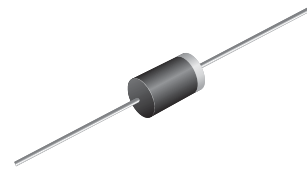




## Schottky Barrier Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
$V_{RRM}$	20 V, 30 V, 40 V
$I_{FSM}$	80 A
$V_F$	0.475 V, 0.500 V, 0.525 V
$T_j \text{ max.}$	125 °C



DO-201AD

### Features

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 seconds



### Typical Applications

For use in low voltage high frequency inverters, free wheeling, dc-to-dc converters, and polarity protection applications

### Mechanical Data

**Case:** DO-201AD

Epoxy meets UL 94V-0 Flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

**Polarity:** Color band denotes the cathode end

### Maximum Ratings

$T_A = 25\text{ °C}$  unless otherwise specified

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" (9.5 mm) lead length at $T_L = 95\text{ °C}$	$I_{F(AV)}$	3.0			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	80			A
Storage temperature range	$T_J, T_{STG}$	- 65 to + 125			°C

## Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Test condition	Symbols	1N5820	1N5821	1N5822	Units
Maximum instantaneous forward voltage	at 3.0 <sup>(1)</sup>	$V_F$	0.475	0.500	0.525	V
Maximum instantaneous forward voltage	at 9.4 <sup>(1)</sup>	$V_F$	0.850	0.900	0.950	V
Maximum average reverse current at rated DC blocking voltage <sup>(1)</sup>	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	$I_R$	2.0 20			mA

Notes:

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

## Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Symbols	1N5820	1N5821	1N5822	Units
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	40 10			$^\circ\text{C/W}$

Notes:

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

## Ratings and Characteristics Curves

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

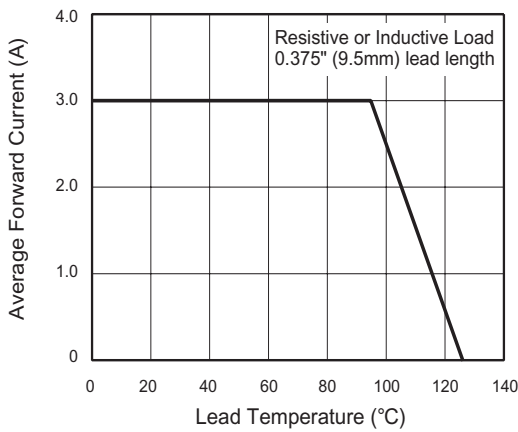


Figure 1. Forward Current Derating Curve

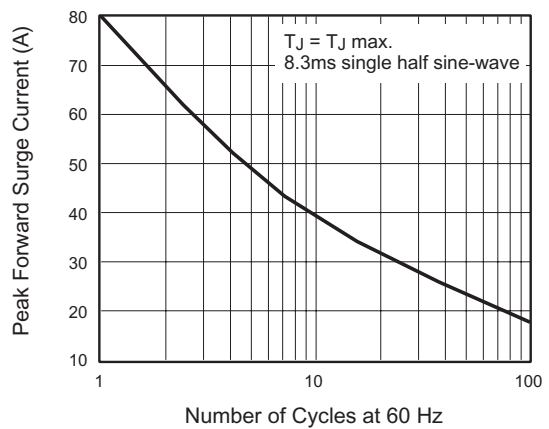


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

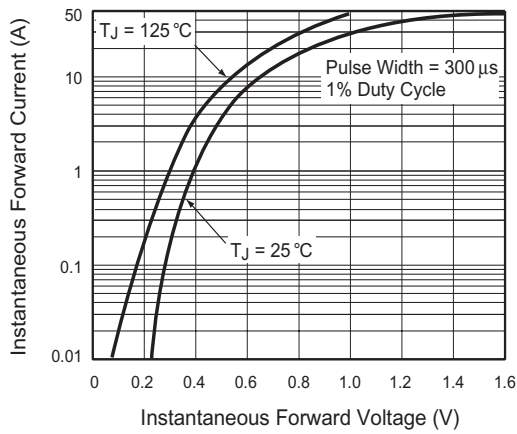


Figure 3. Typical Instantaneous Forward Characteristics

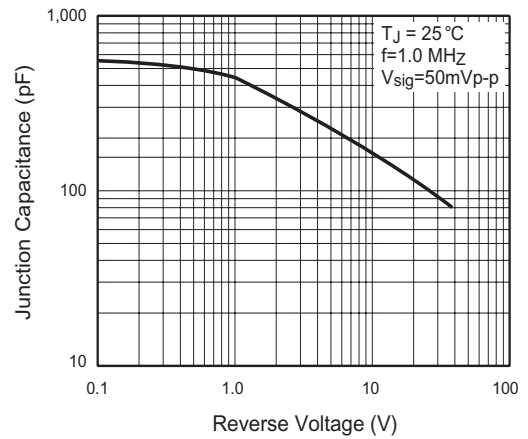


Figure 5. Typical Junction Capacitance

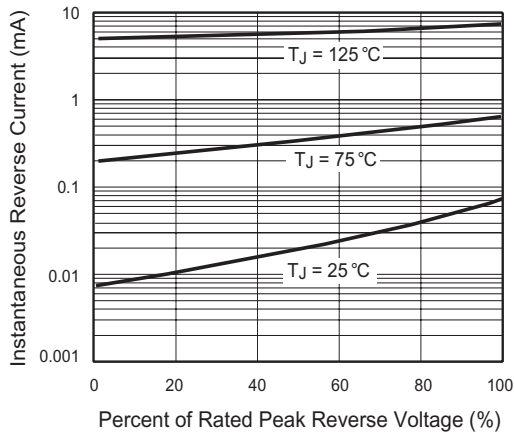


Figure 4. Typical Reverse Characteristics

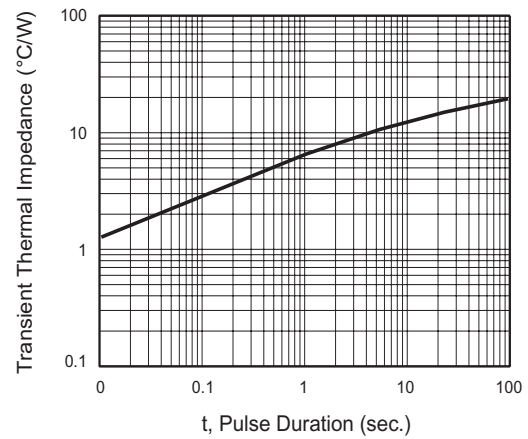
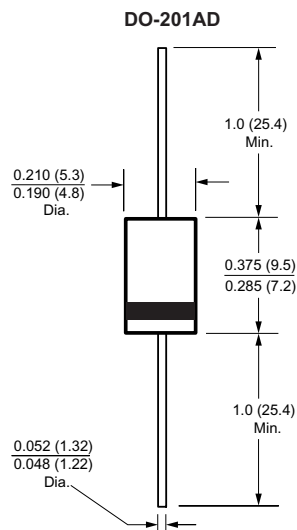


Figure 6. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)





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