

## 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.

### Features

- \* Low Forward Voltage.
- \* 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-0



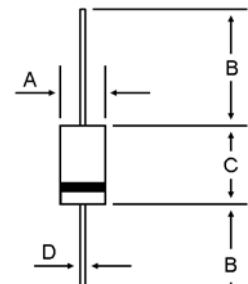
\* *In compliance with EU RoHs 2002/95/EC directives*

### SCHOTTKY BARRIER RECTIFIERS

**1.0 AMPERES  
20-40 VOLTS**



**DO-41**



### MAXIMUM RATINGS

Characteristic	Symbol	1N5817	1N5818	1N5819	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectifier Forward Current	$I_O$	1.0			A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	$I_{FSM}$	25			A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +150			°C

DIM	MILLIMETERS	
	MIN	MAX
A	2.00	2.70
B	25.40	---
C	4.10	5.20
D	0.70	0.90

### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	1N5817	1N5818	1N5819	Unit
Maximum Instantaneous Forward Voltage ( $I_F = 1.0$ Amp) ( $I_F = 3.0$ Amp)	$V_F$	0.45 0.75	0.55 0.87		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$ ) (Rated DC Voltage, $T_C = 125^\circ\text{C}$ )	$I_R$		0.5 10		mA
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$		60		°C/W
Typical Junction Capacitance (Reverse Voltage of 4 volts & $f=1$ MHz)	$C_P$	90	80		pF

CASE---  
Transfer molded  
plastic

POLARITY---  
Cathode indicated  
polarity band

# 1N5817 Thru 1N5819

FIG-1 FORWARD CURRENT DERATING CURVE

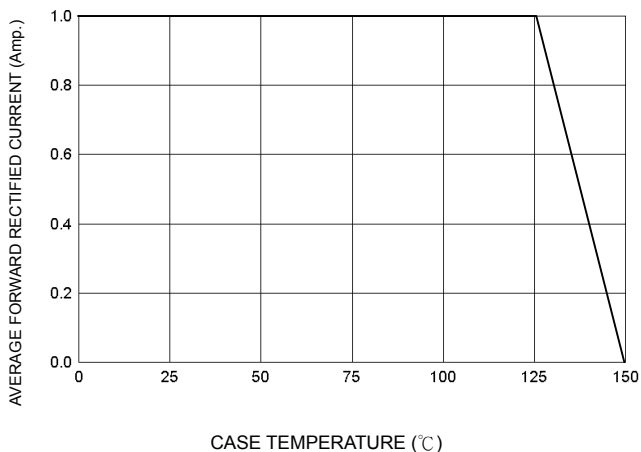


FIG-2 TYPICAL FORWARD CHARACTERISTICS

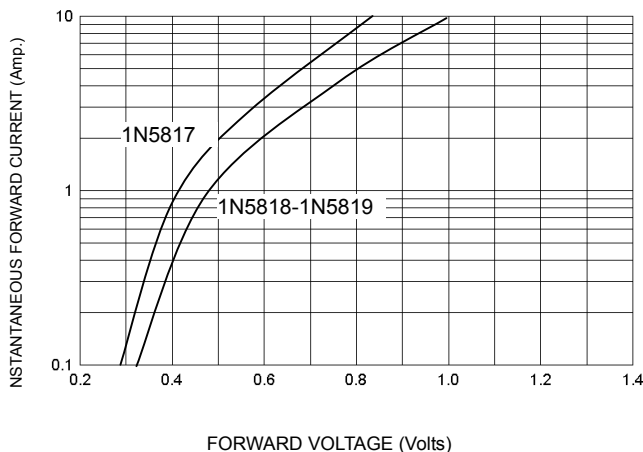


FIG-3 TYPICAL REVERSE CHARACTERISTICS

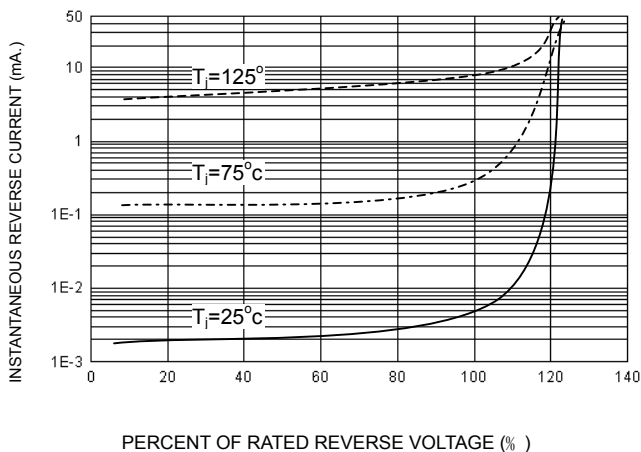


FIG-4 TYPICAL JUNCTION CAPACITANCE

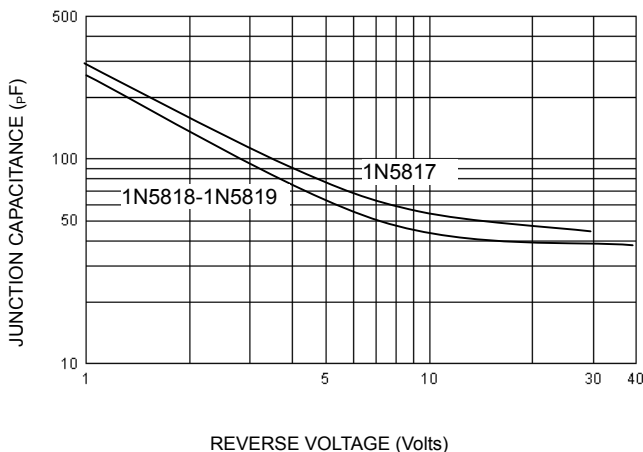


FIG-5 PEAK FORWARD SURGE CURRENT

