

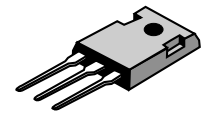
## Schottky Barrier Rectifiers

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 °C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

### SCHOTTKY BARRIER RECTIFIERS

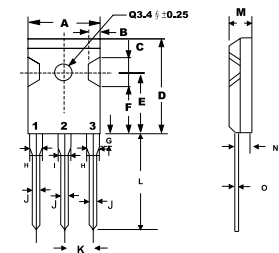
**20 AMPERES  
30 -- 60 VOLTS**



**TO-247 (3P)**

### MAXIMUM RATINGS

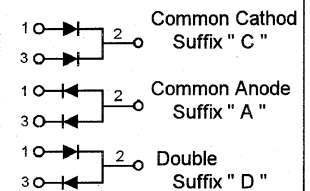
Characteristic	Symbol	S20D						Unit
		30	35	40	45	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	35	40	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	24	28	31	35	42	V
Average Rectifier Forward Current Total Device	$I_{F(AV)}$	10 20						A
Peak Repetitive Forward Current ( Rate $V_R$ , Square Wave, 20kHz )	$I_{FRM}$	20						A
Non-Repetitive Peak Surge Current ( Surge applied at rate load conditions halfwave, single phase, 60Hz )	$I_{FSM}$	225						A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	- 65 to + 125						°C



DIM	MILLIMETERS	
	MIN	MAX
A	--	16.2
B	1.7	2.7
C	5.0	6.0
D	--	23.0
E	14.8	15.2
F	11.7	12.7
G	--	4.5
H	--	2.5
I	--	3.5
J	1.1	1.4
K	5.25	5.65
L	19	--
M	4.7	5.3
N	2.8	3.2
O	0.45	0.85

### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S20D						Unit
		30	35	40	45	50	60	
Maximum Instantaneous Forward Voltage ( $I_F=10$ Amp, $T_c = 25$ °C) ( $I_F=10$ Amp, $T_c = 100$ °C)	$V_F$	0.55 0.46						0.65 0.57 V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_c = 25$ °C) ( Rated DC Voltage, $T_c = 100$ °C)	$I_R$	5.0 50						mA



# S20D30 thru S20D45

FIG-1 FORWARD CURRENT DERATING CURVE

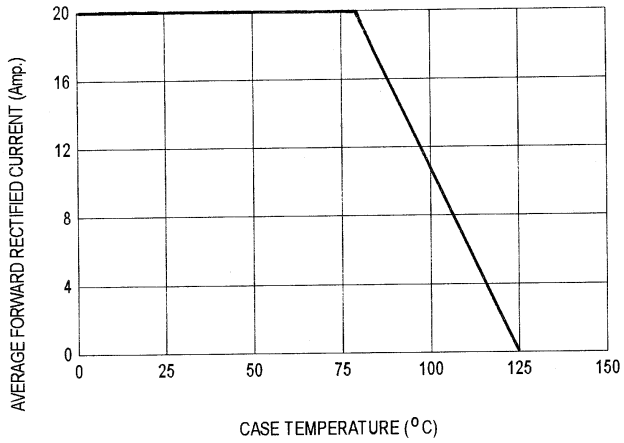


FIG-2 TYPICAL FORWARD CHARACTERISTICS

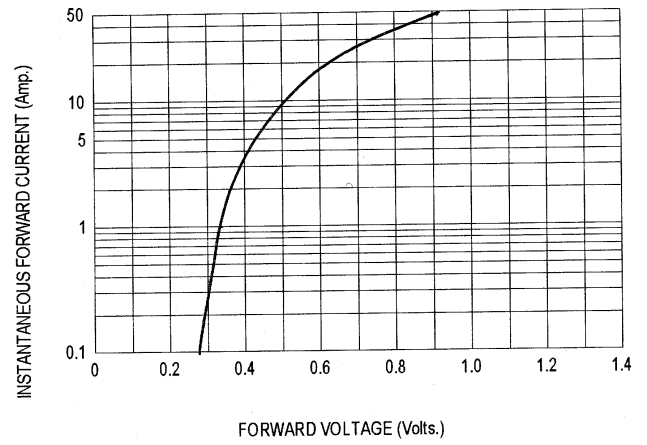


FIG-3 TYPICAL REVERSE CHARACTERISTICS

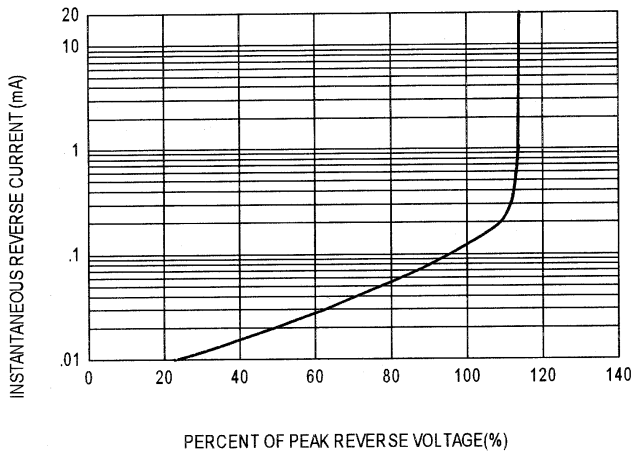


FIG-4 TYPICAL JUNCTION CAPACITANCE

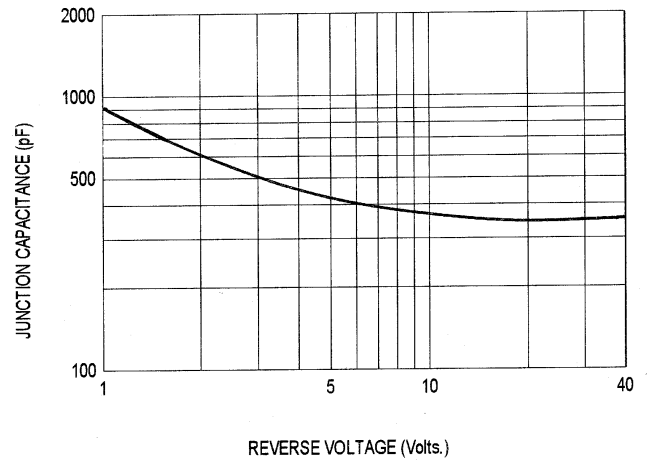
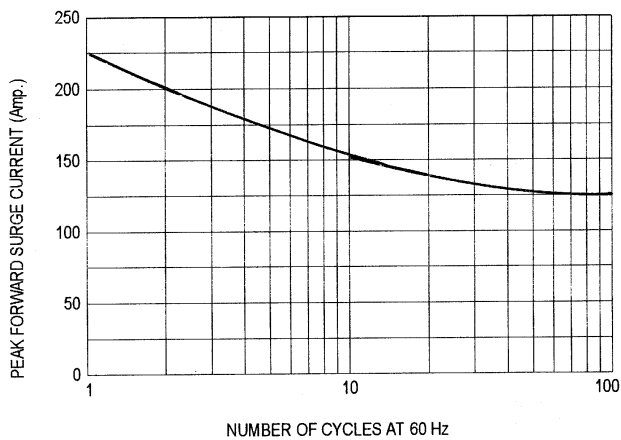


FIG-5 PEAK FORWARD SURGE CURRENT



# S20D30 thru S20D45

FIG-1 FORWARD CURRENT DERATING CURVE

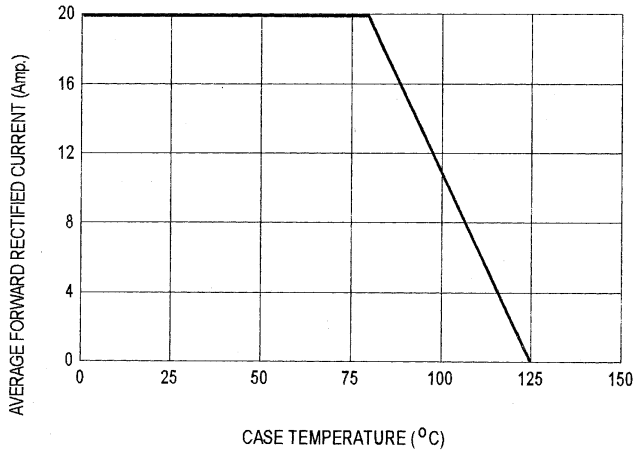


FIG-2 TYPICAL FORWARD CHARACTERISTICS

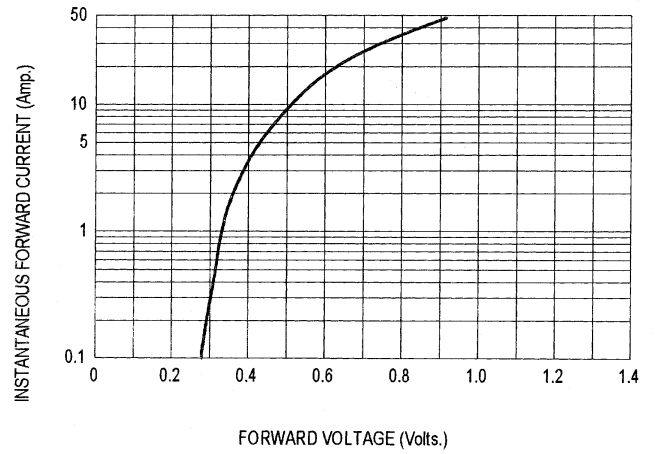


FIG-3 TYPICAL REVERSE CHARACTERISTICS

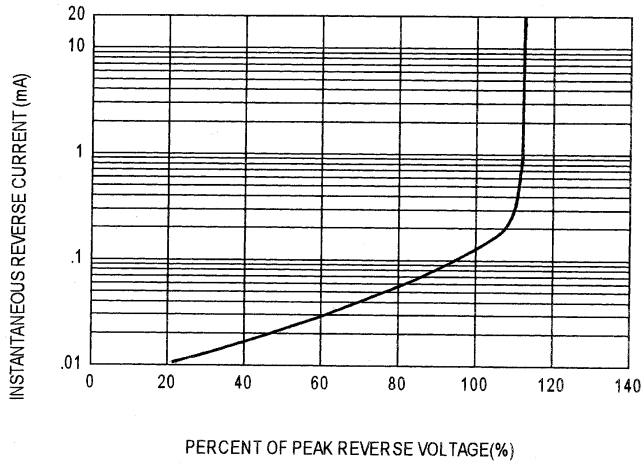


FIG-4 TYPICAL JUNCTION CAPACITANCE

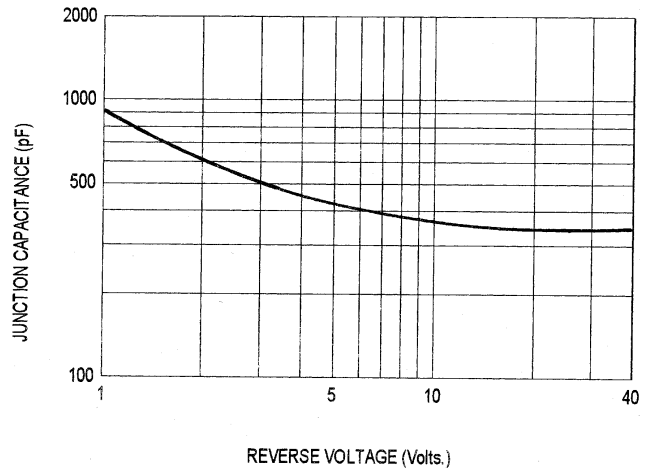
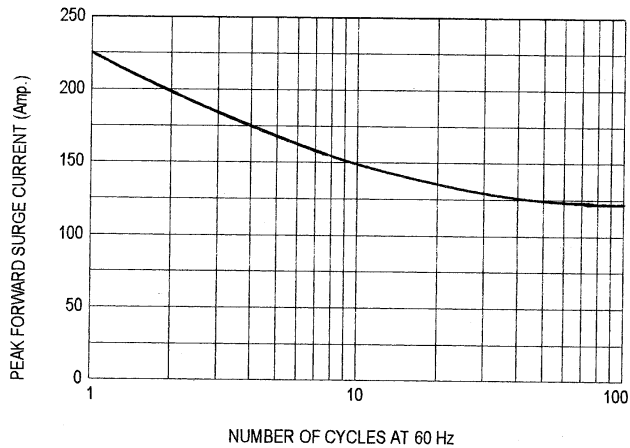


FIG-5 PEAK FORWARD SURGE CURRENT



# S20D50 , S20D60

FIG-1 FORWARD CURRENT DERATING CURVE

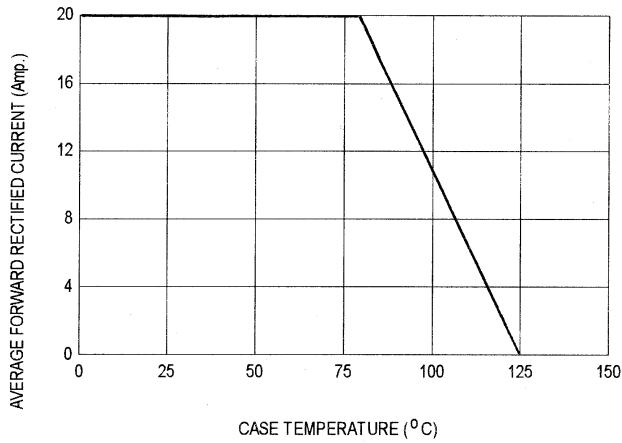


FIG-2 TYPICAL FORWARD CHARACTERISTICS

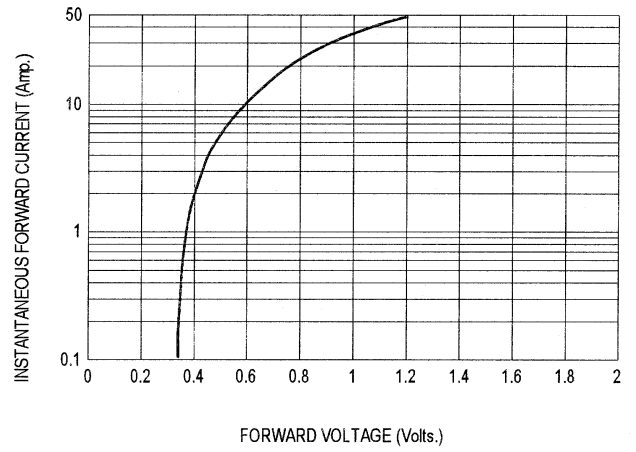


FIG-3 TYPICAL REVERSE CHARACTERISTICS

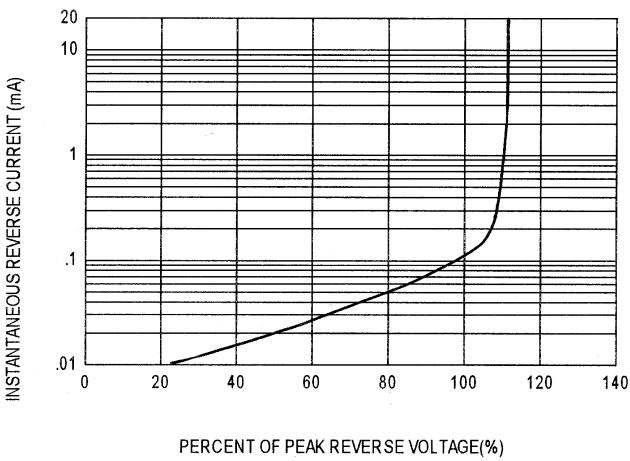


FIG-4 TYPICAL JUNCTION CAPACITANCE

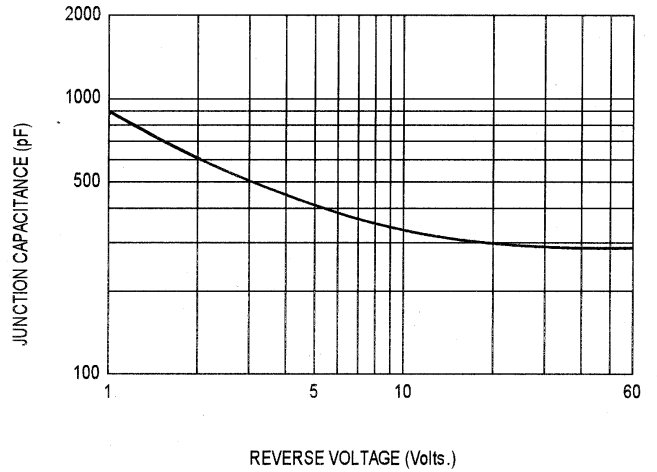


FIG-5 PEAK FORWARD SURGE CURRENT

