

### 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.

- \* 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

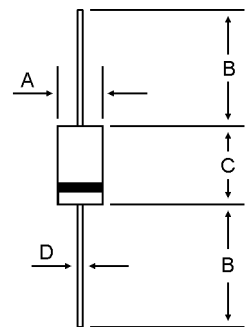
**1.0 AMPERES  
20-40 VOLTS**



**DO-41**

### MAXIMUM RATINGS

| Characteristic                                                                                                 | Symbol                          | 1N5817      | 1N5818 | 1N5819 | Unit |
|----------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|--------|--------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                         | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 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<br>(Surge applied at rate load conditions<br>half-wave, single phase, 60Hz ) | $I_{FSM}$                       | 25          |        |        | A    |
| Operating and Storage Junction<br>Temperature Range                                                            | $T_J, T_{STG}$                  | -65 to +150 |        |        |      |



| 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<br>( $I_F = 1.0$ Amp)<br>( $I_F = 3.0$ Amp)                                        | $V_F$  | 0.450<br>0.750 | 0.550<br>0.875 | 0.600<br>0.900 | V    |
| Maximum Instantaneous Reverse Current<br>(Rated DC Voltage, $T_C = 25^\circ$ )<br>(Rated DC Voltage, $T_C = 125^\circ$ ) | $I_R$  | 0.5<br>20      |                |                | mA   |
| Typical Junction Capacitance<br>(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

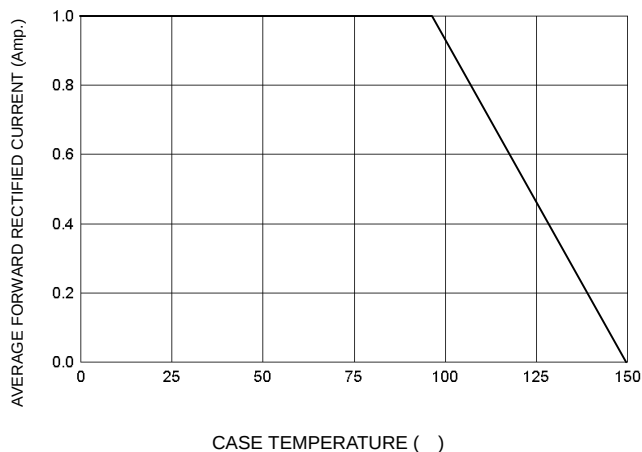


FIG-2 TYPICAL FORWARD CHARACTERISTICS

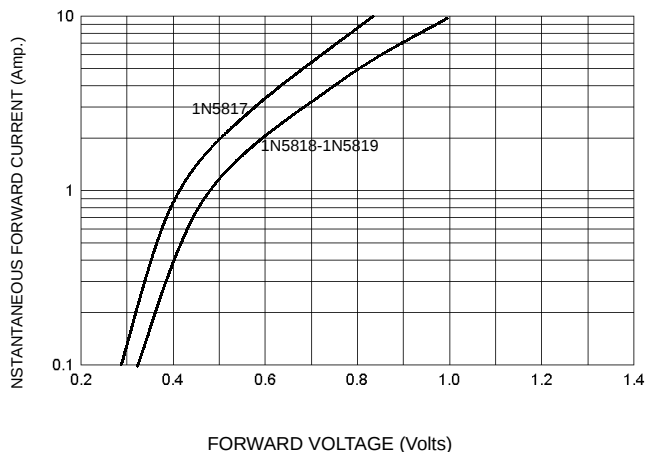


FIG-3 TYPICAL REVERSE CHARACTERISTICS

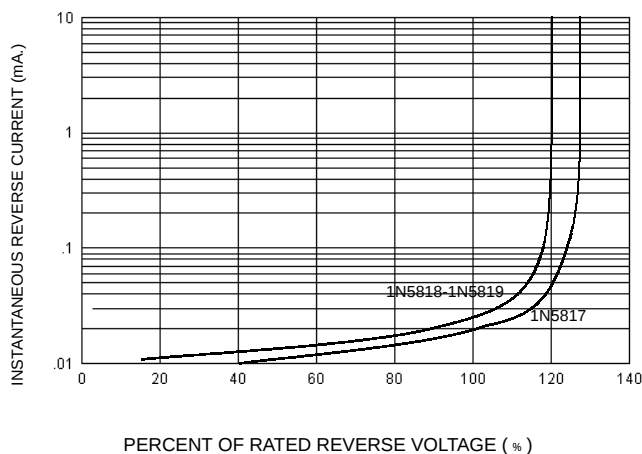


FIG-4 TYPICAL JUNCTION CAPACITANCE

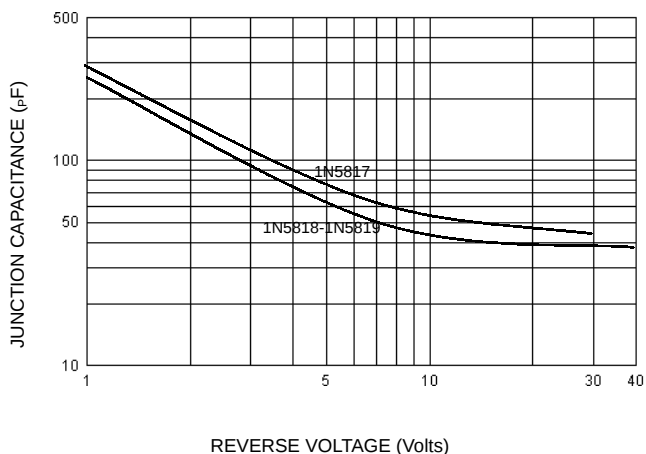


FIG-5 PEAK FORWARD SURGE CURRENT

