Schottky Barrier Rectifiers

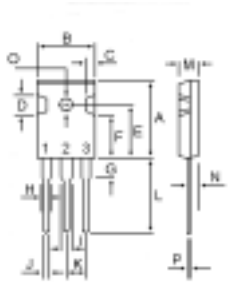
Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

- ✳Low Forward Voltage.
- ✳Low Switching noise.
- ✳High Current Capacity
- ✳Guarantee Reverse Avalanche.
- ✳Guard-Ring for Stress Protection.
- ✳Low Power Loss & High efficiency.
- ✳125℃ Operating Junction Temperature
- ✳Low Stored Charge Majority Carrier Conduction.
- ✳Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- ✳ESD: 8KV(Min.) Human-Body Model
- ✳*In compliance with EU RoHs 2002/95/EC directives*

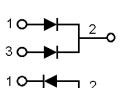
SCHOTTKY BARRIER RECTIFIERS

50 AMPERES
30-60 VOLTS

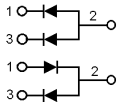
TO-3P



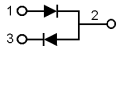
DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70



Common Cathod Suffix " C "



Common Anode Suffix " A "



Double Suffix " D "

MAXIMUM RATINGS

Characteristic	Symbol	S50D						Unit
		30	35	40	45	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	35	40	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	35	42	V
Average Rectifier Forward Current Per diodes Total Device (Rated V_R),T_C=100℃	$I_{F(AV)}$	25 50						A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	50						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	400						A
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +125						℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta j\text{-}c}$	1.7	℃/w

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	S50D						Unit
		30	35	40	45	50	60	
Maximum Instantaneous Forward Voltage (I_F =25 Amp T_C = 25℃) (I_F =25 Amp T_C = 100℃)	V_F	0.60 0.49				0.70 0.60		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 100℃)	I_R	3.0 60						mA

S50D30 Thru S50D60

FIG-1 FORWARD CURRENT DERATING CURVE

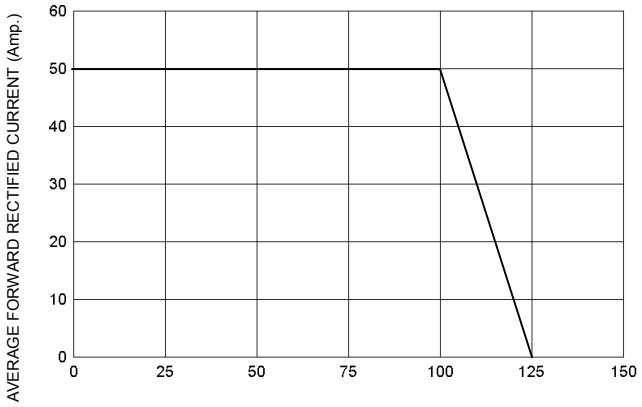


FIG-2 TYPICAL FORWARD CHARACTERISITICS

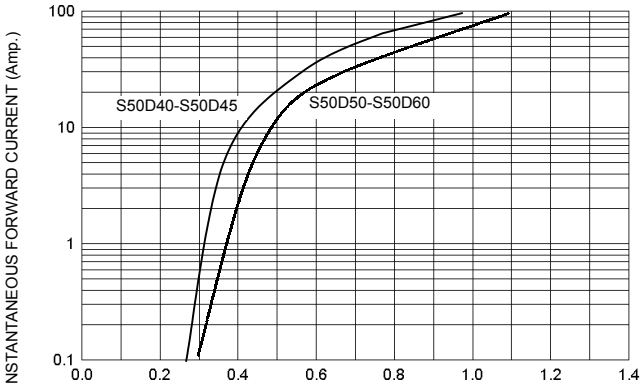


FIG-3 TYPICAL REVERSE CHARACTERISTICS

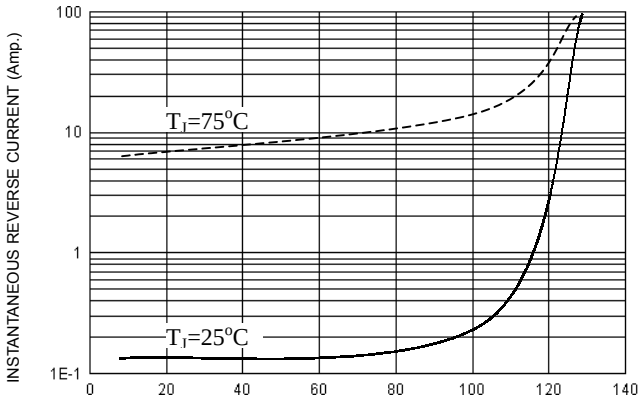


FIG-4 TYPICAL JUNCTION CAPACITANCE

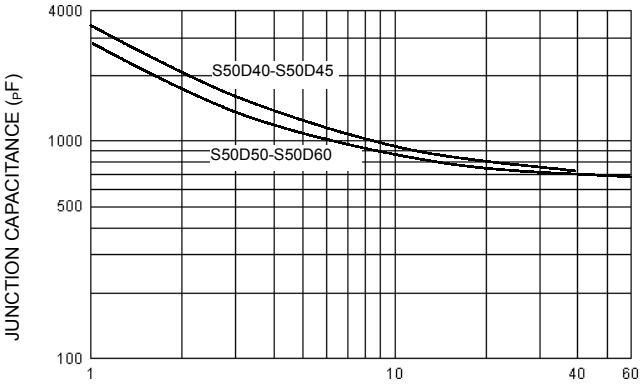


FIG-5 PEAK FORWARD SURGE CURRENT