

### Switchmode Power Rectifiers I<sup>2</sup> PAK surface Mount Power Package

The I<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 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 Flammability Classification 94V-O

#### SCHOTTKY BARRIER RECTIFIERS

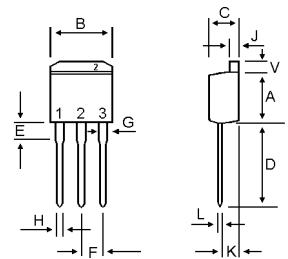
**20 AMPERES  
35-60 VOLTS**



TO-262 (I<sup>2</sup>-PAK)

### MAXIMUM RATINGS

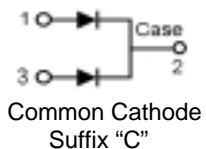
Characteristic	Symbol	S20S						Unit
		30CR	35CR	40CR	45CR	50CR	60CR	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	35	40	45	50	60	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	25	28	32	35	42	V
Average Rectifier Forward Current Total Device (Rated V <sub>R</sub> ), T <sub>C</sub> =100	I <sub>F(AV)</sub>	10 20						A
Peak Repetitive Forward Current (Rate V <sub>R</sub> , Square Wave, 20kHz)	I <sub>FM</sub>	20						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	I <sub>FSM</sub>	200						A
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150						



DIM	MILLIMETERS	
	MIN	MAX
A	8.12	9.00
B	9.78	10.42
C	4.22	4.98
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
V	1.57	1.83

### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	S20S						Unit
		30CR	35CR	40CR	45CR	50CR	60CR	
Maximum Instantaneous Forward Voltage ( I <sub>F</sub> = 10 Amp T <sub>C</sub> = 25 ) ( I <sub>F</sub> = 10 Amp T <sub>C</sub> = 125 )	V <sub>F</sub>	0.55 0.48			0.65 0.57		V	
Maximum Instantaneous Reverse Current ( Rated DC Voltage, T <sub>C</sub> = 25 ) ( Rated DC Voltage, T <sub>C</sub> = 125 )	I <sub>R</sub>	0.5 30					mA	



# S20S30CR Thru S20S60CR

FIG-1 FORWARD CURRENT DERATING CURVE

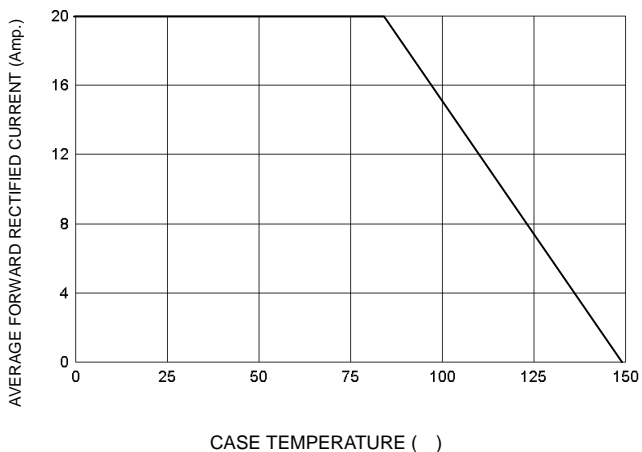


FIG-2 TYPICAL FORWARD CHARACTERISTICS

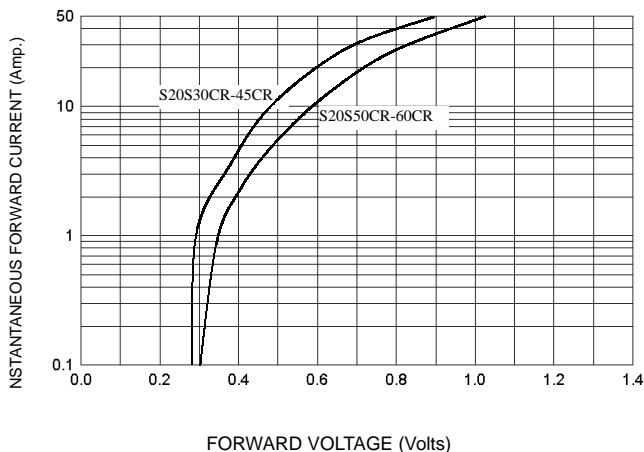


FIG-3 TYPICAL REVERSE CHARACTERISTICS

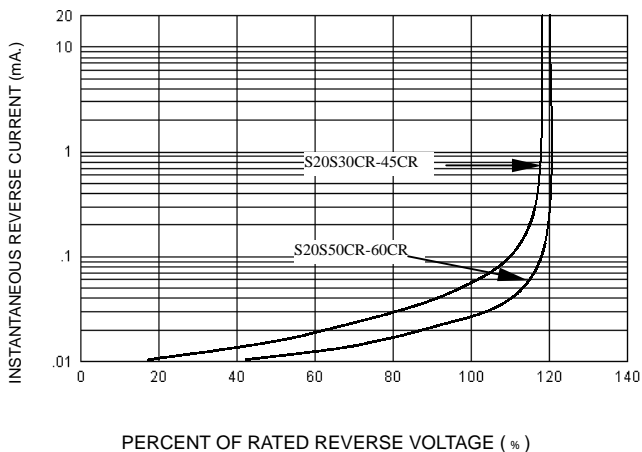


FIG-4 TYPICAL JUNCTION CAPACITANCE

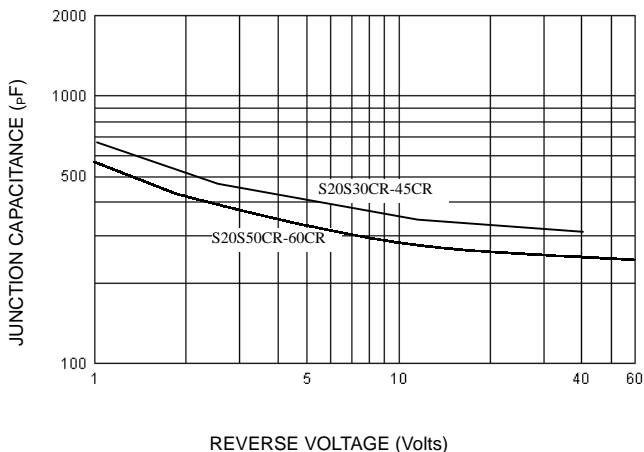


FIG-5 PEAK FORWARD SURGE CURRENT

