

■ **FEATURES**

- Guardring for overvoltage protection
- Low power loss
- Extremely fast switching
- High forward surge capability
- High frequency operation
- Solder dip 275 °C max. 7 s, per JESD 22-B106

■ **TYPICAL APPLICATIONS**

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

■ **MECHANICAL DATA**

- **Package:** DO-201AD(DO-27)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes the cathode end

■ **MAXIMUM RATINGS** (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 1N5820 | 1N5821 | 1N5822 |
|--|------------------|------|-----------|--------|--------|
| Device marking code | | | 1N5820 | 1N5821 | 1N5822 |
| Repetitive Peak Reverse Voltage | V _{RRM} | V | 20 | 30 | 40 |
| Average Rectified Output Current @60Hz sine wave, Resistance load, T _a (FIG.1) | I _O | A | 3.0 | | |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _a =25°C | I _{FSM} | A | 80 | | |
| Storage Temperature | T _{stg} | °C | -55 ~+150 | | |
| Junction Temperature | T _j | °C | -55 ~+125 | | |

■ **ELECTRICAL CHARACTERISTICS** (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | 1N5820 | 1N5821 | 1N5822 |
|---|----------------|------|--|--------|--------|--------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =3.0A | 0.475 | 0.5 | 0.525 |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _R | mA | T _a =25 °C | 0.2 | | |
| | | | T _a =100°C | 20 | | |
| Typical junction capacitance | C _j | pF | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C. | 180 | | |

■ **THERMAL CHARACTERISTICS** (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 1N5820 | 1N5821 | 1N5822 |
|--------------------|-------------------|------|--------|--------|--------|
| Thermal Resistance | R _{θJ-A} | °C/W | 25 | | |

■ **PACKAGING INFORMATION**

| PREFERED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| 1N5820~1N5822 | D1 | Approximate 0.950 | 1250 | 1250 | 12500 | Tape |
| 1N5820~1N5822 | C1 | Approximate 0.950 | 250 | 250 | 12500 | Bulk |

■ **CHARACTERISTICS (TYPICAL)**

FIG.1: I_o - T_a Curve

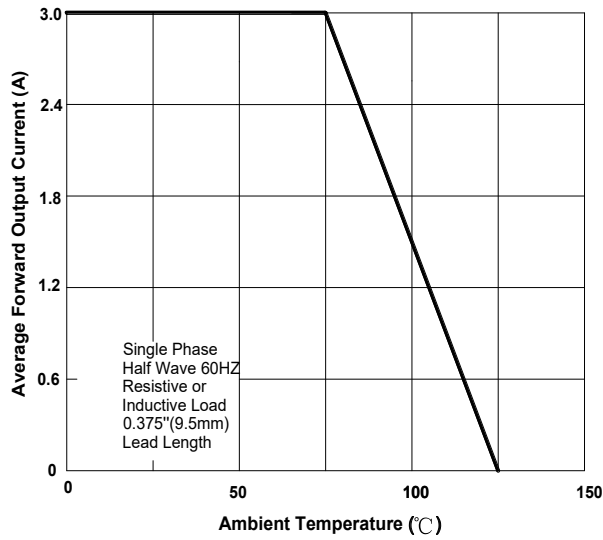


FIG.2: Forward Surge Current Capability

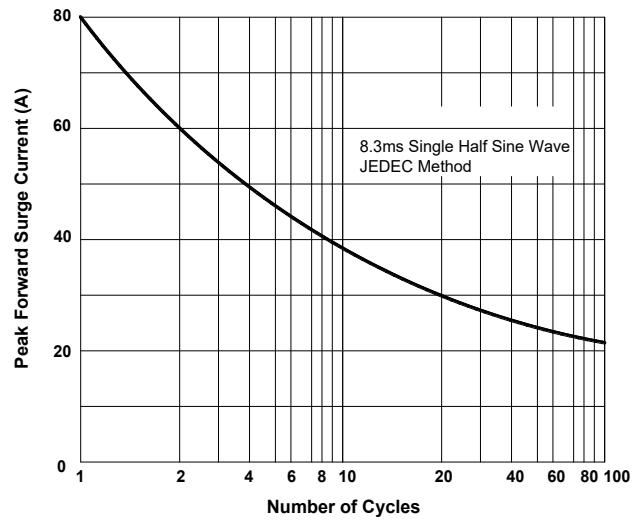


FIG.3: Forward Voltage

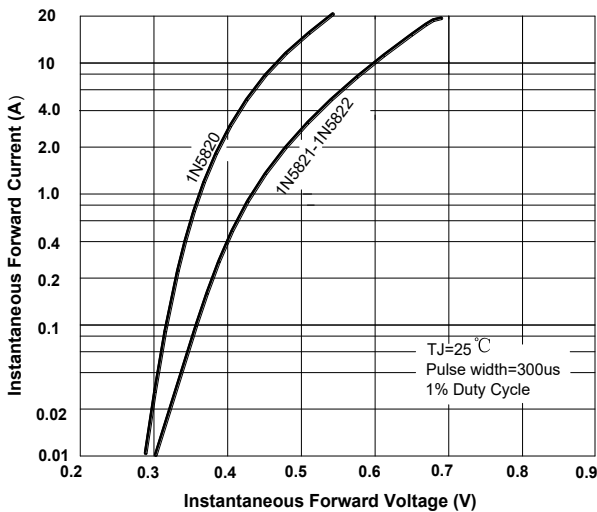
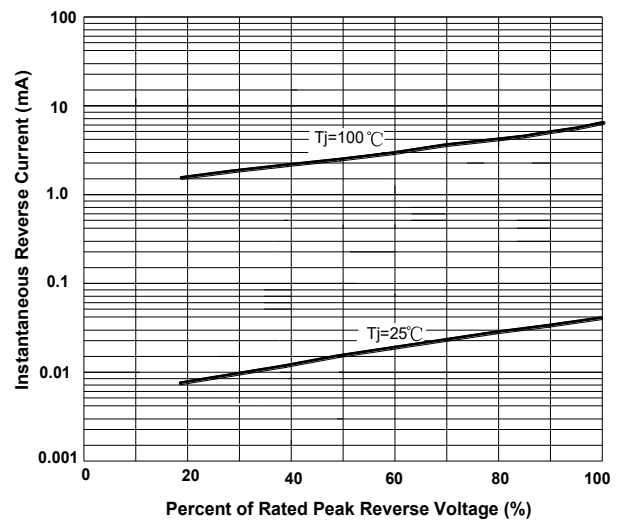
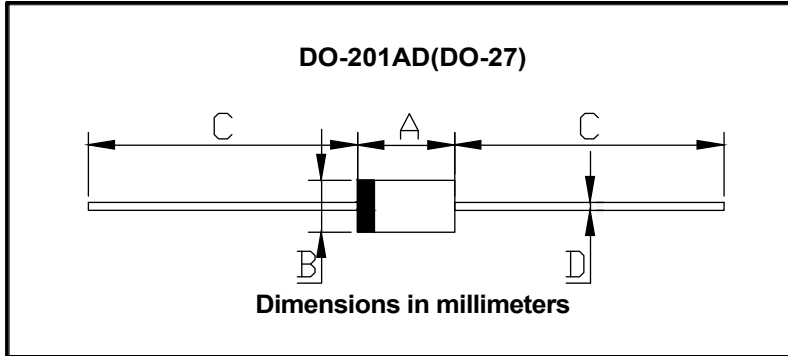


FIG.4: Typical Reverse Characteristics



■ **OUTLINE DIMENSIONS**



| DO-201AD(DO-27) | | |
|------------------------|------|------|
| Dim | Min | Max |
| A | 8.50 | 9.50 |
| B | 5.00 | 5.60 |
| C | 25.4 | / |
| D | 1.20 | 1.30 |