

Schottky Barrier Rectifier



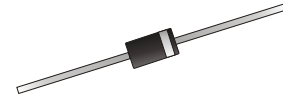
SMD Diodes Specialist

1N5820-G Thru. 1N5822-G

Forward Current: 3.0A

Reverse Voltage: 20 to 40V

RoHS Device

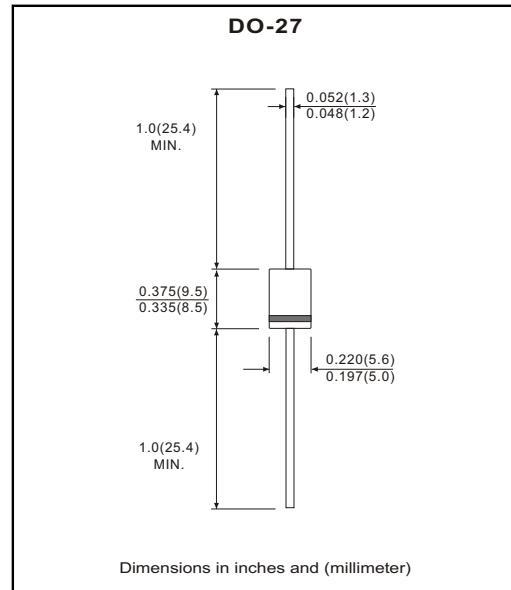


Features

- 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 $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	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"x2.5" (63.5x63.5mm) copper pads.

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

Fig.1 Typical Forward Current Derating Curve

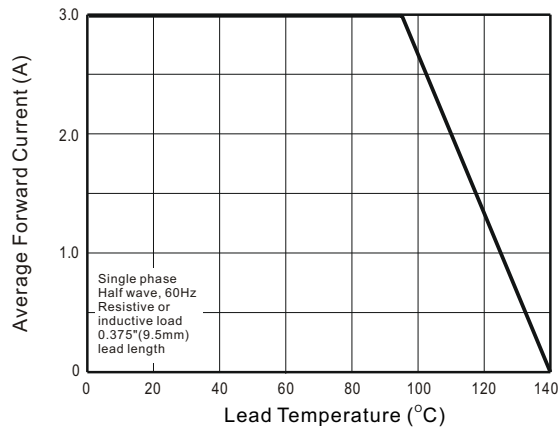


Fig.2 Maximum Non-repetitive Peak Forward Surge Current

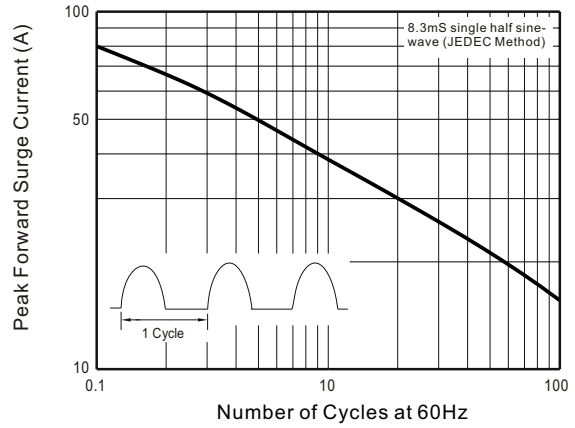


Fig.3 Typical Instantaneous Forward Characteristics

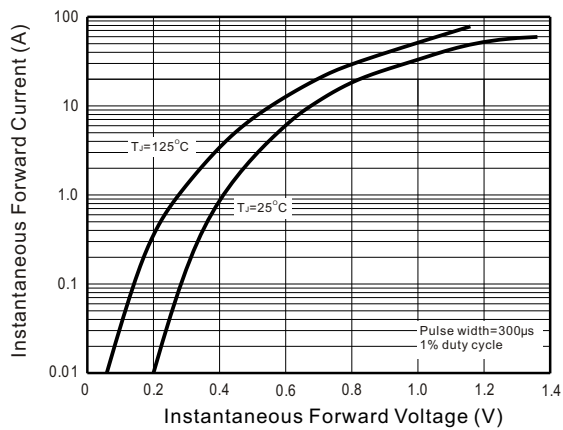


Fig.4 Typical Reverse Characteristics

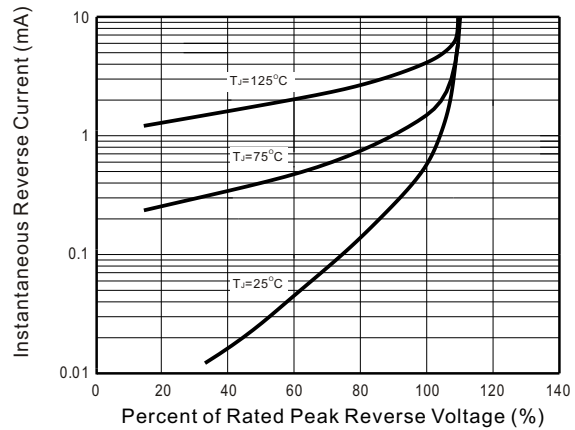


Fig.5 Typical Junction Capacitance

