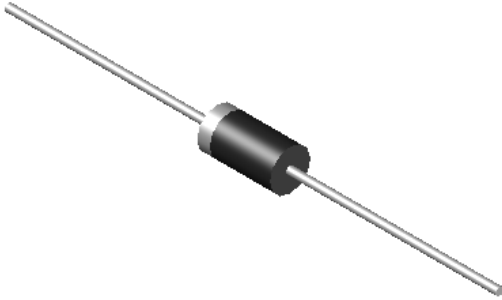


## Schottky Barrier Rectifier

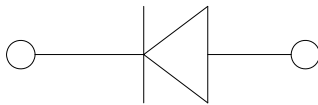


### Features

- Guardring for overvoltage protection
- Very small conduction losses
- 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<sub>a</sub>=25°C Unless otherwise specified)

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

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                         | SYMBOL         | UNIT | TEST CONDITIONS                                            | 1N5820 | 1N5821 | 1N5822 |
|-------------------------------------------------------------------|----------------|------|------------------------------------------------------------|--------|--------|--------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub> | V    | IFM=3.0A                                                   | 0.475  | 0.5    | 0.525  |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub> | mA   | T <sub>a</sub> =25°C                                       | 0.2    |        |        |
|                                                                   |                |      | T <sub>a</sub> =100°C                                      | 20     |        |        |
| Typical junction capacitance                                      | C <sub>j</sub> | pF   | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C. | 200    |        |        |



# 1N5820 THRU 1N5822

## ■ Thermal Characteristics ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| PARAMETER          | SYMBOL         | UNIT                        | 1N5820 | 1N5821 | 1N5822 |
|--------------------|----------------|-----------------------------|--------|--------|--------|
| Thermal Resistance | R $\theta$ J-A | $^{\circ}\text{C}/\text{W}$ | 25     |        |        |

## ■ Ordering Information (Example)

| PREFERRED 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

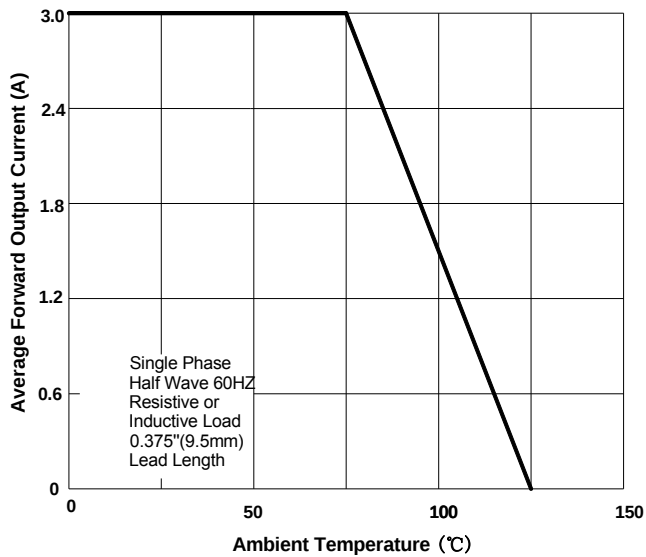


FIG.2: Surge Forward Current Capability

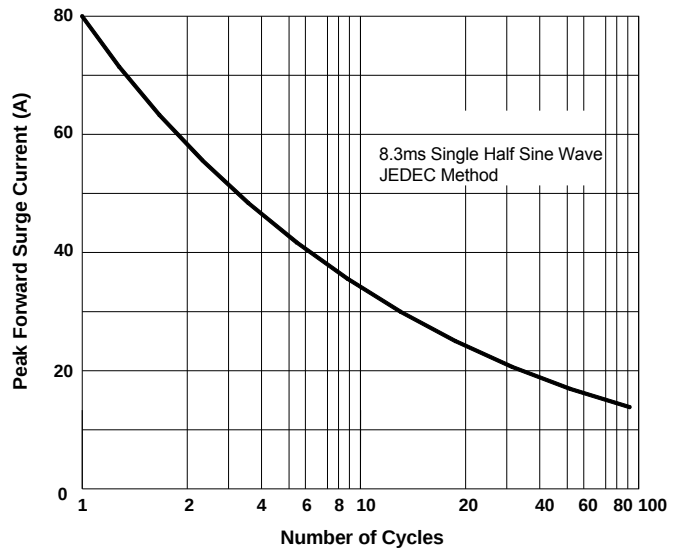


FIG.3: Forward Voltage

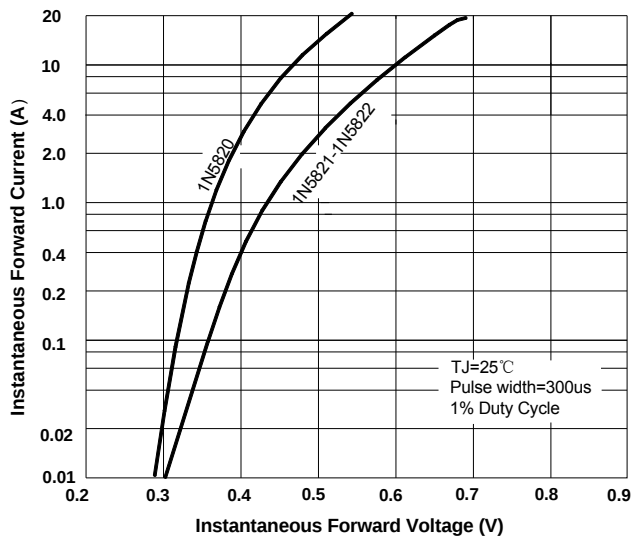
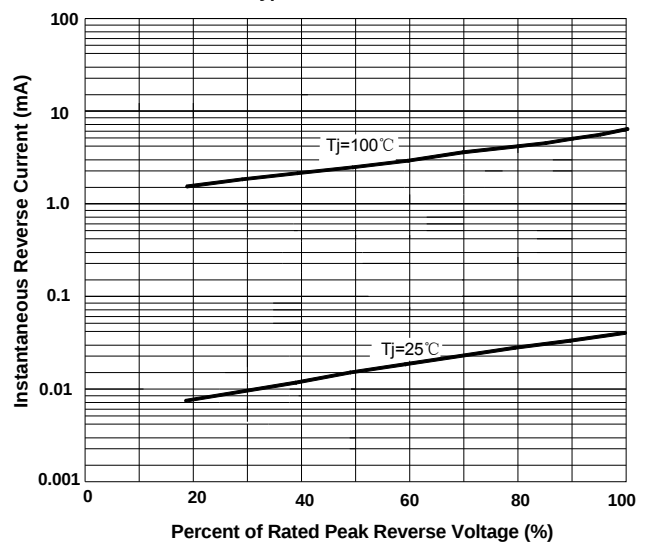
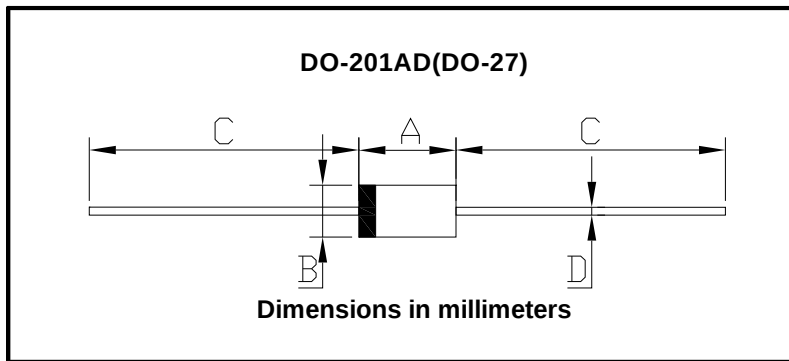


FIG.4: Typical Reverse Characteristics





## ■ 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 |



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