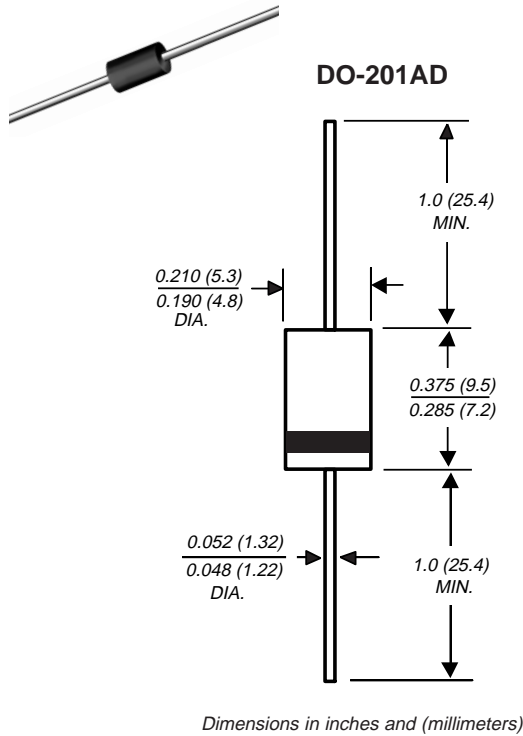


Schottky Barrier Rectifier

Reverse Voltage 20 to 40V

Forward Current 3.0A



Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low power loss, high efficiency
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- Guardring for overvoltage protection

Mechanical Data

Case: JEDEC DO-201 AD molded plastic body

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

High temperature soldering guaranteed:
250°C/10 seconds 0.375" (9.5mm) lead length,
5lbs. (2.3kg) tension

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.04 ounce, 1.12 grams

Packaging codes/options:

1/Bulk - 1.5K per container, 15K per box

4/1.4K per 13" reel, 5.6K per box

23/1K per ammo mag., 9K per box

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

| Parameter | Symbols | 1N5820 | 1N5821 | 1N5822 | Units |
|---|--------------------------------------|-------------|--------|--------|-------|
| * Maximum repetitive 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 |
| * Non-repetitive peak reverse voltage | V _{RSM} | 24 | 36 | 48 | V |
| * Maximum average forward rectified current 0.375" (9.5mm) lead length at T _L =95°C | I _{F(AV)} | 3.0 | | | A |
| * Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T _L =75°C | I _{FSM} | 80 | | | A |
| Typical thermal resistance ⁽²⁾ | R _{θJA} R _{θJL} | 10 | 40 | | °C/W |
| * Storage temperature range | T _J , T _{STG} | -65 to +125 | | | °C |

Electrical Characteristics (T_A = 25°C unless otherwise noted)

| Parameter | Symbols | 1N5820 | 1N5821 | 1N5822 | Units |
|--|----------------|--------|--------|--------|-------|
| * Maximum instantaneous forward voltage at 3.0 ⁽¹⁾ | V _F | 0.475 | 0.500 | 0.525 | V |
| * Maximum instantaneous forward voltage at 9.4 ⁽¹⁾ | V _F | 0.850 | 0.900 | 0.950 | V |
| * Maximum average reverse current at rated DC blocking voltage ⁽¹⁾ | I _R | 2.0 | | | mA |
| | | 20 | | | |

* 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 (T_A = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

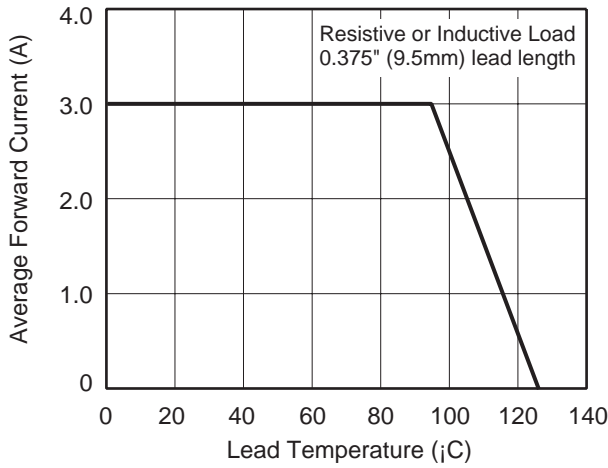


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

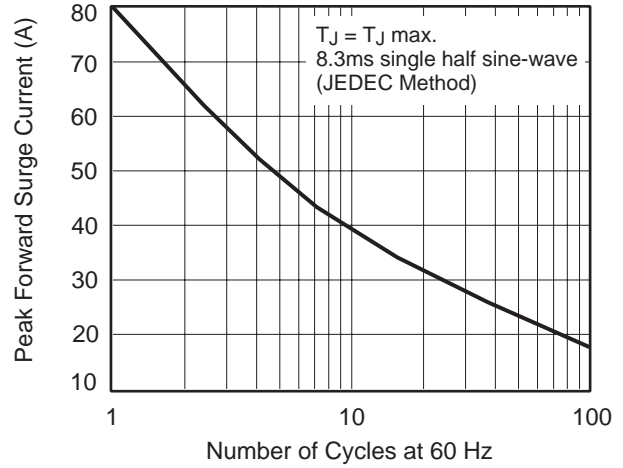


Fig. 3 - Typical Instantaneous Forward Characteristics

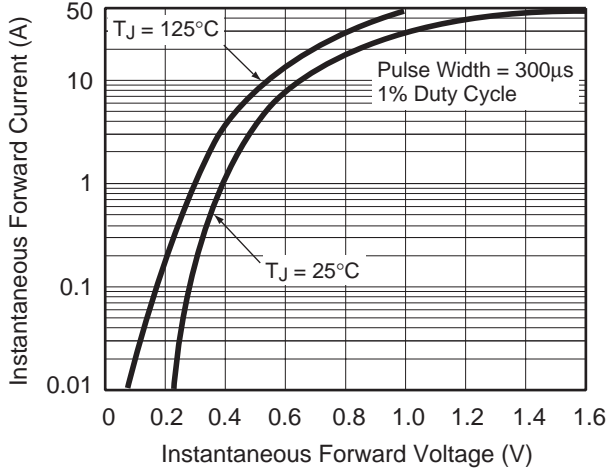


Fig. 4 - Typical Reverse Characteristics

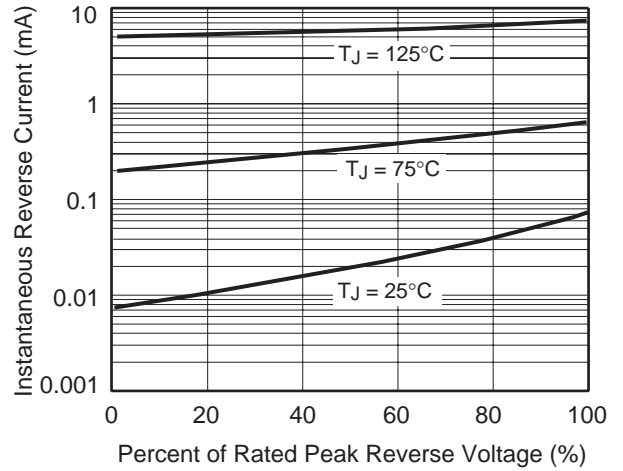


Fig. 5 - Typical Junction Capacitance

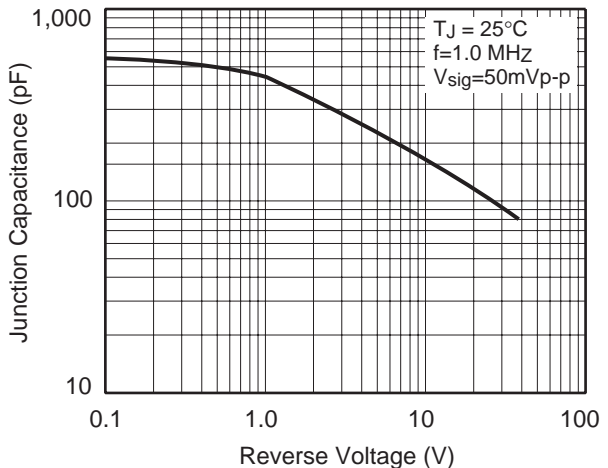


Fig. 6 - Typical Transient Thermal Impedance

