MOSPEC

S20D70 Thru S20D100

Schottky Barrier Power 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.

Features

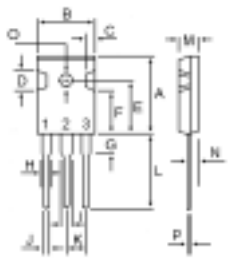
- ∗Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Guarantee Reverse Avalanche.
- ∗Guard-Ring for Stress Protection.
- ∗Low Power Loss & High efficiency.
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory
- ∗ESD: 4KV(Min.) Human-Body Model

∗*In compliance with EU RoHs 2002/95/EC directives*

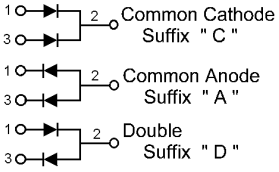
SCHOTTKY BARRIER RECTIFIERS

20 AMPERES
70-100 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



MAXIMUM RATINGS

Characteristic	Symbol	S20D				Unit
		70	80	90	100	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	80	90	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R),T_C=100℃	$I_{F(AV)}$	10 20				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}	200				A
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +150				℃

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	S20D				Unit
		70	80	90	100	
Maximum Instantaneous Forward Voltage (I_F =10 Amp T_C = 25℃) (I_F =10 Amp T_C = 125℃)	V_F	0.75 0.68		0.85 0.78		V
Typical Thermal Resistance junction to case	$R_{\theta jc}$	3.4				℃/w
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	0.2 30				mA

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FIG-1 FORWARD CURRENT DERATING CURVE

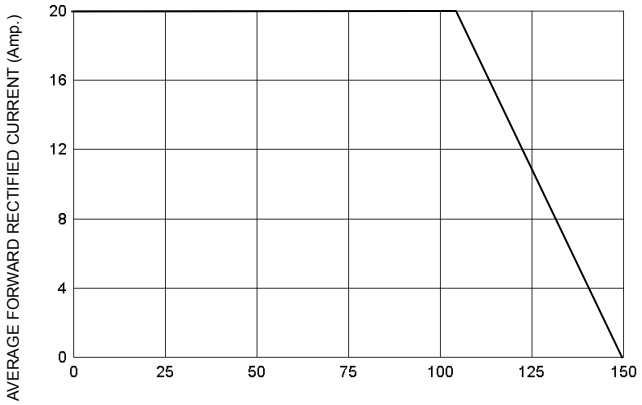


FIG-2 TYPICAL FORWARD CHARACTERISITICS

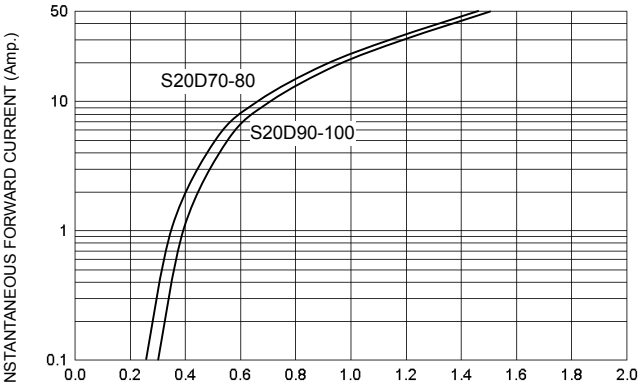


FIG-3 TYPICAL REVERSE CHARACTERISTICS

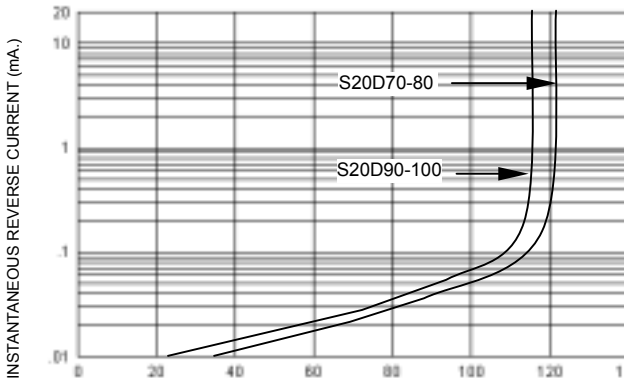


FIG-4 TYPICAL JUNCTION CAPACITANCE

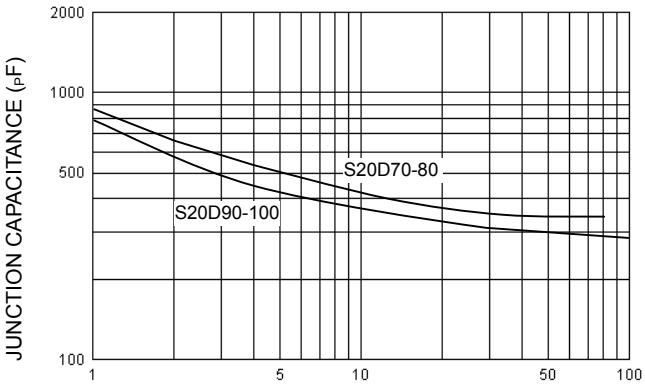
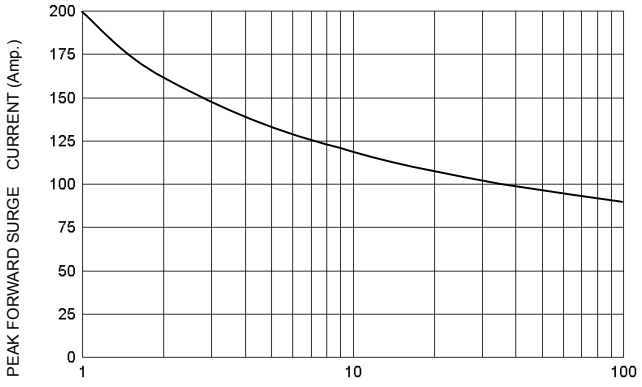


FIG-5 PEAK FORWARD SURGE CURRENT



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