

Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a refractory 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 Switching noise.
- * High Current Capacity
- * Guarantee Reverse Avalanche.
- * Guard-Ring for Stress Protection.
- * Low Power Loss & High efficiency.
- * 150°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction.
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- * Pb free
- * In compliance with EU RoHs directives



SCHOTTKY BARRIER RECTIFIERS

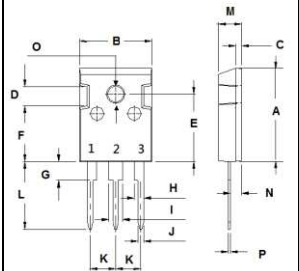
**30 AMPERES
100 VOLTS**



TO-3PS

MAXIMUM RATINGS

Characteristic	Symbol	S30D100CS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R)	$I_{F(AV)}$	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}	275	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150	°C



DIM	MILLIMETERS	
	MIN	MAX
A	19.80	20.20
B	15.45	15.75
C	0.95	1.25
D	3.85	4.15
E	14.15	14.45
F	11.70	12.10
G	3.80	4.20
H	1.80	2.20
I	2.80	3.20
J	1.05	1.35
K	5.26	5.66
L	13.90	14.50
M	4.60	5.00
N	2.35	2.65
O	3.40	3.80
P	0.38	0.62

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ($I_F = 15$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 15$ Amp $T_C = 125^\circ\text{C}$)	V_F	---	0.78 0.68	0.85 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$)	I_R	---	0.09 0.5	200 ---	μA mA

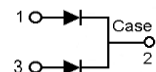


FIG-1 FORWARD CURRENT DERATING CURVE

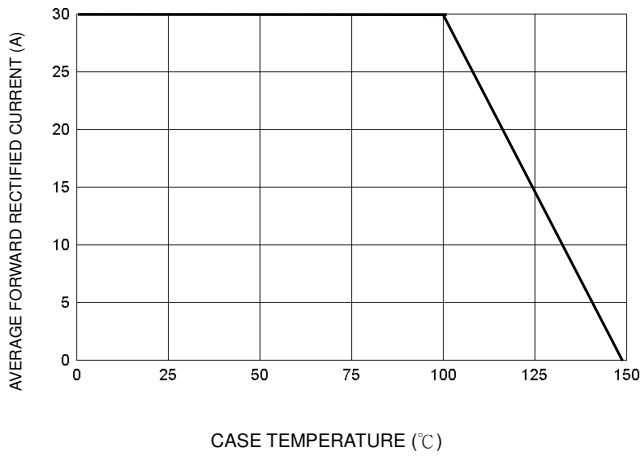


FIG-2 TYPICAL FORWARD CHARACTERISTICS

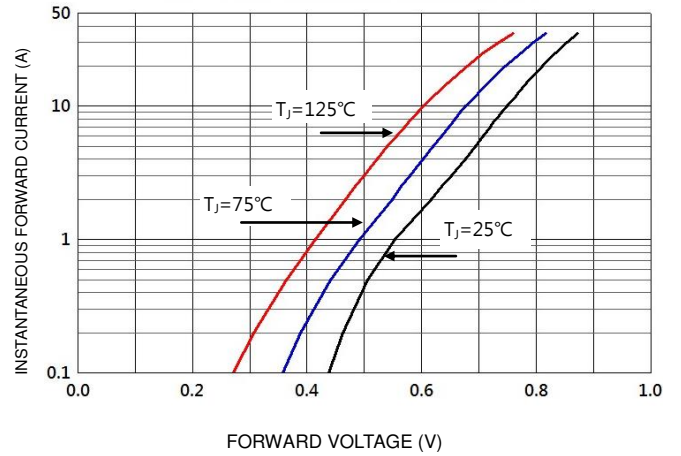


FIG-3 TYPICAL REVERSE CHARACTERISTICS

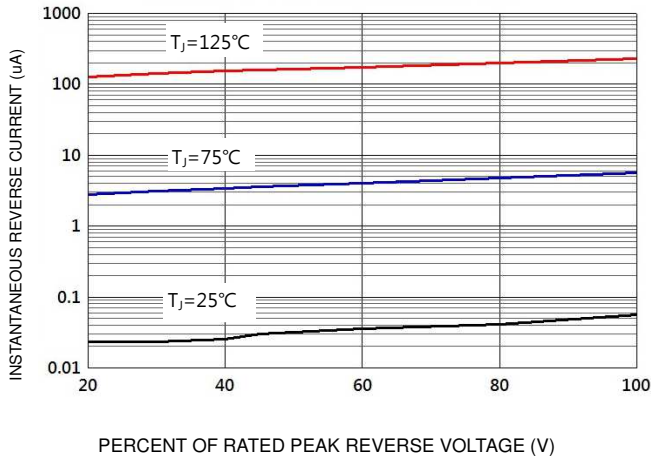


FIG-4 TYPICAL JUNCTION CAPACITANCE

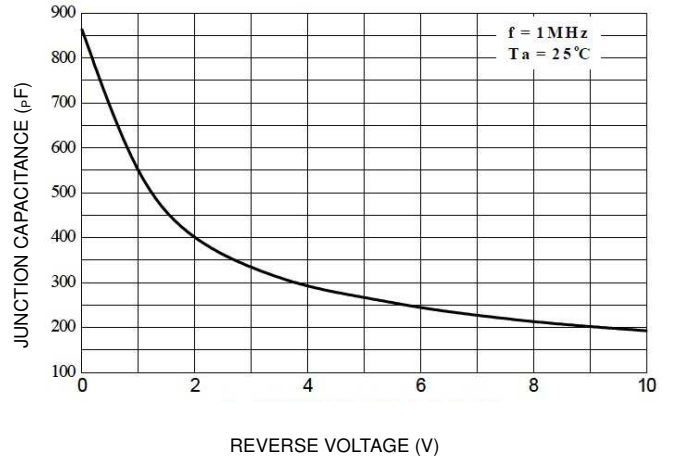
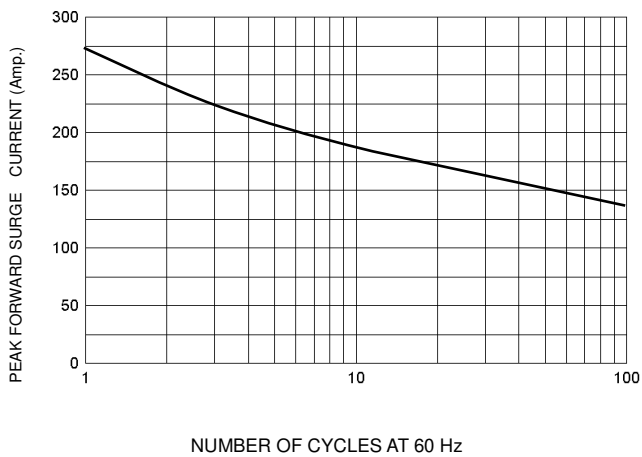


FIG-5 PEAK FORWARD SURGE CURRENT



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