SCHOTTKY BARRIER RECTIFIER

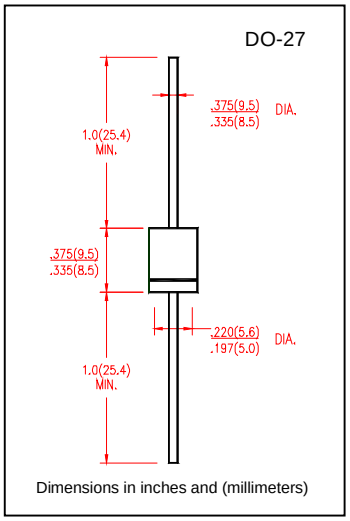
# 1N5820 THRU 1N5822

**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℃/10 seconds,0.373″ (9.5mm) lead length
  At 5 lbs.(2.3kg) tension



Dimensions in inches and (millimeters)

## 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℃ 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℃ | | $I_{(AV)}$ | 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℃ | $I_R$ | 0.5 | | | mA |
| | $T_A$ = 100℃ | | 20 | | | |
| Typical Junction Capacitance (NOTE 2) | | $C_J$ | 250 | | | pF |
| Typical Thermal Resistance (NOTE 3) | | $R_{\theta JL}$ | 15 | | | ℃/W |
| Operation and Storage Temperature Range | | $T_J$ .$T_{STG}$ | (-55 to +125) | | | ℃ |

**Notes:**

1. Pulse test 300μs 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”×2.5 “（63.5×63.5mm）copper pads

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| 1N5820 THRU 1N5822 | VOLTAGE RANGE | 20 to 40 Volts |
|---|---|---|
| | CURRENT | 3.0 Ampere |

# RATING AND CHRACTERISTIC CURVES 1N5820 THRU 1N5822

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

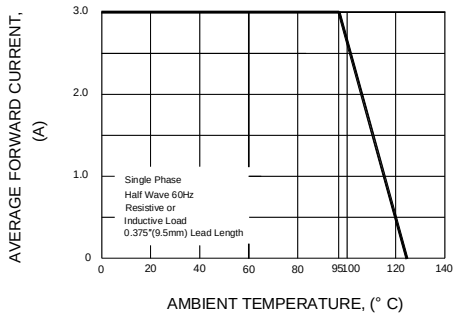


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

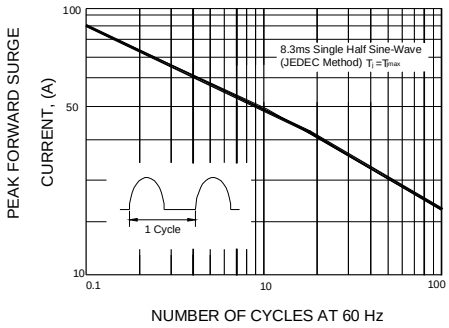


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

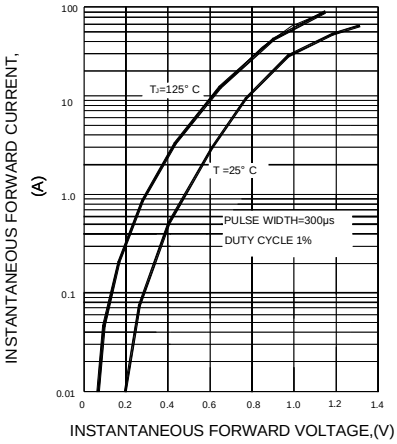


FIG.4-TYPICAL REVERSE CHARACTERISTICS

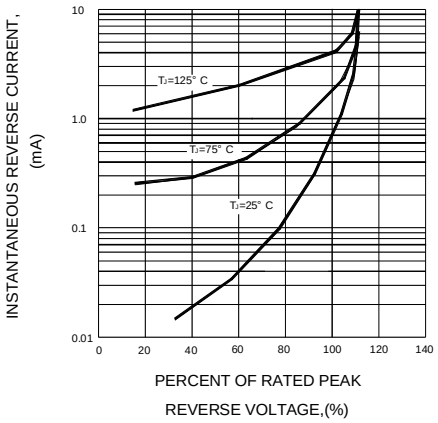


FIG.5-TYPICAL JUNCTION CAPACITANCE