1N5820 THRU 1N5822

3.0 AMPS. Schottky Barrier Rectifiers

TSC

| Voltage Range |
| 20 to 40 Volts |
| Current |
| 3.0 Amperes |

DO-201AD

Features

✧ Low forward voltage drop
✧ High current capability
✧ High reliability
✧ High surge current capability

Mechanical Data

✧ Cases: DO-201AD molded plastic
✧ Epoxy: UL 94V-O rate flame retardant
✧ Lead: Axial leads, solderable per
  MIL-STD-202, Method 208 guaranteed
✧ Polarity: Color band denotes cathode end
✧ High temperature soldering guaranteed:
  260°C/10 seconds/.375",(9.5mm) lead
  lengths at 5 lbs., (2.3kg) tension
✧ Weight: 1.10 grams

.220 (5.6)
.197 (5.0)
DIA.

1.0 (25.4)
MIN.

.375 (9.5)
.335 (8.5)

1.0 (25.4)
MIN.

.052 (1.3)
.048 (1.2)
DIA.

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Type Number	Symbol	1N5820	1N5821	1N5822	Units
Maximum Recurrent 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 .375 (9.5mm) Lead Length @T_L = 90℃	$I_{(AV)}$		3.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}		80		A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	0.475	0.500	0.525	V
Maximum Instantaneous Forward Voltage @ 9.0A	V_F	0.850	0.900	0.950	V
Maximum DC Reverse Current @ T_A=25℃ at Rated DC Blocking Voltage @ T_A=100℃	I_R		2.0 20		mA mA
Typical Thermal Resistance (Note 1)	Rθ_{JA}		40		℃/W
Typical Junction Capacitance (Note 2)	Cj		200		pF
Operating Temperature Range	T_J		-65 to +125		℃
Storage Temperature Range	T_{STG}		-65 to +125		℃

Notes: 1. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES (1N5820 THRU 1N5822)
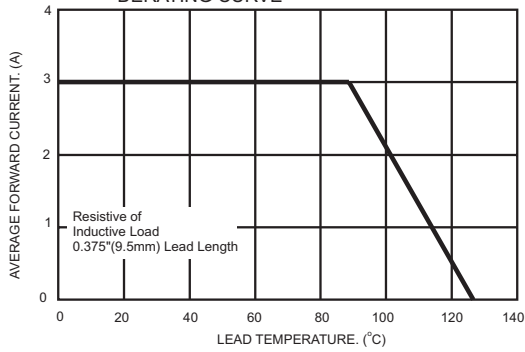
FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT. (A)
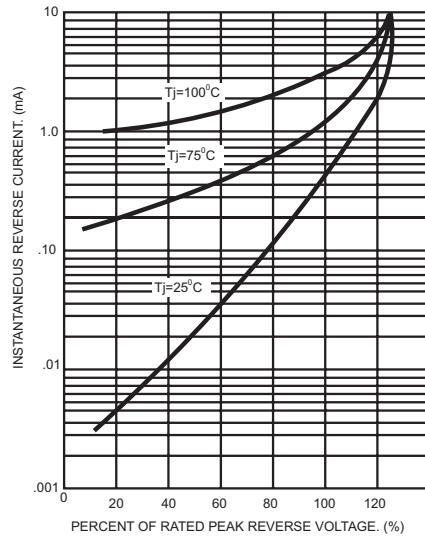
Resistive of
Inductive Load
0.375"(9.5mm) Lead Length

LEAD TEMPERATURE. (^{o}C)

FIG.2- TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT. (mA)

Tj=100^{0}C

Tj=75^{0}C

Tj=25^{0}C

PERCENT OF RATED PEAK REVERSE VOLTAGE. (%)

FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT. (A)

8.3ms Single Half Sine Wave
JEDEC Method

NUMBER OF CYCLES AT 60Hz
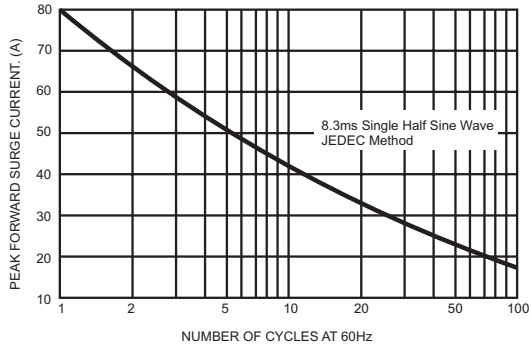
FIG.4- TYPICAL FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD CURRENT. (A)

1N5820

1N5821 ~ 1N5822
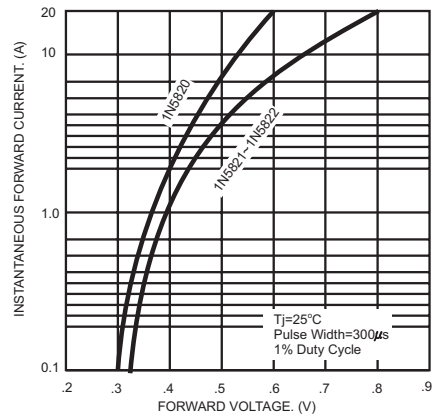
Tj=25°C
Pulse Width=300μs
1% Duty Cycle

FORWARD VOLTAGE. (V)

FIG.5- TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE. (pF)

REVERSE VOLTAGE. (V)