

### 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

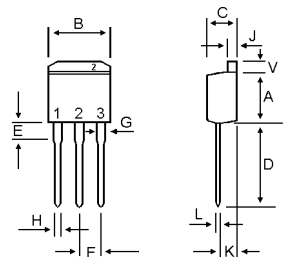
**30 AMPERES  
120 VOLTS**



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

### MAXIMUM RATINGS

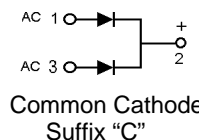
Characteristic	Symbol	S30S120CR	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	120	V
RMS Reverse Voltage	$V_{R(RMS)}$	84	V
Average Rectifier Forward Current Total Device (Rated $V_R$ ), $T_C=100$	$I_{F(AV)}$	15 30	A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	30	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	$I_{FSM}$	250	A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-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	S30S120CR	Unit
Maximum Instantaneous Forward Voltage ( $I_F=15$ Amp $T_C=25$ ) ( $I_F=15$ Amp $T_C=125$ )	$V_F$	0.85 0.75	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C=25$ ) ( Rated DC Voltage, $T_C=125$ )	$I_R$	0.5 30	mA



# S30S120CR

FIG-1 FORWARD CURRENT DERATING CURVE

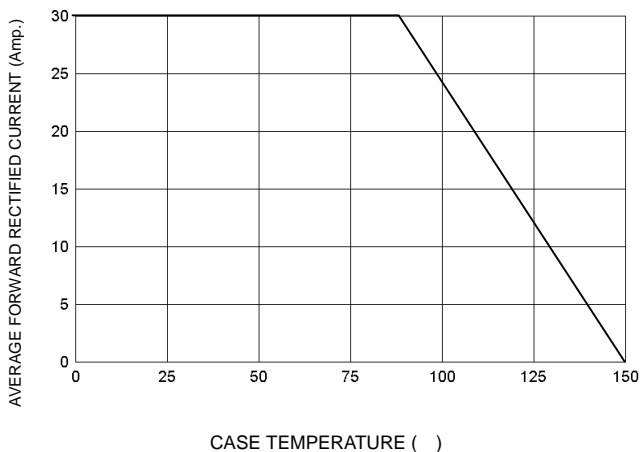


FIG-2 TYPICAL FORWARD CHARACTERISTICS

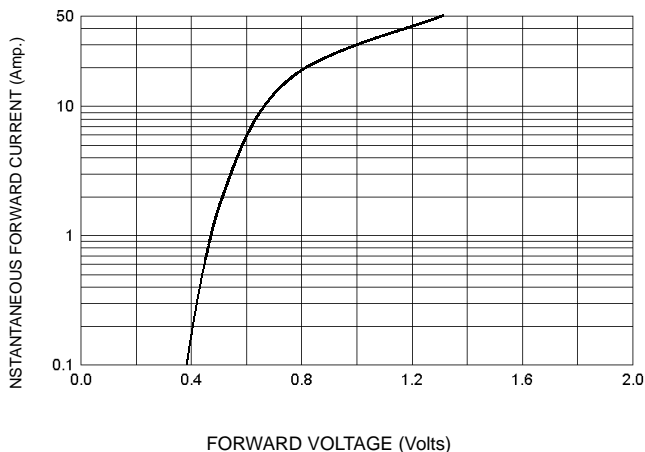


FIG-3 TYPICAL REVERSE CHARACTERISTICS

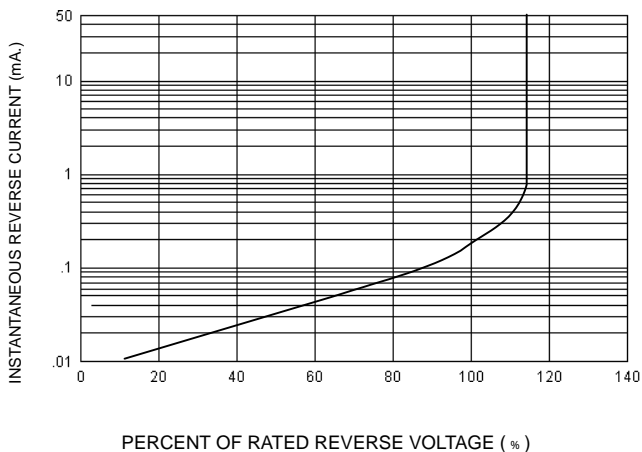


FIG-4 TYPICAL JUNCTION CAPACITANCE

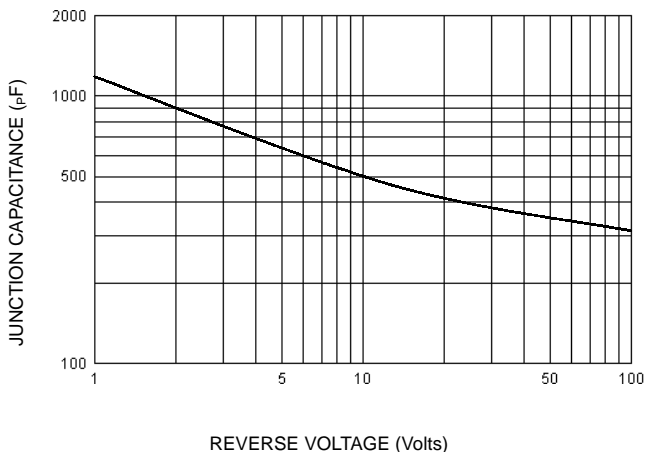


FIG-5 PEAK FORWARD SURGE CURRENT

