MOSPEC

S05L45

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.

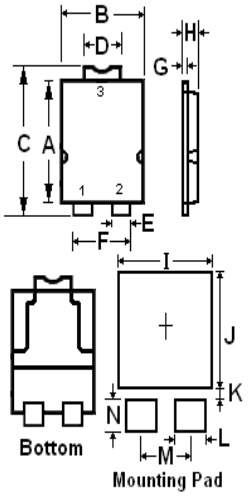
SCHOTTKY BARRIER RECTIFIERS

5 AMPERES
45 VOLTS

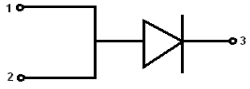
TO-277

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



DIM	MILLIMETERS	
	MIN	MAX
A	5.20	5.40
B	4.10	3.90
C	6.40	6.60
D	1.70	1.90
E	0.80	1.00
F	1.80	1.90
G	0.25	0.35
H	1.05	1.15
I	3.36	-----
J	4.86	-----
K	0.85	-----
L	1.40	-----
M	1.84	-----
N	1.40	-----



MAXIMUM RATINGS

Characteristic	Symbol	S05L45	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	$I_{F(AV)}$	5	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	125	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case(per diode)	$R_{\theta j\text{-}c}$	5	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S10M45C			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage (per diode)					
(I_F =0.1 Amp T_C = 25℃)	V_F	---	0.26	0.28	V
(I_F =3.0 Amp T_C = 25℃)		---	0.41	0.44	
(I_F =5.0 Amp T_C = 25℃)		---	0.47	0.50	
Maximum Instantaneous Reverse Current					
(Rated DC Voltage, T_C = 25℃)	I_R	---	0.03	0.1	mA
(Rated DC Voltage, T_C = 125℃)		---	8	10	

S05L45

FIG-1 FORWARD CURRENT DERATING CURVE

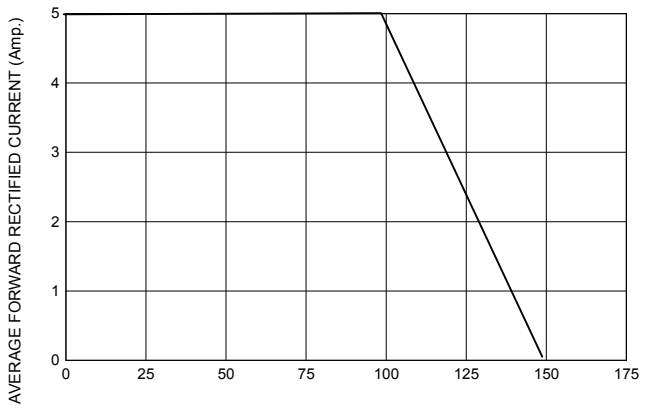


FIG-2 TYPICAL FORWARD CHARACTERISITICS

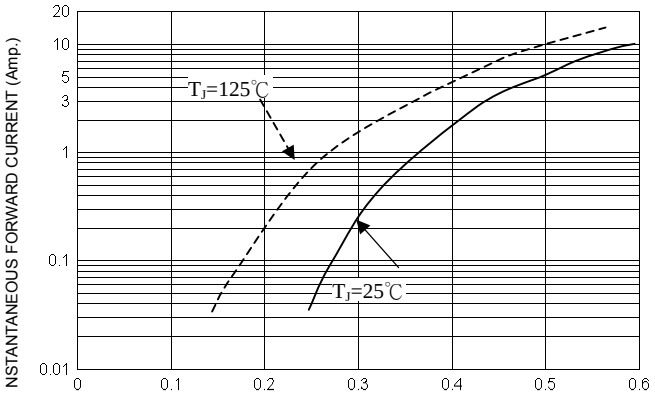


FIG-3 TYPICAL REVERSE CHARACTERISTICS

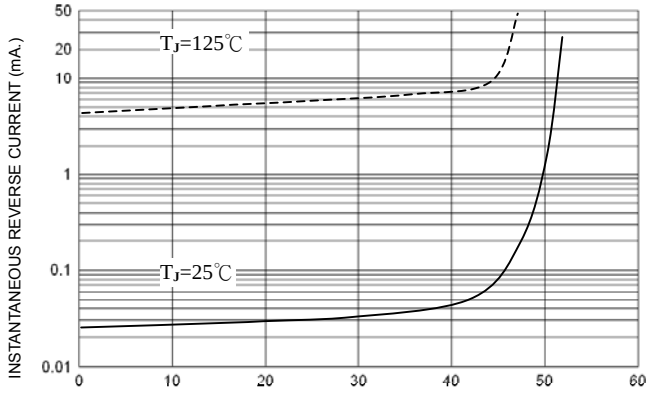


FIG-4 TYPICAL JUNCTION CAPACITANCE

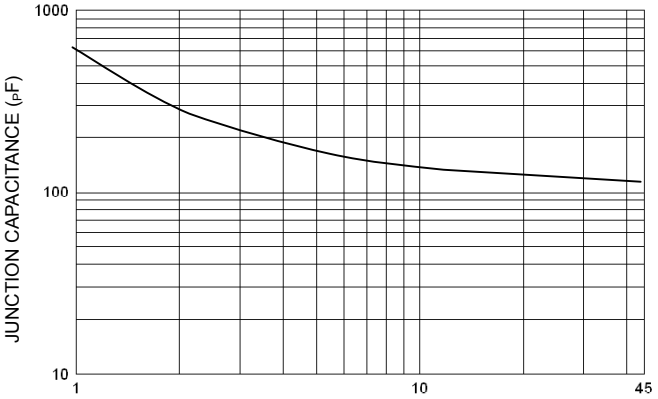
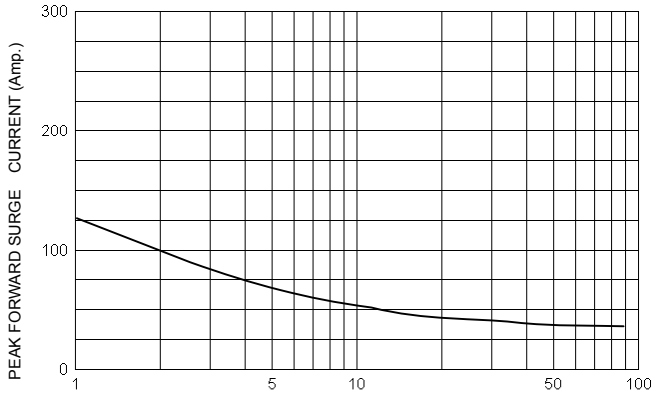


FIG-5 PEAK FORWARD SURGE CURRENT



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