



SCHOTTKY BARRIER RECTIFIER

1N5820 - 1N5822

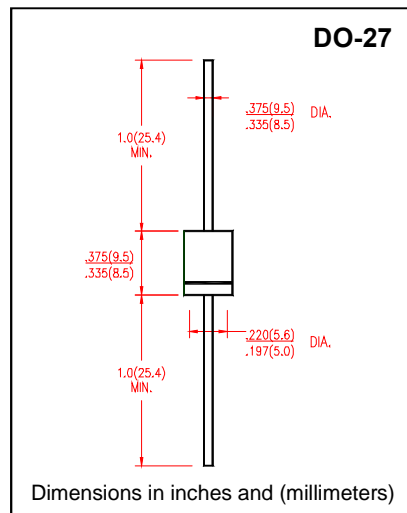
VOLTAGE RANGE - 20 to 40 V
CURRENT - 3 A

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, 0.373" (9.5mm) lead length At 5 lbs. (2.3kg) tension

MECHANICAL DATA

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



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%.

	SYMBOLS	1N5820	1N5821	1N5822	UNIT	
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	
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at $T_L = 95^\circ\text{C}$	$I_{(AV)}$	3.0			Amps	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	80			Amps	
Maximum Instantaneous Forward Voltage (Note 1) at	3.0A	V_F	0.475	0.500	0.525	Volts
	9.4A		0.850	0.900	0.950	
Maximum DC Reverse Current at rated DC Blocking Voltage at (Note 1)	$T_A = 25^\circ\text{C}$	I_R	0.5		mA	
	$T_A = 100^\circ\text{C}$		20			
Typical Junction Capacitance (NOTE 2)	C_J	250			pF	
Typical Thermal Resistance (NOTE 3)	$R_{\theta JL}$	15			°C/W	
Operation and Storage Temperature Range	T_J, 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 4.0 Volts
3. Thermal resistance from junction to ambient P.C.B. mounted with 0.375" (9.5mm) lead length with 2.5" x 2.5" (63.5 x 63.5mm) copper pads



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RATING AND CHARACTERISTIC CURVES 1N5820 - 1N5822

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

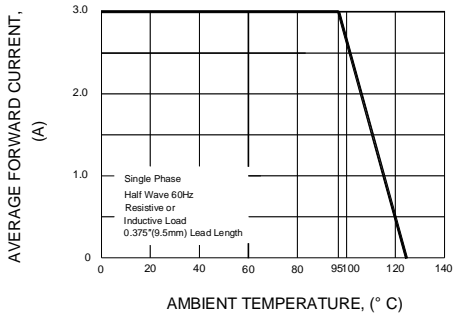


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

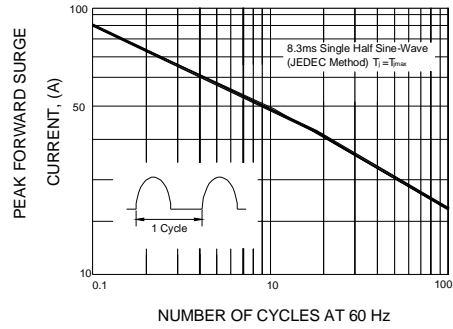


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

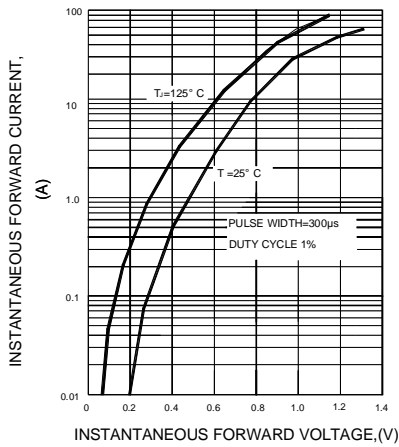


FIG.4-TYPICAL REVERSE CHARACTERISTICS

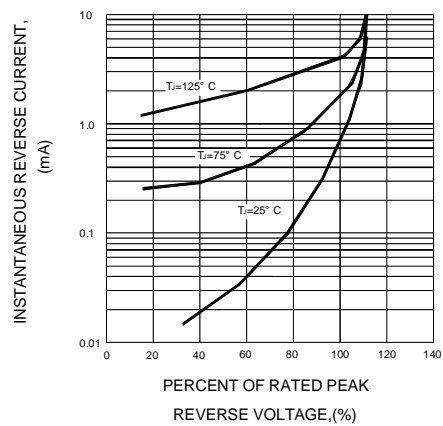


FIG.5-TYPICAL JUNCTION CAPACITANCE

