

### Schottky Barrier Rectifiers

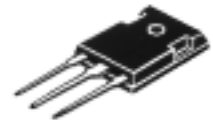
Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

- \* 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**

### MAXIMUM RATINGS

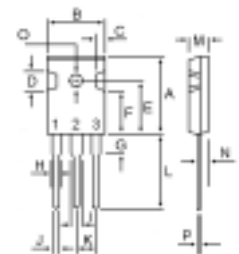
Characteristic	Symbol	S50D						Unit
		30	35	40	45	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	35	40	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	35	42	V
Average Rectifier Forward Current Per diodes Total Device (Rated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

### THERMAL RESISTANCES

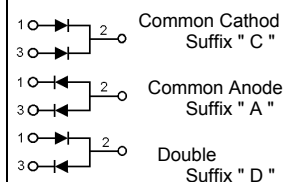
Typical Thermal Resistance junction to case	$R_{\theta j-c}$	1.7	/w
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### ELECTRIAL CHARACTERISTICS

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						V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C=25$ ) ( Rated DC Voltage, $T_C=100$ )	$I_R$	3.0 60						mA



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



# S50D30 Thru S50D60

FIG-1 FORWARD CURRENT DERATING CURVE

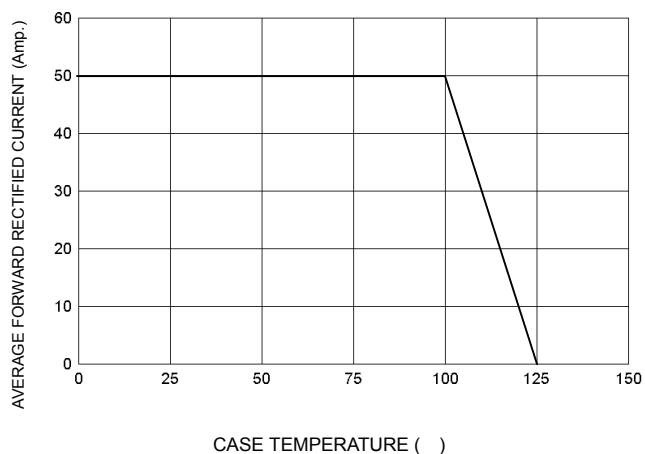


FIG-2 TYPICAL FORWARD CHARACTERISTICS

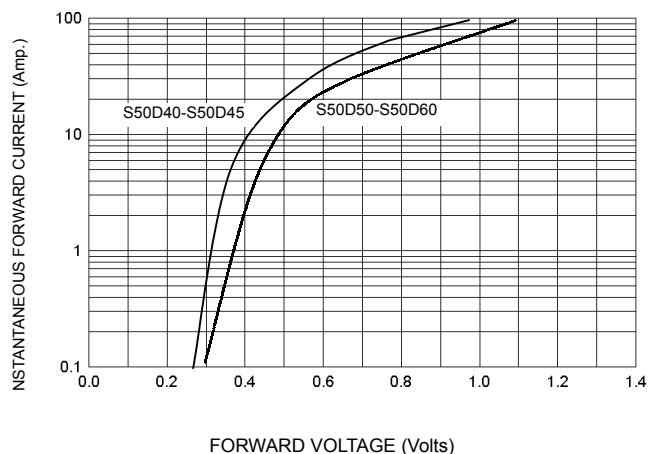


FIG-3 TYPICAL REVERSE CHARACTERISTICS

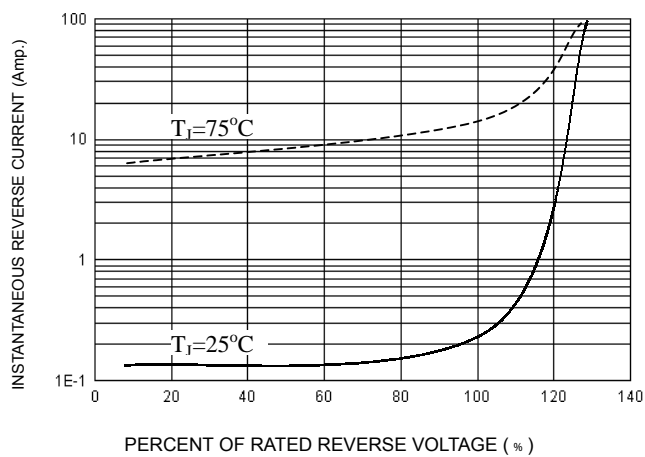


FIG-4 TYPICAL JUNCTION CAPACITANCE

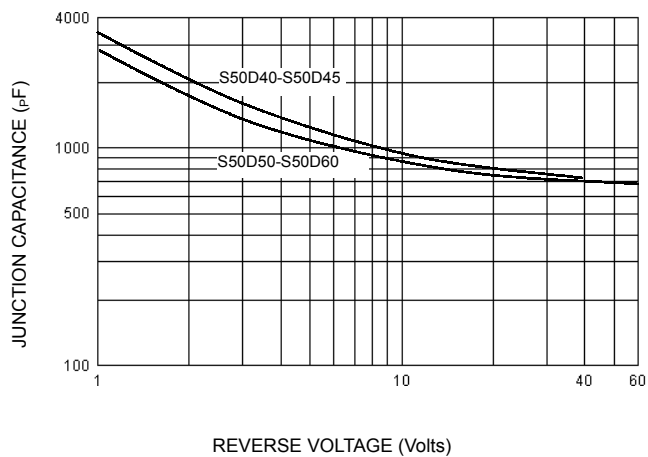
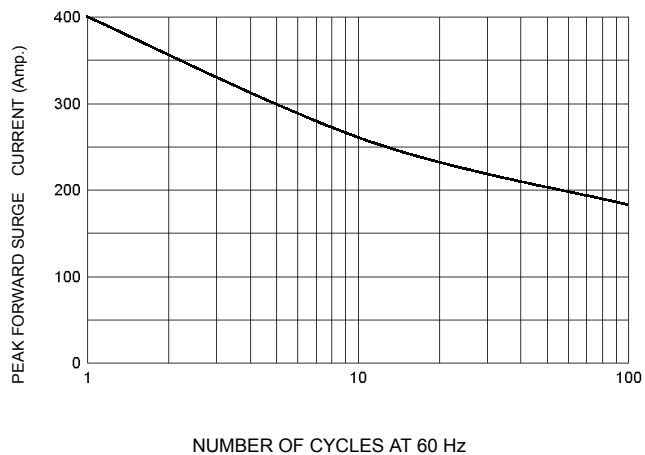


FIG-5 PEAK FORWARD SURGE CURRENT



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