

Schottky Diode

1N5820

20V / 3A

DATASHEET

OEM – General Semiconductor

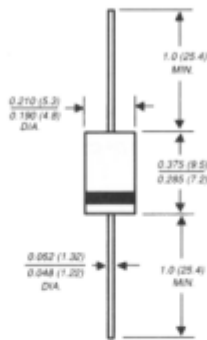
Source: General Semiconductor Databook 1998

1N5820 THRU 1N5822

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts Forward Current - 3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension

MECHANICAL DATA

Case: JEDEC DO-201AD molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5820	1N5821	1N5822	UNITS
* Maximum repetitive peak reverse voltage	V _{RRM}	20	30	40	Volts
Maximum RMS voltage	V _{RMS}	14	21	28	Volts
* Maximum DC blocking voltage	V _{DC}	20	30	40	Volts
* Non-repetitive peak reverse voltage	V _{RSM}	24	36	48	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at T _L =95°C	I _(AV)	3.0			Amps
* Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T _L =75°C	I _{FSM}	80.0			Amps
* Maximum instantaneous forward voltage at 3.0 (NOTE 1)	V _F	0.475	0.500	0.525	Volts
* Maximum instantaneous forward voltage at 9.4 (NOTE 1)	V _F	0.850	0.900	0.950	Volts
* Maximum average reverse current at rated DC blocking voltage (NOTE 1)	I _R	2.0 20.0			mA
		T _A =25°C T _A =100°C			
Typical thermal resistance (NOTE 2)	R _{θJA} R _{θJL}	40.0 10.0			°C/W
* Storage and operating junction temperature range	T _J , T _{STG}	-65 to +125			°C

*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 1N5820 THRU 1N5822

FIG. 1 - FORWARD CURRENT DERATING CURVE

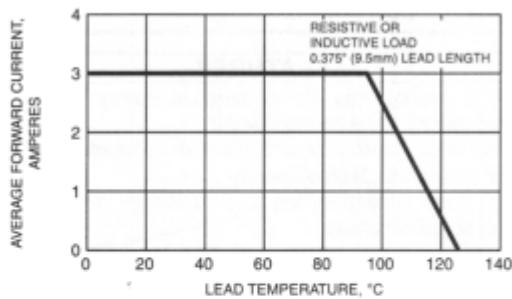


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

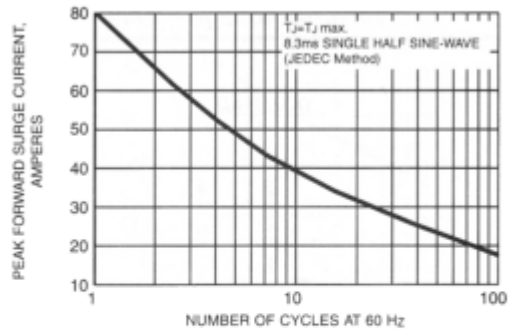


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

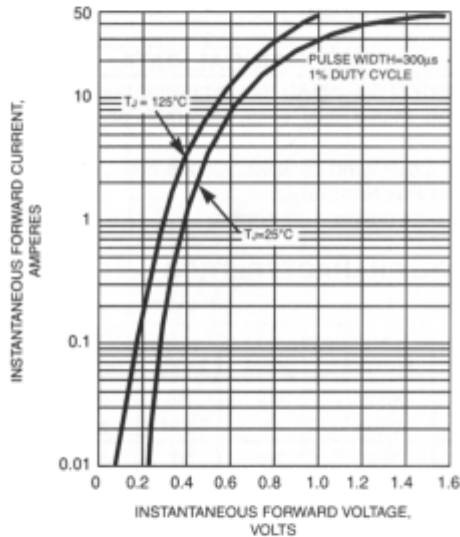


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

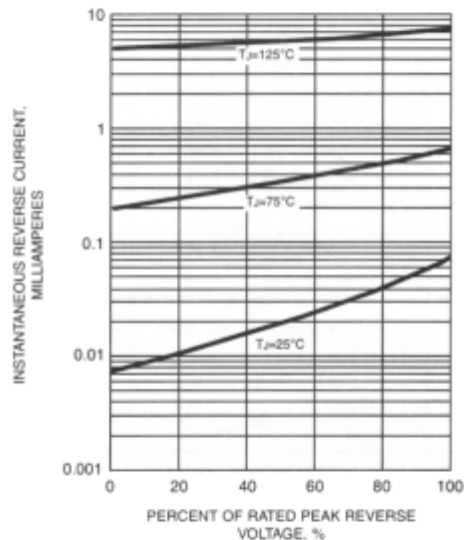


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

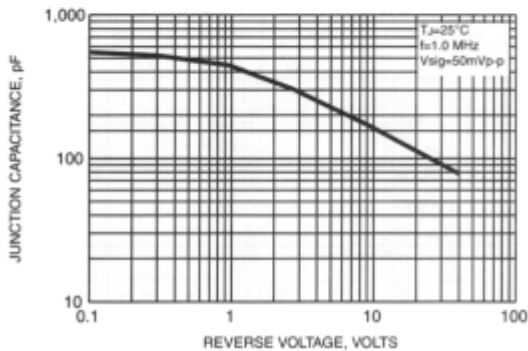


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

