



## Features

- ✧ Low power loss, high efficiency
- ✧ High current capability, Low VF
- ✧ High reliability
- ✧ High surge current capability
- ✧ Exitaxial construction
- ✧ Guard-ring for transient protection
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

## Mechanical Data

- ✧ Cases: Molded plastic DO-41
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375"(.9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.33 grams

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number                                                                                         | Symbol                             | 1N5817        | 1N5818 | 1N5819 | Units         |
|-----------------------------------------------------------------------------------------------------|------------------------------------|---------------|--------|--------|---------------|
| Maximum Recurrent Peak Reverse Voltage                                                              | $V_{RRM}$                          | 20            | 30     | 40     | V             |
| Maximum RMS Voltage                                                                                 | $V_{RMS}$                          | 14            | 21     | 28     | V             |
| Maximum DC Blocking Voltage                                                                         | $V_{DC}$                           | 20            | 30     | 40     | V             |
| Maximum Average Forward Rectified Current<br>.375 (9.5mm) Lead Length @ $T_L=90^{\circ}C$           | $I_{F(AV)}$                        | 1             |        |        | A             |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)  | $I_{FSM}$                          | 30            |        |        | A             |
| Maximum Instantaneous Forward Voltage (Note 1)<br>@ 1 A                                             | $V_F$                              | 0.45          | 0.550  | 0.600  | V             |
| Maximum DC Reverse Current @ $T_A=25^{\circ}C$<br>at Rated DC Blocking Voltage @ $T_A=100^{\circ}C$ | $I_R$                              | 1<br>10       |        |        | mA<br>mA      |
| Typical Junction Capacitance (Note 2)                                                               | Cj                                 | 55            |        |        | pF            |
| Typical Thermal Resistance (Note 3)                                                                 | $R_{\theta JA}$<br>$R_{\theta JC}$ | 100<br>45     |        |        | $^{\circ}C/W$ |
| Operating Temperature Range                                                                         | $T_J$                              | - 65 to + 125 |        |        | $^{\circ}C$   |
| Storage Temperature Range                                                                           | $T_{STG}$                          | - 65 to + 150 |        |        | $^{\circ}C$   |

Note 1: Pulse Test With PW=300 usec, 1% Duty Cycle

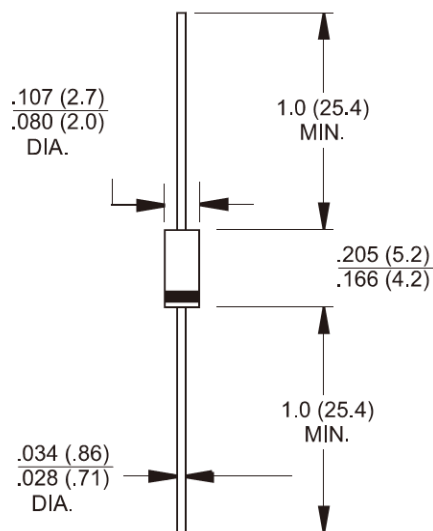
Note 2: Measure at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

Note 3: Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

## 1N5817 - 1N5819

1.0AMP. Schottky Barrier Rectifiers

### DO-41



### Dimensions in inches and (millimeters)



#### Marking Diagram

1N581X = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week

## RATINGS AND CHARACTERISTIC CURVES (1N5817 THRU 1N5819)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

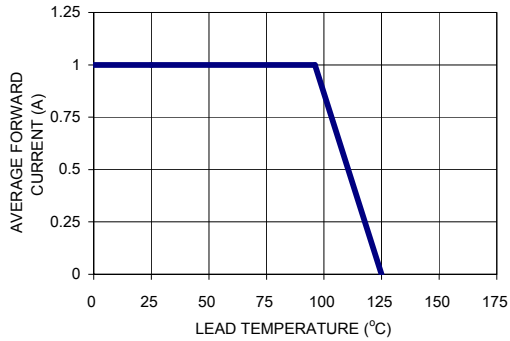


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

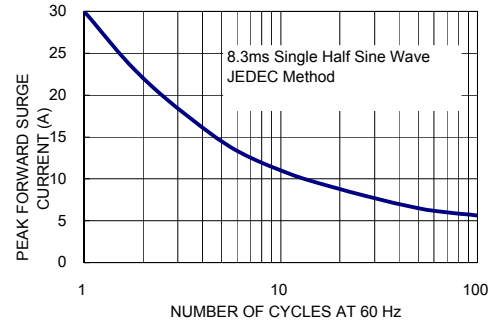


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

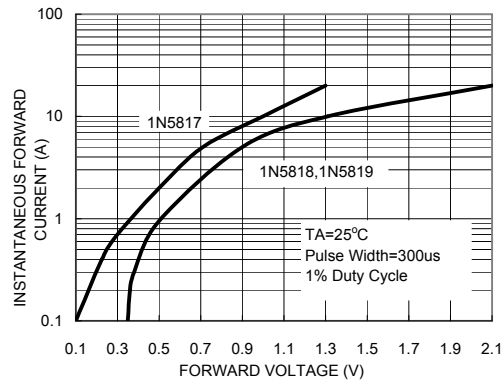


FIG. 4- TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

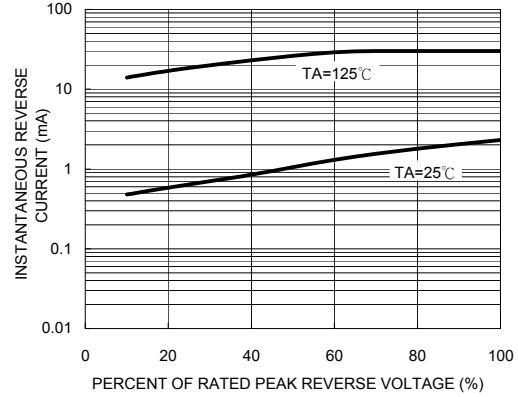


FIG. 5- TYPICAL JUNCTION CAPACITANCE

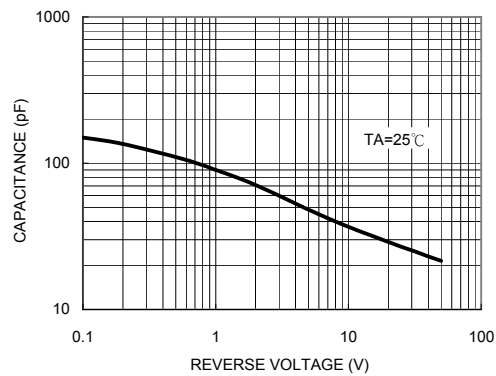


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

