



SCHOTTKY BARRIER RECTIFIER

1N5820 THRU 1N5822

VOLTAGE RANGE

20 to 40 Volts

CURRENT

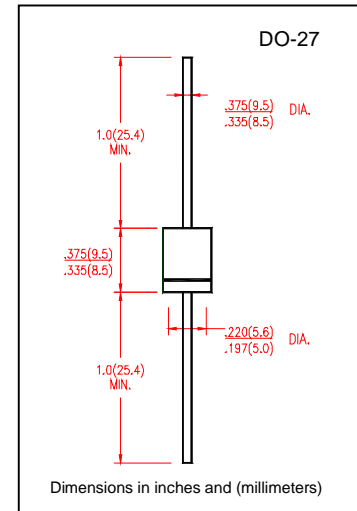
3.0 Ampere

FEATURES

- Fast switching
- Low forward voltage, high current capability
- Low power loss, high efficiency
- High current surge capability
- High temperature soldering guaranteed:
250°C/10 seconds, 0.373" (9.5mm) lead length
At 5 lbs.(2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denoted cathode end
Lead: Plated axial lead, solderable per MIL-STD-202E
method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

| | SYMBOLS | 1N5820 | 1N5821 | 1N5822 | UNIT | |
|--|---------------------------|---------------|--------|--------|---------------------------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | Volts | |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | Volts | |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | Volts | |
| Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at $T_L = 95^\circ\text{C}$ | $I_{(AV)}$ | 3.0 | | | Amps | |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 80 | | | Amps | |
| Maximum Instantaneous Forward Voltage (Note 1) at | 3.0A | V_F | 0.475 | 0.500 | 0.525 | Volts |
| | 9.4A | | 0.850 | 0.900 | 0.950 | |
| Maximum DC Reverse Current at rated DC Blocking Voltage at (Note 1) | $T_A = 25^\circ\text{C}$ | I_R | 0.5 | | | mA |
| | $T_A = 100^\circ\text{C}$ | | 20 | | | |
| Typical Junction Capacitance (NOTE 2) | C_J | 250 | | | pF | |
| Typical Thermal Resistance (NOTE 3) | $R_{\theta JL}$ | 15 | | | $^\circ\text{C}/\text{W}$ | |
| Operation and Storage Temperature Range | T_J, T_{STG} | (-55 to +125) | | | $^\circ\text{C}$ | |

Notes:

1. Pulse test 300 μs pulse width, 1% duty cycle
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts
3. Thermal resistance from junction to ambient P.C.B. mounted with 0.375"(9.5mm) lead length with 2.5" \times 2.5" (63.5 \times 63.5mm) copper pads



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RATING AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

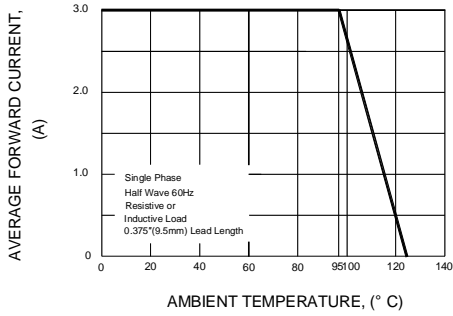


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

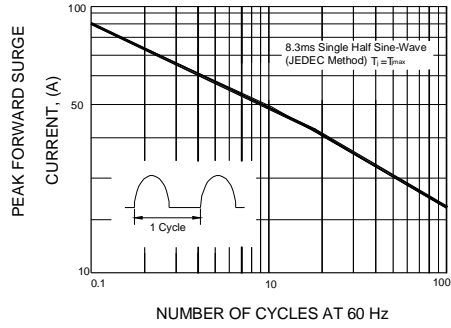


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

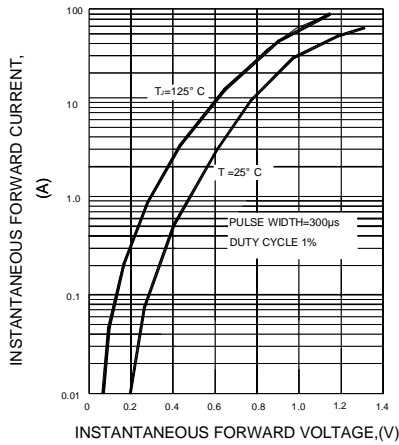


FIG.4-TYPICAL REVERSE CHARACTERISTICS

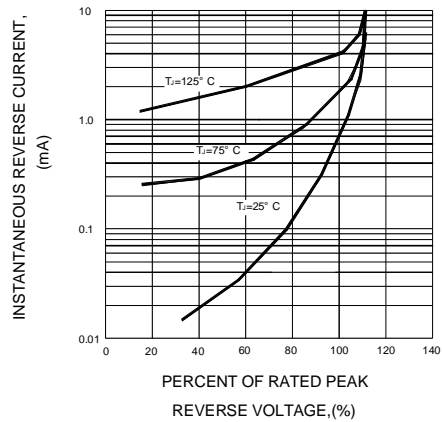


FIG.5-TYPICAL JUNCTION CAPACITANCE

