TAIWAN SEMICONDUCTOR

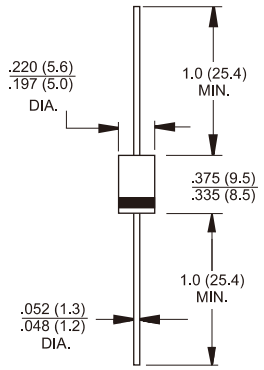
RoHS COMPLIANCE

1N5820 - 1N5822

3.0 AMPS. Schottky Barrier Rectifiers

DO-201AD





Dimensions in inches and (millimeters)

Features

- ✧ Low power loss, high efficiency.
- ✧ High current capability, Low VF.
- ✧ High reliability
- ✧ High surge current capability.
- ✧ Epitaxial construction.
- ✧ Guard-ring for transient protection.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application.
- ✧ Green compound with suffix “G” on packing code & prefix “G” on datecode.

Mechanical Data

- ✧ Cases: DO-201AD molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, 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

Marking Diagram



1N582X = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating at 25 °C 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°C	$I_{F(AV)}$	3.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	70			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 °C at Rated DC Blocking Voltage @ T_A=100 °C (Note 1)	I_R	0.5 10			mA mA
Typical Junction Capacitance (Note 2)	Cj	200			pF
Typical Thermal Resistance (Note 3)	RθJA	40			°C/W
Operating Temperature Range	T_J	-65 to +125			°C
Storage Temperature Range	T_{STG}	-65 to +125			°C

Notes: 1. Pulse Test with PW=300 usec,1% Duty Cycle.
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

Version: D10

TAIWAN SEMICONDUCTOR

RATINGS AND CHARACTERISTIC CURVES (1N5820 THRU 1N5822)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

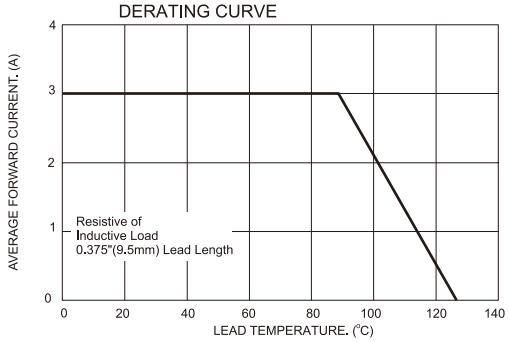


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

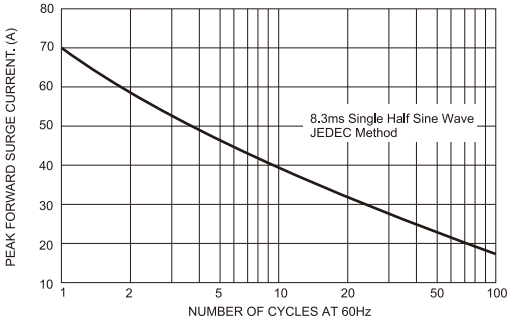


FIG.3- TYPICAL FORWARD CHARACTERISTICS

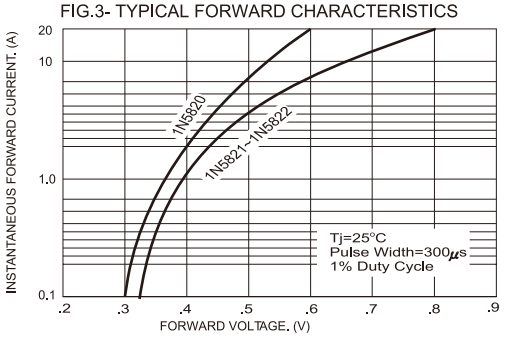


FIG.4- TYPICAL REVERSE CHARACTERISTICS

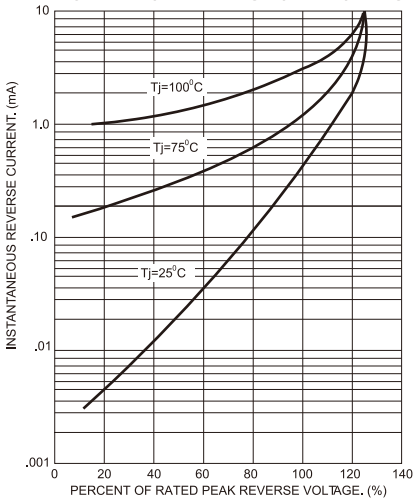


FIG.5- TYPICAL JUNCTION CAPACITANCE

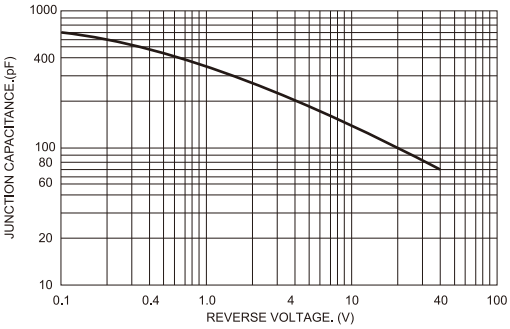


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

