

1N5820 THRU 1N5822

SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 20 to 40 V

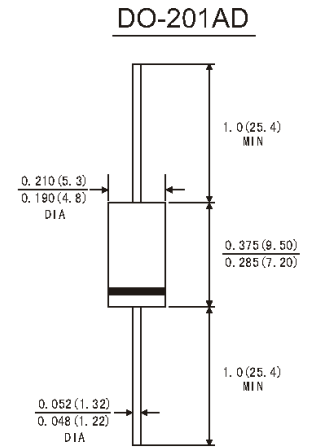
Forward Current - 3 A

Features

- Plastic package has Underwriters Laboratory Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, Low forward voltage drop
- High surge capability

Mechanical Data

- **Case:** DO-201AD molded plastic case
- **Terminals:** Plated axial leads, solderable per MIL-STD -750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any



Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, resistive or inductive load, for capacitive load, derate by 20%

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
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Load Length at $T_L = 95^\circ\text{C}$	$I_{(AV)}$	3			A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) at $T_L = 75^\circ\text{C}$	I_{FSM}	80			A
Maximum Instantaneous Forward Voltage at 3 A ¹⁾ Maximum Instantaneous Forward Voltage at 9.4 A ¹⁾	V_F	0.475 0.85	0.5 0.9	0.525 0.95	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage	at $T_A = 25^\circ\text{C}$	0.5			mA
	at $T_A = 100^\circ\text{C}$	20			mA
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	40			$^\circ\text{C/W}$
	$R_{\theta JL}$	10			
Operating and Storage Temperature Range	T_J, T_S	- 65 to + 125			$^\circ\text{C}$

¹⁾ Pulse test: 300 μs pulse width, 1% duty cycle

²⁾ Thermal Resistance (from Junction to Ambient) Vertical P.C.B Mounted, 0.5" (12.7 mm) lead length with 2.5 X 2.5" (63.5 X 63.5 mm)copper pads.

1N5820 THRU 1N5822

FIG.1-FORWARD CURRENT DERATING CURVE

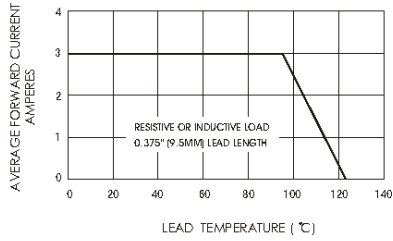


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

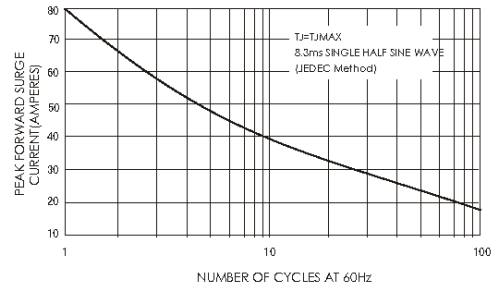


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

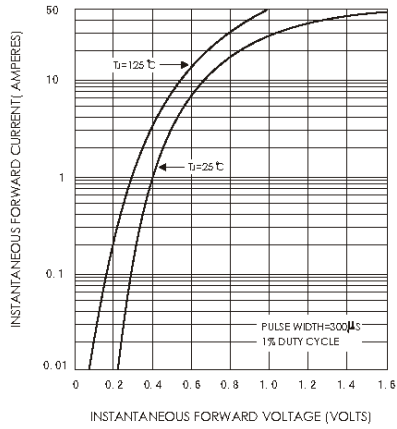


FIG.4-TYPICAL REVERSE CHARACTERISTICS

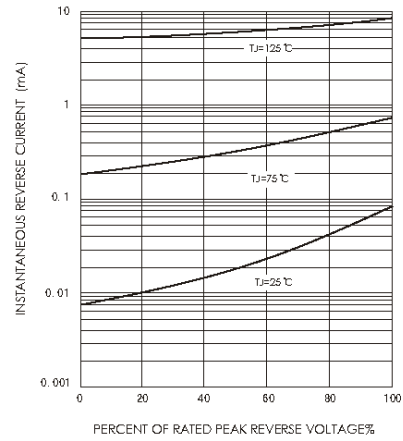


FIG.5-TYPICAL JUNCTION CAPACITANCE

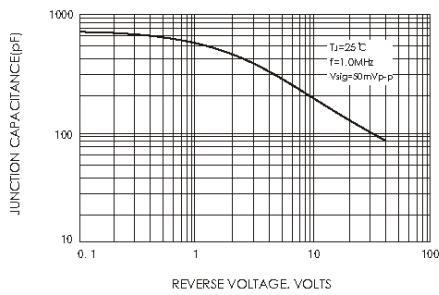


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

