneous Forward Voltage (per diode)	V_F	Min	Typ.	Max.	V
(I_F =0.1 Amp T_C = 25℃)		---	0.22	0.26	
(I_F =10 Amp T_C = 25℃)		---	0.41	0.45	
(I_F =20 Amp T_C = 25℃)		---	0.48	0.52	
Maximum Instantaneous Reverse Current	I_R				mA
(Rated DC Voltage, T_C = 25℃)			0.5		
(Rated DC Voltage, T_C = 100℃)			50		

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FIG-1 FORWARD CURRENT DERATING CURVE

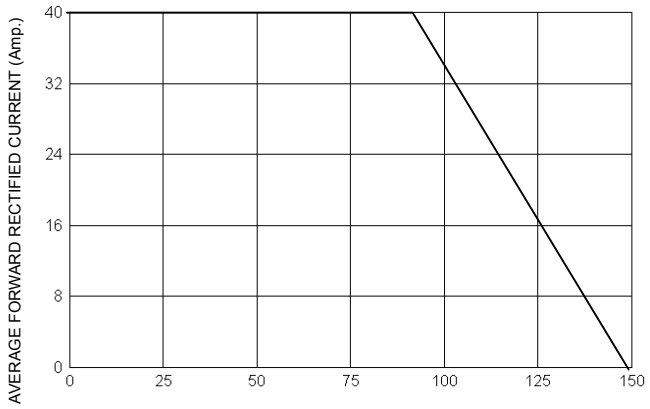


FIG-2 TYPICAL FORWARD CHARACTERISITICS

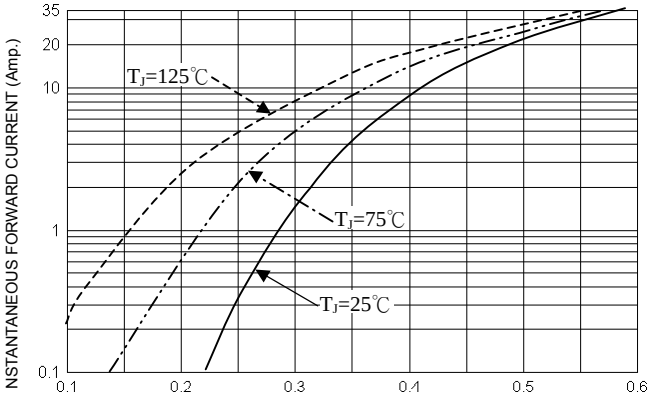


FIG-3 TYPICAL REVERSE CHARACTERISTICS

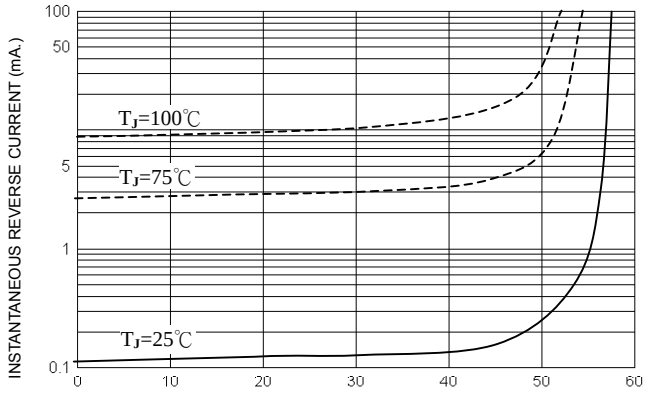


FIG-4 TYPICAL JUNCTION CAPACITANCE

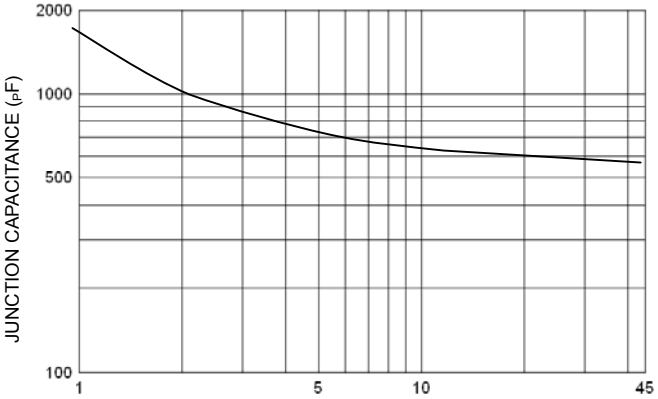
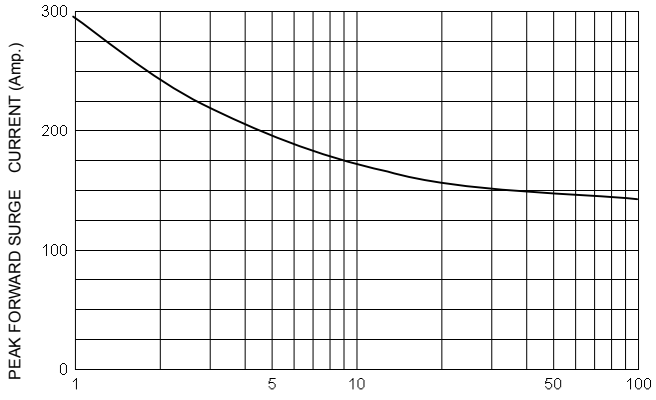


FIG-5 PEAK FORWARD SURGE CURRENT



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