

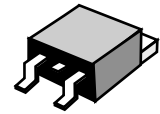
### SWITCHMODE POWER RECTIFIERS D<sup>2</sup> PAK SURFACE MOUNT POWER PACKAGE

The D<sup>2</sup> PAK Power rectifier employs the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art devices have the following features:

- \* Low Forward Voltage
- \* Low Switching noise
- \* High Surge Capacity
- \* Guarantee Reverse Avalance
- \* Guard-Ring for Stress Protection
- \* Lower Power Loss & High efficiency
- \* 125 °C Operating Junction Temperature
- \* Lower Stored Charge Majority Carrier Conduction
- \* Similar Size to the industry Standard TO-220 Package
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0

### SCHOTTKY BARRIER RECTIFIERS

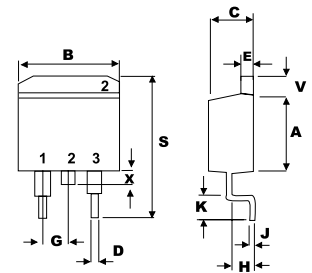
**20 AMPERES  
30 – 60 VOLTS**



TO-263 (D2-PAK)

### MAXIMUM RATINGS

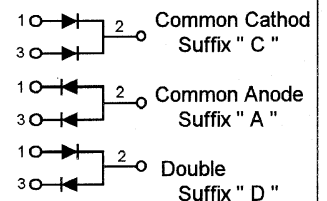
Characteristic	Symbol	S20S						Unit
		30	35	40	45	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	35	40	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	35	42	V
Average Rectifier Forward Current Total Device (Rated $V_R$ , $T_c=100^\circ\text{C}$ )	$I_{F(AV)}$	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 halfware, single phase, 60Hz )	$I_{FSM}$	200						A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	- 65 to + 125						°C



DIM	MILLIMETERS	
	MIN	MAX
A	8.12	9.00
B	9.70	10.30
C	4.23	4.90
D	0.51	1.15
E	1.10	1.50
G	2.54 BSC	
H	2.03	2.79
J	0.30	0.50
K	2.29	2.90
S	14.60	16.00
V	1.40	1.83
X	----	1.70

### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	S20S						Unit	
		30	35	40	45	50	60		
Maximum Instantaneous Forward Voltage ( $I_F = 10$ Amp, $T_c = 25^\circ\text{C}$ ) ( $I_F = 10$ Amp, $T_c = 100^\circ\text{C}$ )	$V_F$	0.55 0.46						0.65 0.57	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_c = 25^\circ\text{C}$ ) ( Rated DC Voltage, $T_c = 100^\circ\text{C}$ )	$I_R$	5.0 50							mA



# S20S30 thru S20S45

FIG-1 FORWARD CURRENT DERATING CURVE

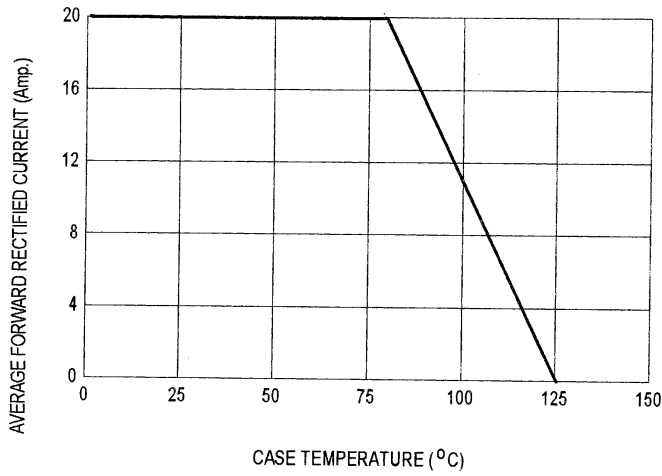


FIG-2 TYPICAL FORWARD CHARACTERISTICS

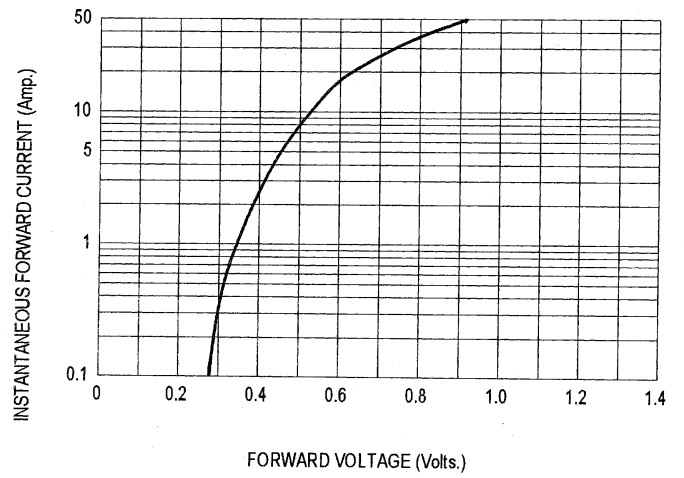


FIG-3 TYPICAL REVERSE CHARACTERISTICS

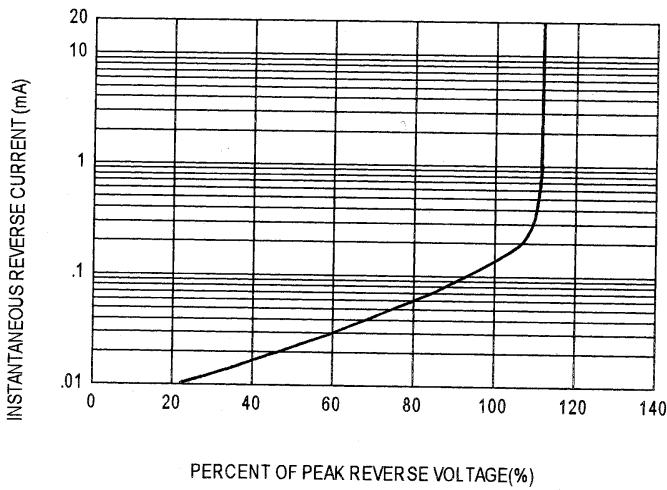


FIG-4 TYPICAL JUNCTION CAPACITANCE

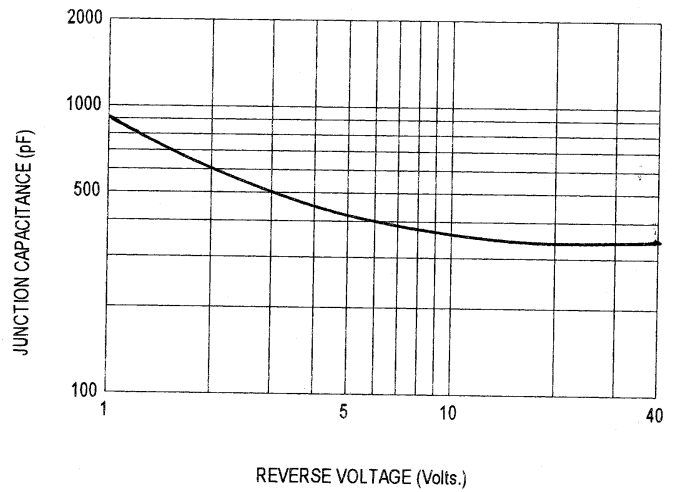
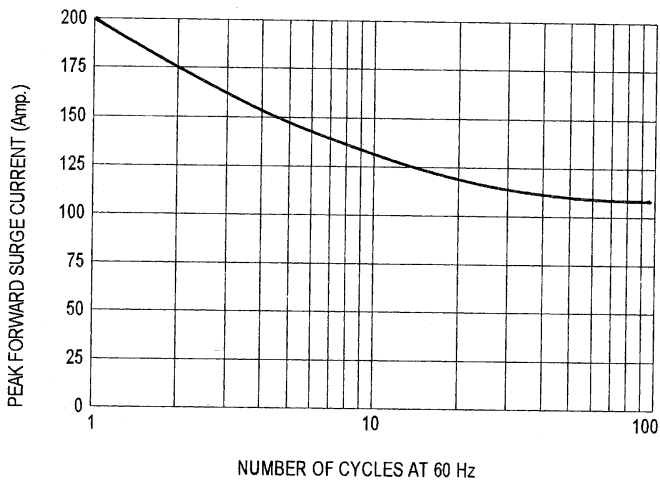


FIG-5 PEAK FORWARD SURGE CURRENT



# S20S50 , S20S60

FIG-1 FORWARD CURRENT DERATING CURVE

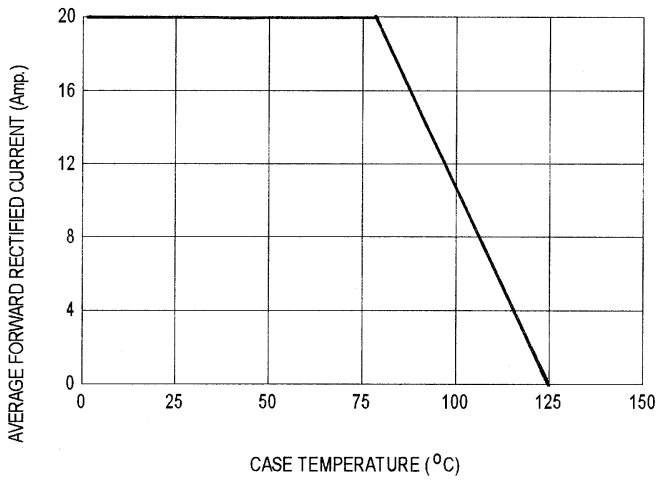


FIG-2 TYPICAL FORWARD CHARACTERISTICS

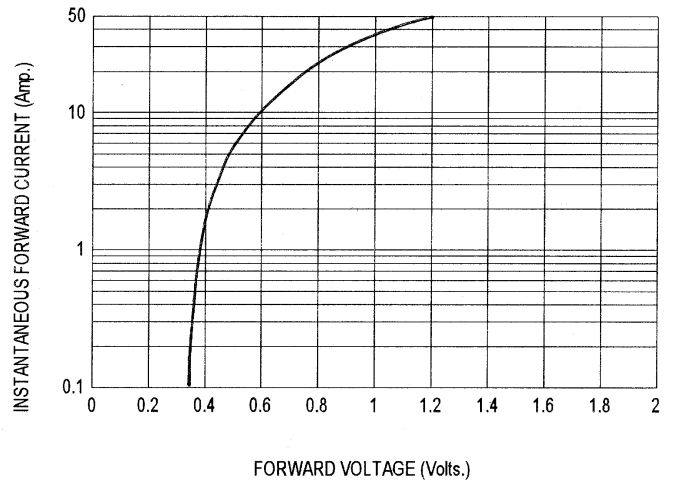


FIG-3 TYPICAL REVERSE CHARACTERISTICS

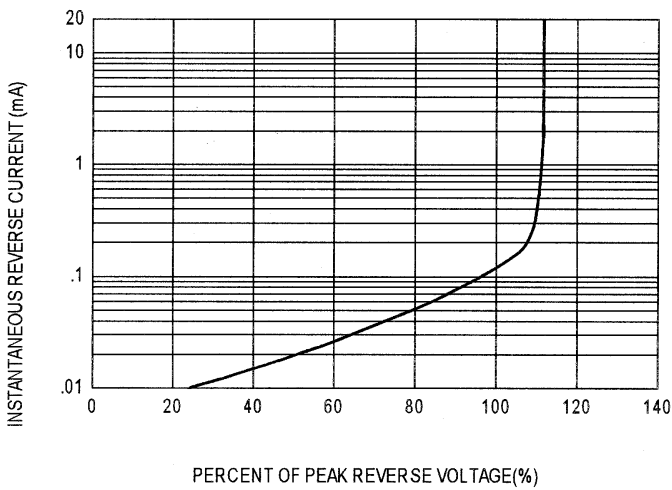


FIG-4 TYPICAL JUNCTION CAPACITANCE

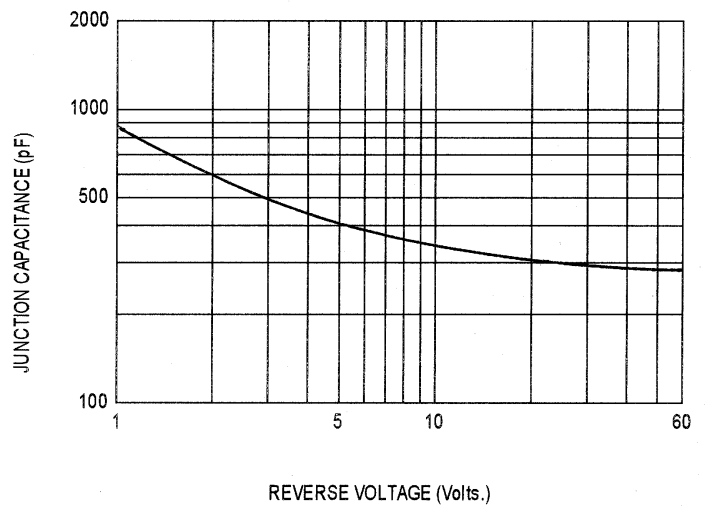


FIG-5 PEAK FORWARD SURGE CURRENT

