



## SCHOTTKY BARRIER RECTIFIER

1N5820 THRU 1N5822

VOLTAGE RANGE

20 to 40 Volts

CURRENT

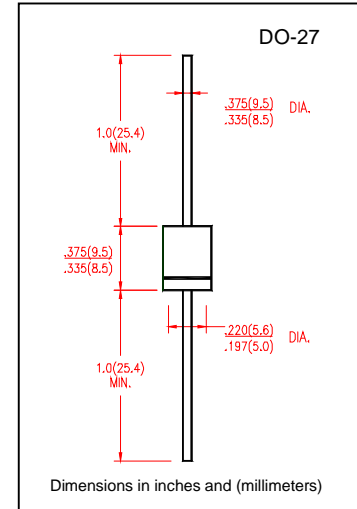
3.0 Ampere

### 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	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)	$T_A = 25^\circ\text{C}$	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			$^\circ\text{C}/\text{W}$
Operation and Storage Temperature Range	$T_J, T_{STG}$	(-55 to +125)			$^\circ\text{C}$

#### Notes:

1. Pulse test 300  $\mu\text{s}$  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"  $\times$  2.5" (63.5  $\times$  63.5mm) copper pads



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## RATING AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

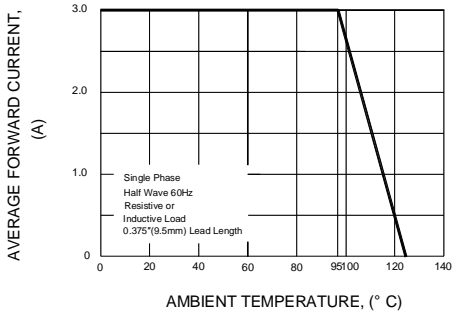


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

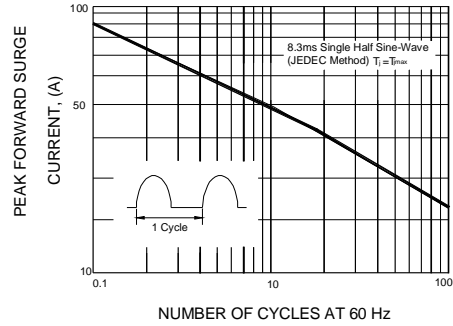


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

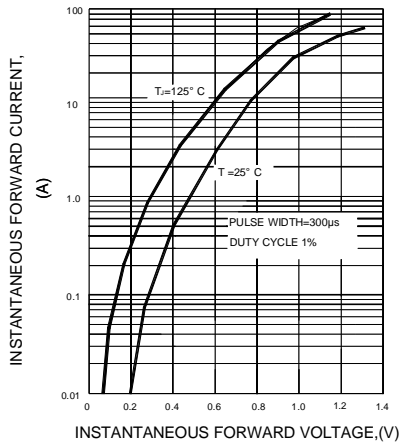


FIG.4-TYPICAL REVERSE CHARACTERISTICS

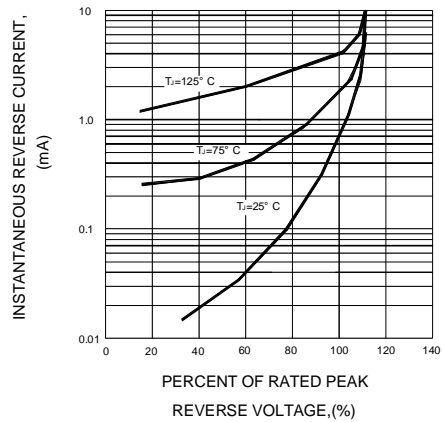


FIG.5-TYPICAL JUNCTION CAPACITANCE

