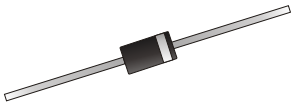
Schottky Barrier Rectifier

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.

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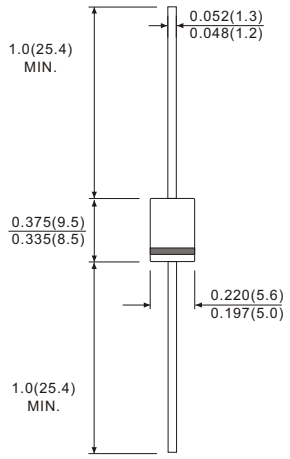

Dimensions in inches and (millimeter)

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°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 T_A=25°C at rated DC blocking voltage[*1] T_A=100°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.
2. 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

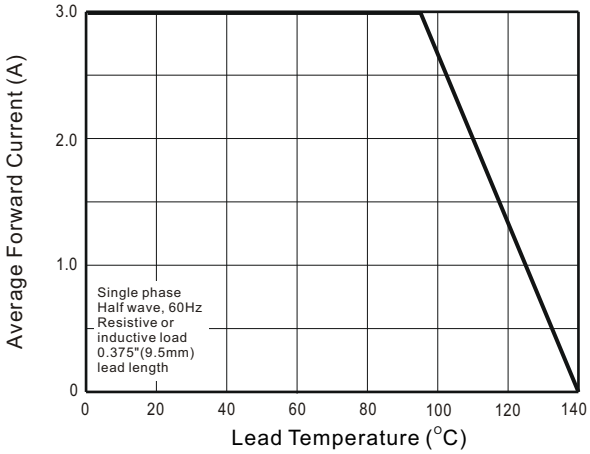

Fig.2 Maximum Non-repetitive Peak Forward Surge Current

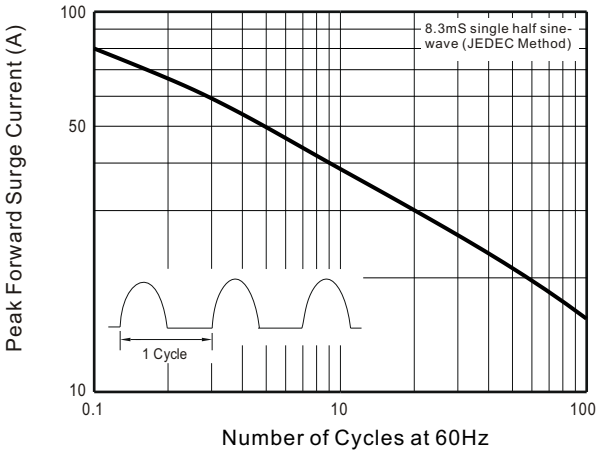

Fig.3 Typical Instantaneous Forward Characteristics

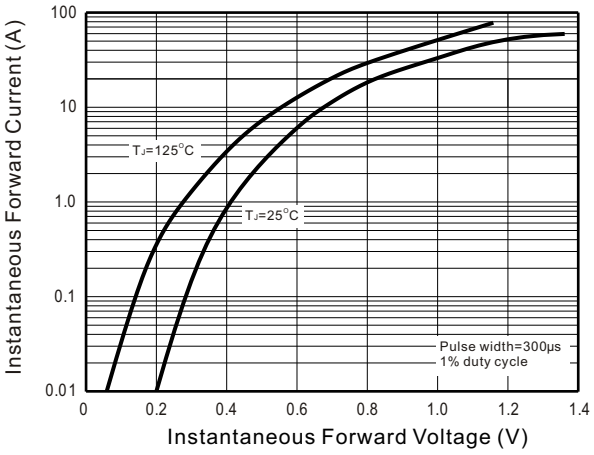

Fig.4 Typical Reverse Characteristics

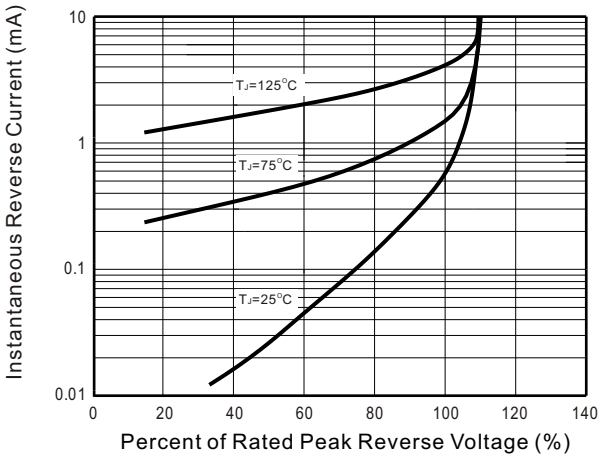

Fig.5 Typical Junction Capacitance