

Schottky Barrier Rectifier



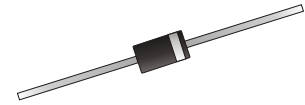
SMD Diodes Specialist

1N5820-G Thru. 1N5822-G

Forward Current: 3.0A

Reverse Voltage: 20 to 40V

RoHS Device

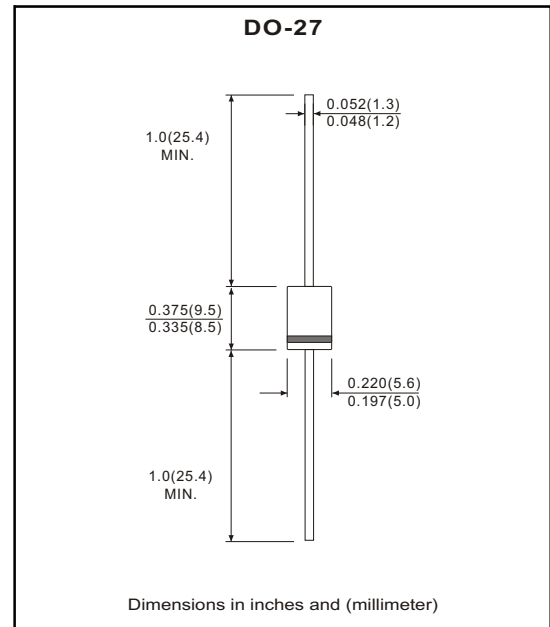


Features

- Fast switching.
- Low forward voltage, high current capability.
- Low power loss, high efficiency.
- High current surge capability.
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375"(9.5mm) lead length at 5lbs. (2.3kg) tension.

Mechanical data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042 ounces, 1.19gram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load derate current by 20%.

Parameter	Symbol	1N5820-G	1N5821-G	1N5822-G	Unit
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"(9.5mm) lead length @ $T_L=95^\circ\text{C}$	$I_{(AV)}$	3.0			A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	80			A
Maximum forward voltage at 3.0A 9.4A	V_F	0.475 0.850	0.500 0.900	0.525 0.950	V
Maximum reverse current at rated DC blocking voltage ⁻¹	I_R	2.0 20			mA
Typical junction capacitance ⁻²	C_J	250			pF
Typical thermal resistance ⁻³	$R_{\theta JA}$	40			°C/W
Operating temperature range	T_J	-55 to +125			°C
Storage temperature range	T_{STG}	-55 to +125			°C

NOTES:

1. Pulse test: 300µs pulse width, 1% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0Volts.
3. Thermal resistance from junction to ambient, P.C.B. Mounted with 0.375"(9.5mm) lead length with 2.5"×2.5"(63.5×63.5mm) copper pads.

RATING AND CHARACTERISTIC CURVES (1N5820-G Thru. 1N5822-G)

Fig.1 Typical Forward Current Derating Curve

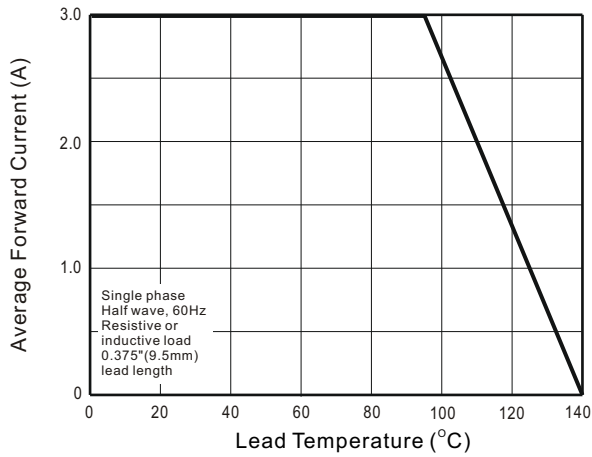


Fig.2 Maximum Non-repetitive Peak Forward Surge Current

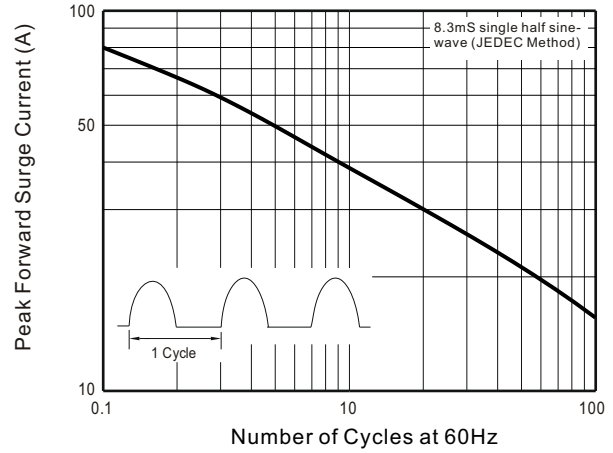


Fig.3 Typical Instantaneous Forward Characteristics

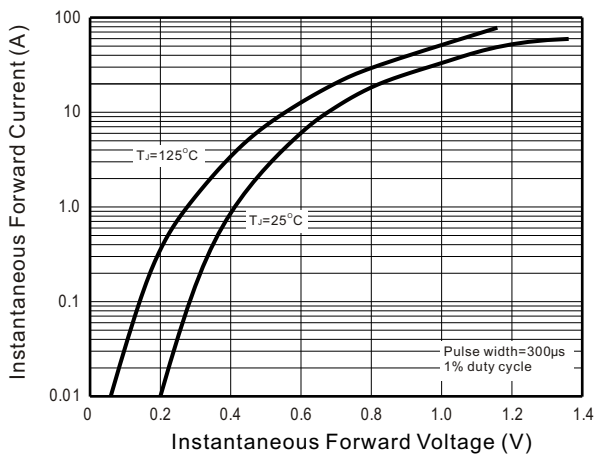


Fig.4 Typical Reverse Characteristics

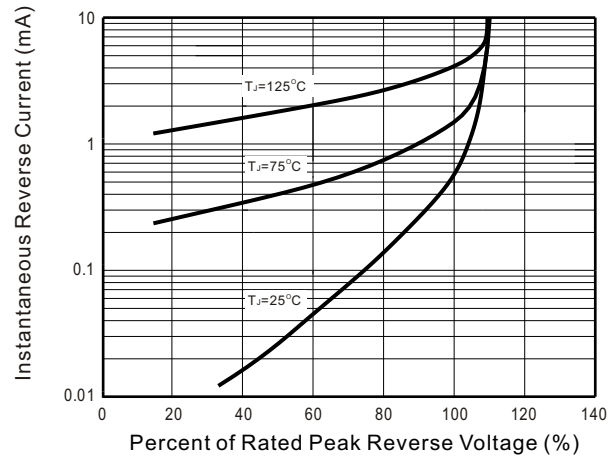


Fig.5 Typical Junction Capacitance

