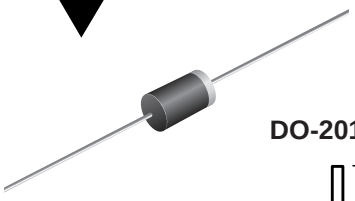
1N5820 thru 1N5822

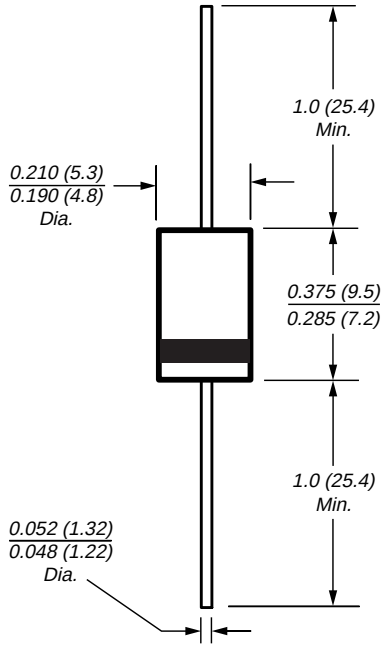
Vishay Semiconductors
formerly General Semiconductor

Schottky Barrier Rectifier

Reverse Voltage 20 to 40V
Forward Current 3.0A



DO-201AD



Dimensions in inches and (millimeters)

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 oz., 1.12 g
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)	$R_{\theta JA}$ $R_{\theta JL}$	40 10			°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) T_A=25°C T_A=100°C	I_R	2.0 20			mA

*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

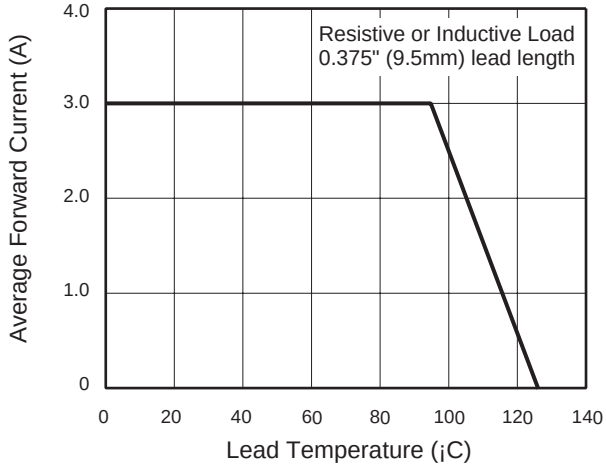


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

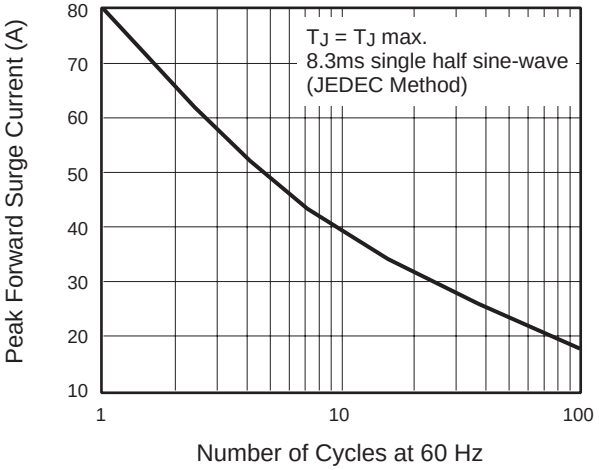


Fig. 3 - Typical Instantaneous Forward Characteristics

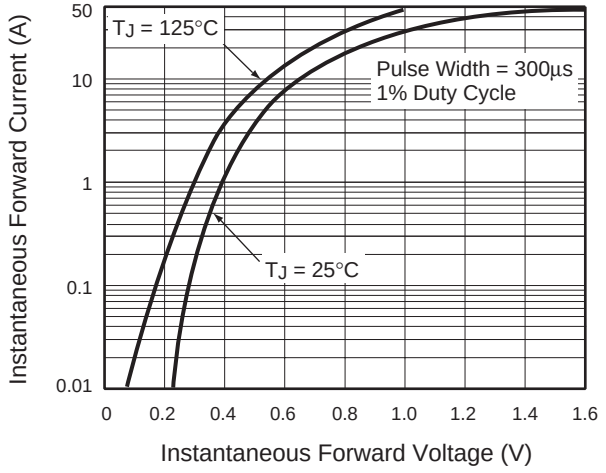


Fig. 4 - Typical Reverse Characteristics

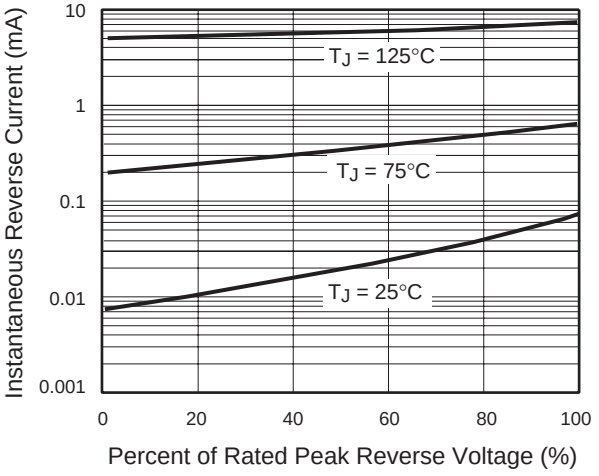


Fig. 5 - Typical Junction Capacitance

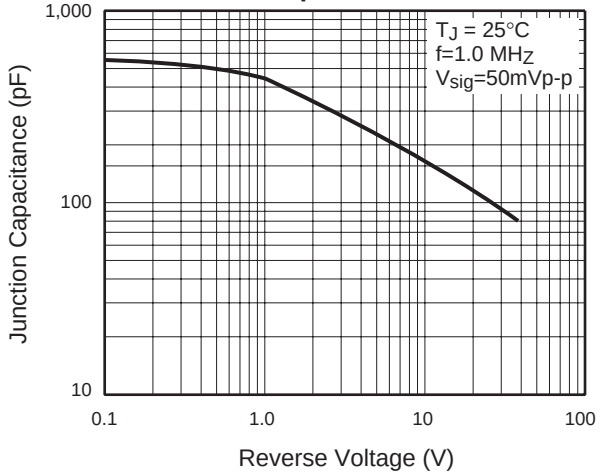


Fig. 6 - Typical Transient Thermal Impedance