

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 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°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

MAXIMUM RATINGS

Characteristic	Symbol	SR10045L	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	31.5	V
Average Rectifier Forward Current	$I_{F(AV)}$	10	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	°C

THERMAL RESISTANCES

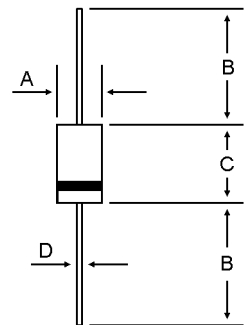
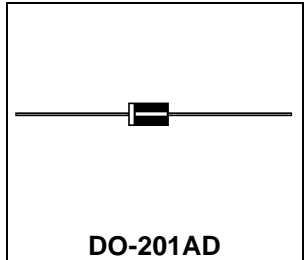
Typical Thermal Resistance junction to case	$R_{\theta j-c}$	45	°C/w
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SR10045L			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage ($I_F = 0.1$ Amp $T_C = 25^\circ C$) ($I_F = 5.0$ Amp $T_C = 25^\circ C$) ($I_F = 10$ Amp $T_C = 25^\circ C$)	V_F	---	0.24 0.41 0.46	0.26 0.44 0.47	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 100^\circ C$)	I_R		0.3 30		mA

SCHOTTKY BARRIER RECTIFIERS

10 AMPERES
45VOLTS



DIM	MILLIMETERS	
	MIN	MAX
A	5.00	5.60
B	25.40	---
C	8.50	9.50
D	1.20	1.30

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

SR10045L

FIG-1 FORWARD CURRENT DERATING CURVE

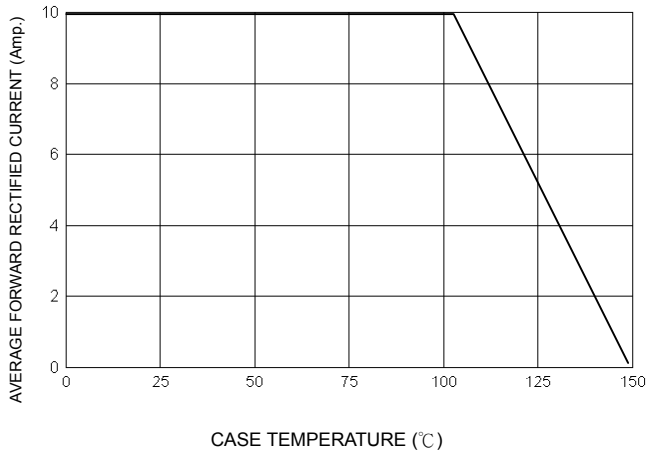


FIG-2 TYPICAL FORWARD CHARACTERISTICS

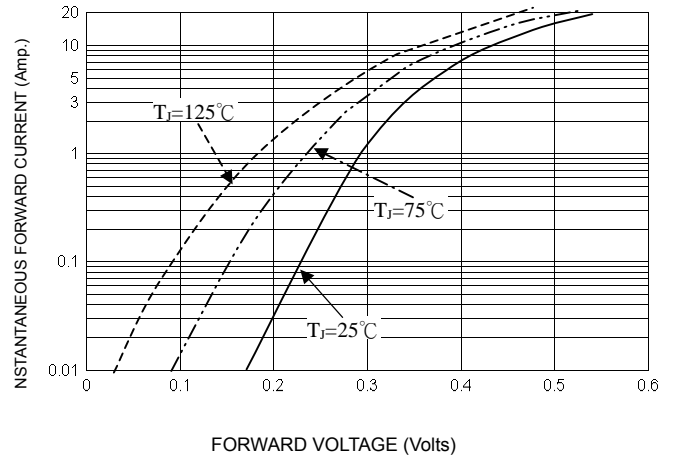


FIG-3 TYPICAL REVERSE CHARACTERISTICS

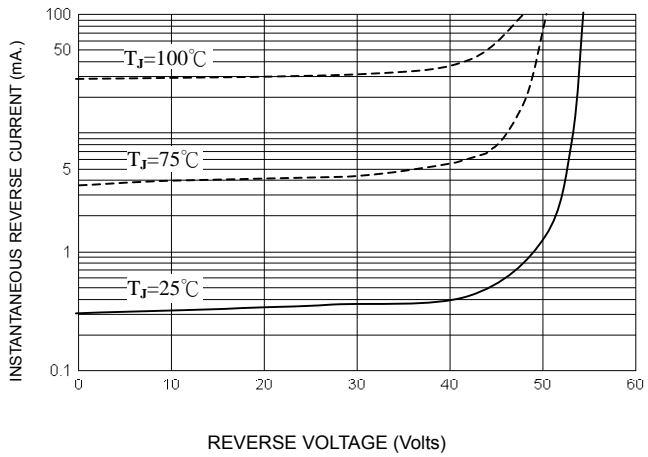


FIG-4 TYPICAL JUNCTION CAPACITANCE

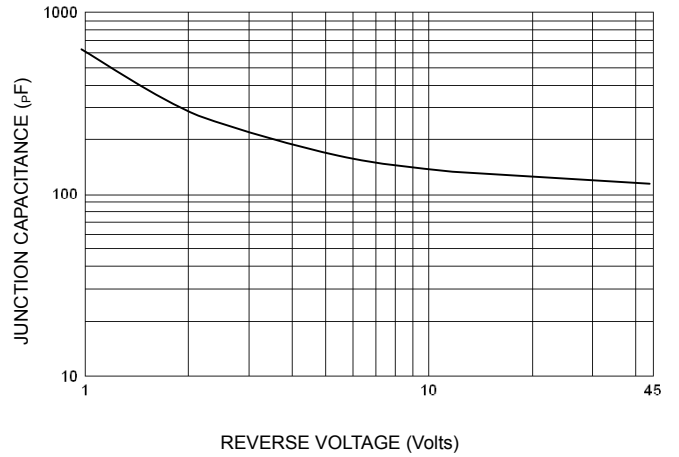


FIG-5 PEAK FORWARD SURGE CURRENT

