

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
- * Mounting Torque: 5 in-lbs.Max.
- * ESD: 4KV(Min.) Human-Body Model
- * In compliance with EU RoHs 2002/95/EC directives



SCHOTTKY BARRIER RECTIFIERS

**5 AMPERES
45 VOLTS**



DO-214AA(SMB)

MAXIMUM RATINGS

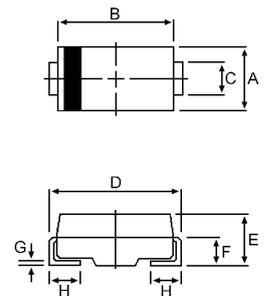
Characteristic	Symbol	SRM54	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	31.5	V
Average Rectifier Forward Current	$I_{F(AV)}$	5	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	30	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150	°C

THERMAL RESISTANCES

Typical Thermal Resistance junction to case(per diode)	$R_{\theta j-c}$	6.5	°C/w
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SRM54			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage (per diode) ($I_F = 0.1$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 5.0$ Amp $T_C = 25^\circ\text{C}$)	V_F	---	0.30	---	V
		---	0.48	0.51	
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$)	I_R	---	0.03	0.1	mA
		---	15	---	



DIM	MILLIMETERS	
	MIN	MAX
A	3.30	3.90
B	4.20	4.60
C	1.80	2.20
D	5.10	5.60
E	1.90	2.50
F		1.30
G		0.22
H	0.95	1.35

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

SRM54

FIG-1 FORWARD CURRENT DERATING CURVE

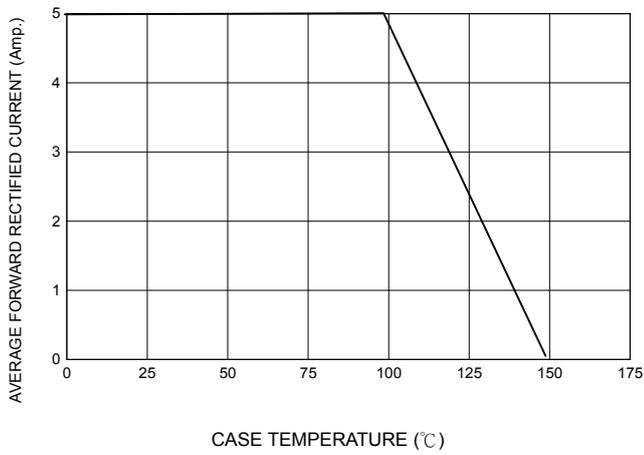


FIG-2 TYPICAL FORWARD CHARACTERISTICS

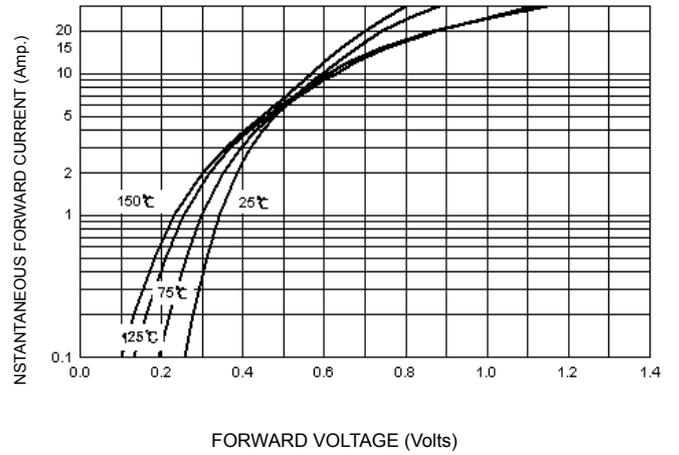


FIG-3 TYPICAL REVERSE CHARACTERISTICS

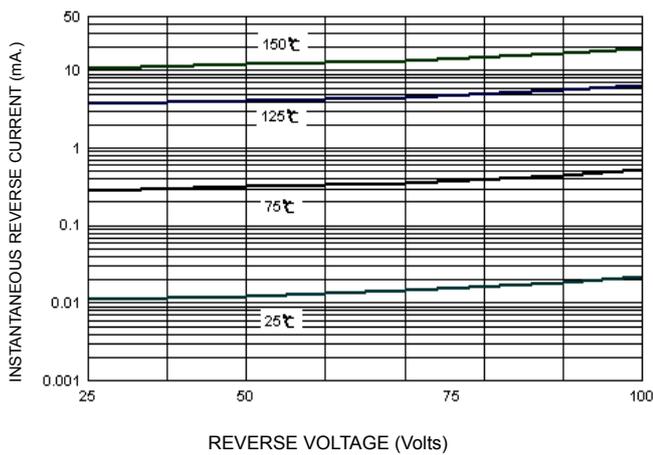


FIG-4 TYPICAL JUNCTION CAPACITANCE

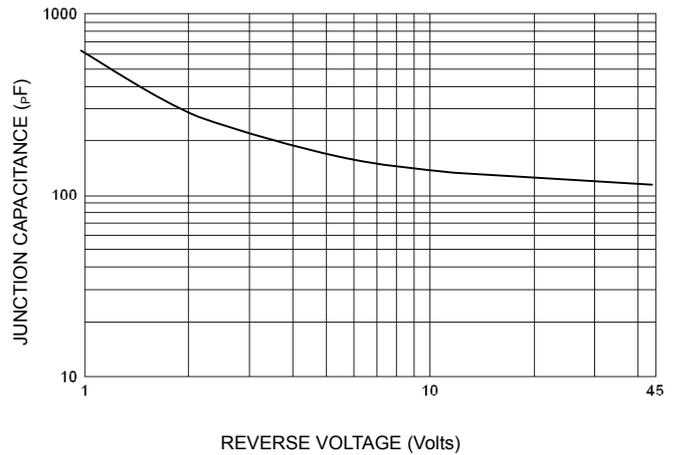
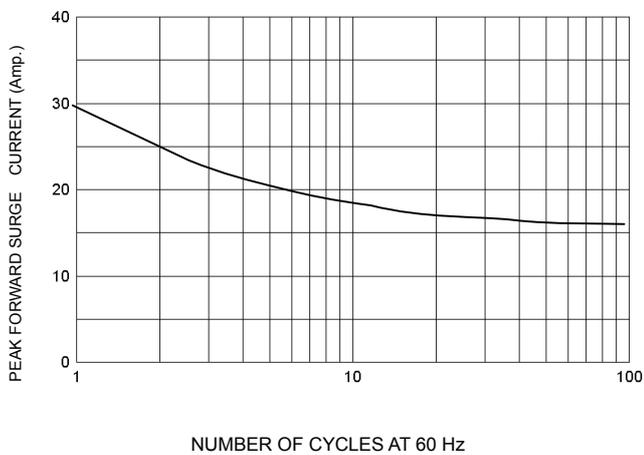


FIG-5 PEAK FORWARD SURGE CURRENT



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