



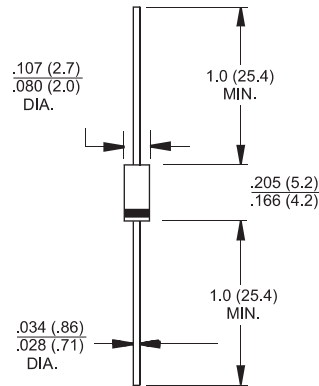
Features

- ✧ Low power loss, high efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

Mechanical Data

- ✧ Cases: Molded plastic DO-41
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ 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: 0.35 gram

DO-41



Dimensions in inches and (millimeters)

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 .375 (9.5mm) Lead Length @ $T_L = 90^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | 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 @ 1.0A | V_F | 0.45 | 0.550 | 0.600 | V |
| Maximum Instantaneous Forward Voltage @ 3.0A | V_F | 0.750 | 0.875 | 0.900 | V |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$ | I_R | 1.0 10.0 | | | mA mA |
| Typical Junction Capacitance (Note 2) | C_j | 55 | | | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ $R_{\theta JC}$ | 100 45 | | | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | -65 to +125 | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | $^\circ\text{C}$ |

- Notes:
1. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES (1N5817 THRU 1N5819)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

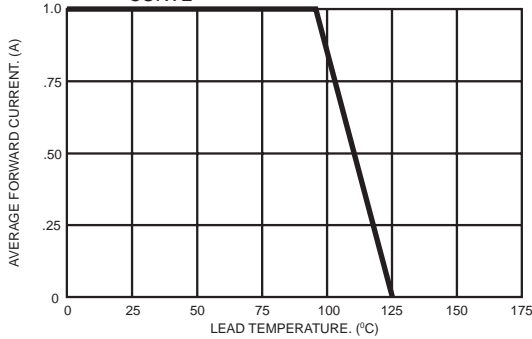


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

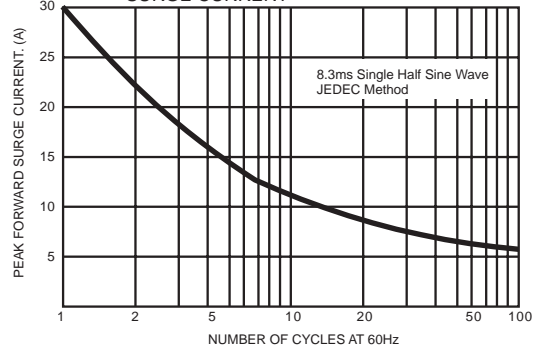


FIG.3- TYPICAL FORWARD CHARACTERISTICS

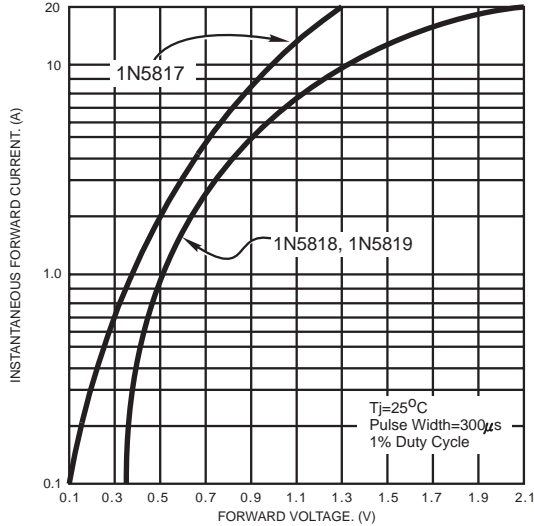


FIG.4- TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

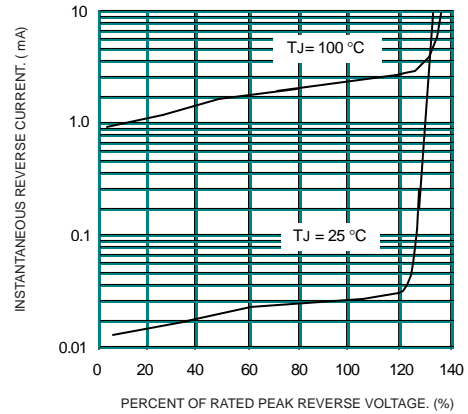


FIG.5- TYPICAL JUNCTION CAPACITANCE

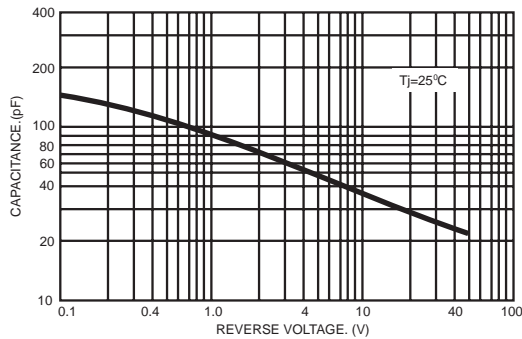
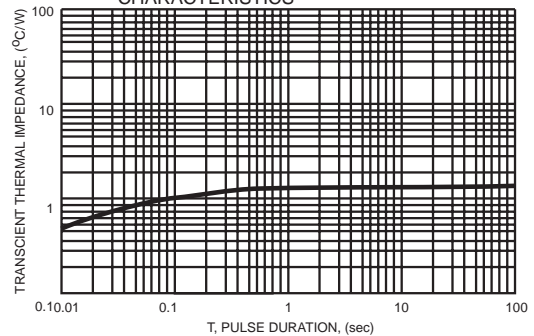


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



| PACKAGE | SPQ/PCS | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|---------|-----------|----------------|----------------|--------------|--------------|
| DO-41 | 5000/AMMO | 50000 | 42X28X31 | 14.00 | 12.00 |

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