

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension

Mechanical Data

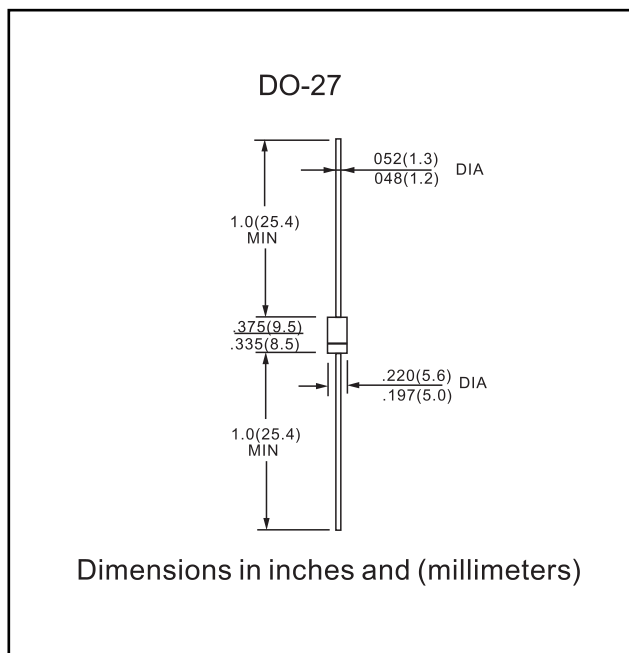
Case: JEDEC DO-201AD molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.04 ounce, 1.12 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | 1N5820 | 1N5821 | 1N5822 | UNITS |
|---|--------------------------------------|---|--------|--------|-------|
| * 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 |
| * Non-repetitive peak reverse voltage | V _{RSM} | 24 | 36 | 48 | Volts |
| * Maximum average forward rectified current 0.375" (9.5mm) lead length at T _L =95°C | I _(AV) | 3.0 | | | Amps |
| * Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T _L =75°C | I _{FSM} | 80.0 | | | Amps |
| * Maximum instantaneous forward voltage at 3.0 (NOTE 1) | V _F | 0.475 | 0.500 | 0.525 | Volts |
| * Maximum instantaneous forward voltage at 9.4 (NOTE 1) | V _F | 0.850 | 0.900 | 0.950 | Volts |
| * Maximum average reverse current at rated DC blocking voltage (NOTE 1) | I _R | 2.0 20.0 | | | mA |
| | | T _A =25°C T _A =100°C | | | |
| Typical thermal resistance (NOTE 2) | R _{θJA} R _{θJL} | 40.0 10.0 | | | °C/W |
| * Storage and operating junction temperature range | T _J , T _{STG} | -65 to +125 | | | °C |

*JEDEC registered values

NOTES:

(1) Pulse test: 300μs pulse width, 1% duty cycle

(2) Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5 x 2.5" (63.5 x 63.5mm) copper pad

RATINGS AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822

FIG. 1 - FORWARD CURRENT DERATING CURVE

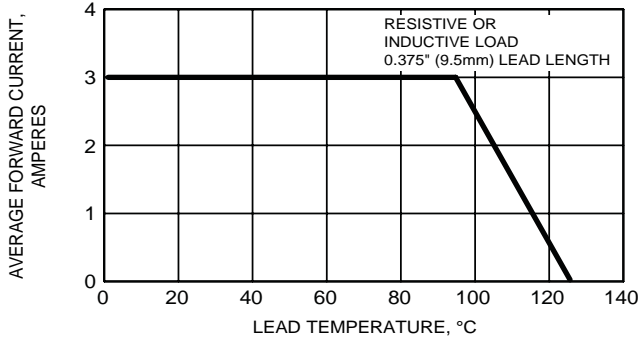


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

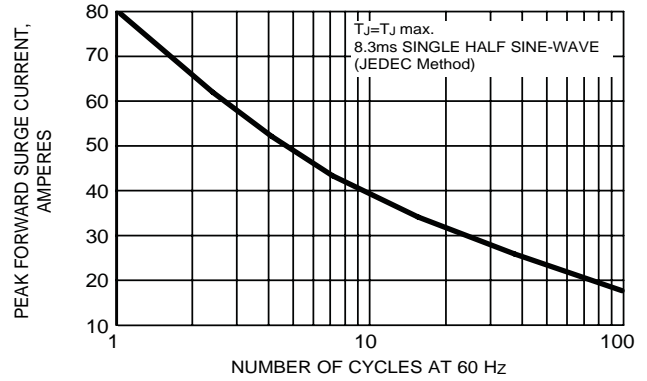


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

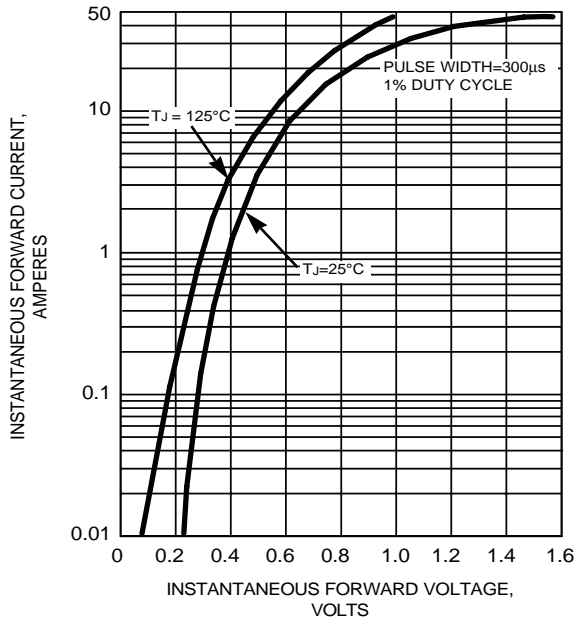


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

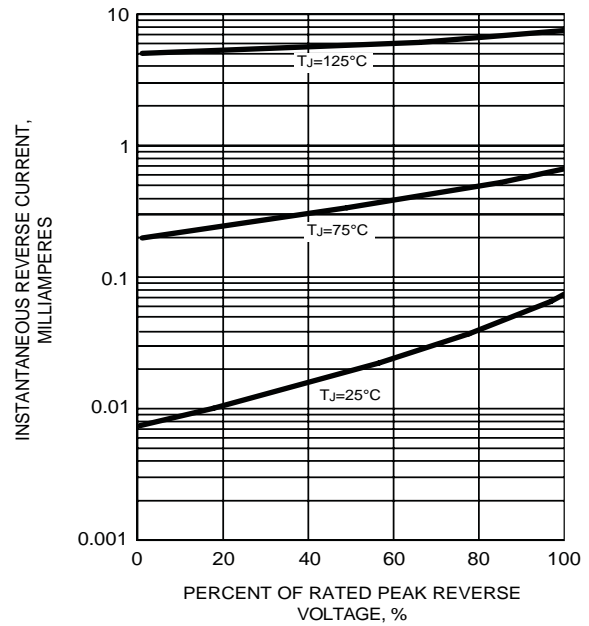


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

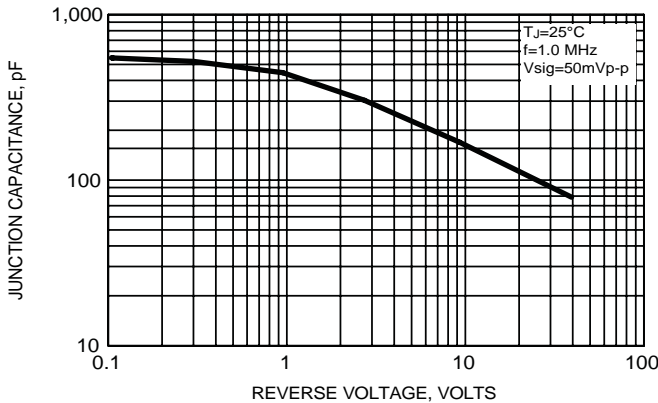


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

