MOSPEC

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.
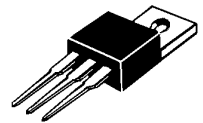
Features
* Ultra Low Forward Voltage.
* Low Switching noise.
* High Current Capacity
* Low Power Loss & High efficiency.
* 150℃ Operating Junction Temperature
* Low Stored Charge Majority Carrier Conduction.
* Plastic Material used Carries Underwriters Laboratory
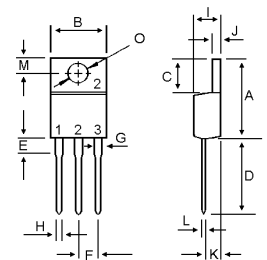 Flammability Classification 94V-O
* ESD: 4KV(Min.) Human-Body Model

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

SCHOTTKY BARRIER RECTIFIERS

20 AMPERES 45VOLTS

TO-220AB

MAXIMUM RATINGS

Characteristic	Symbol	S20C45CL	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℃	$I_{F(AV)}$	10 20	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	20	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	275	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case(per diode)	$R_{\theta\,j-c}$	10	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S20C45CL			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage (per diode) (I_F =0.1 Amp T_C = 25℃)	V_F	---	0.22	0.24	V
(I_F =5.0 Amp T_C = 25℃)		---	0.38	0.40	
(I_F =10 Amp T_C = 25℃)		---	0.44	0.47	
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃)	I_R		0.3		mA
(Rated DC Voltage, T_C = 125℃)			30		

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

Common Cathode Suffix " C "

Common Anode Suffix " A "

Double Suffix " D "
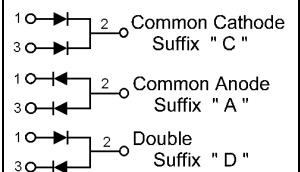
S20C45CL

FIG-1 FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD RECTIFIED CURRENT (Amp.) vs CASE TEMPERATURE (℃)
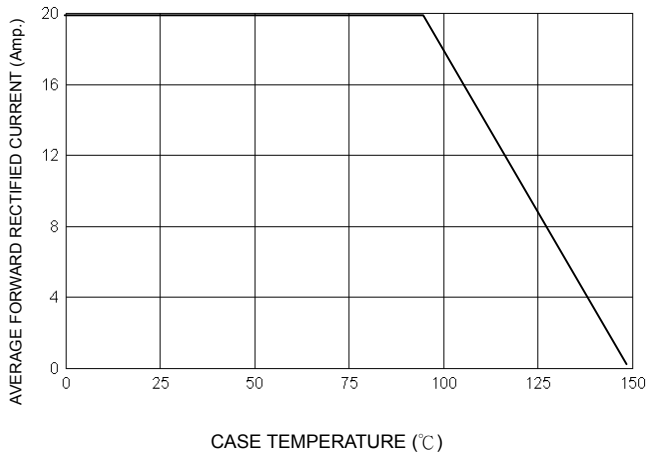
FIG-2 TYPICAL FORWARD CHARACTERISITICS

NSTANTANEOUS FORWARD CURRENT (Amp.) vs FORWARD VOLTAGE (Volts)

$T_J=125℃$ $T_J=75℃$ $T_J=25℃$
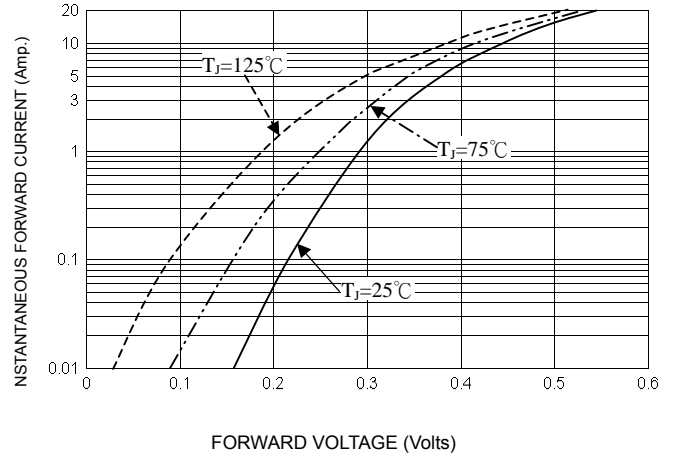
FIG-3 TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT (mA.) vs REVERSE VOLTAGE (Volts)

$T_J=125℃$ $T_J=75℃$ $T_J=25℃$
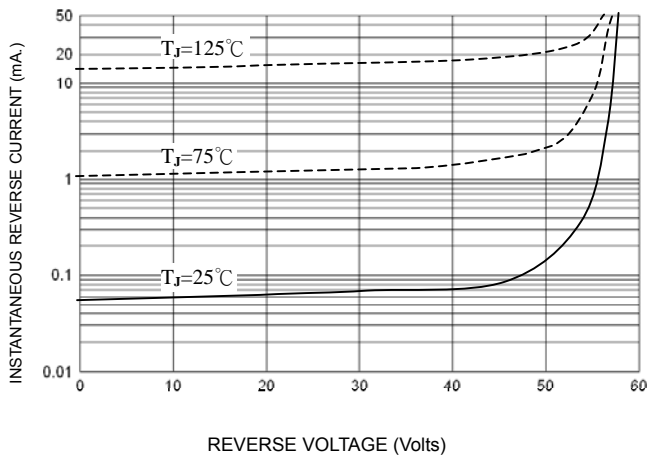
FIG-4 TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE (pF) vs REVERSE VOLTAGE (Volts)

FIG-5 PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT (Amp.) vs NUMBER OF CYCLES AT 60 Hz

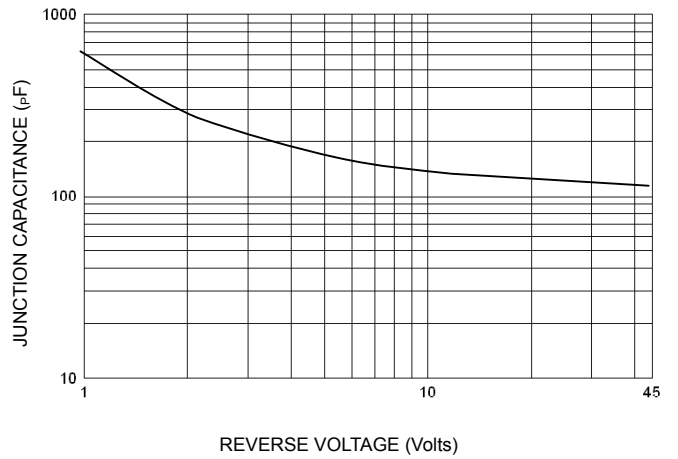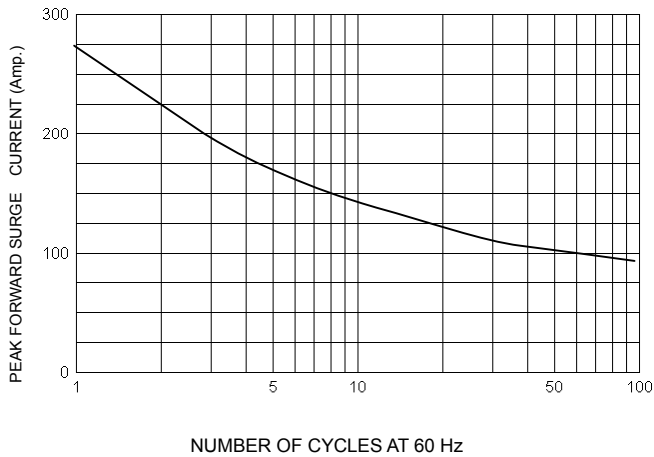## Notice

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