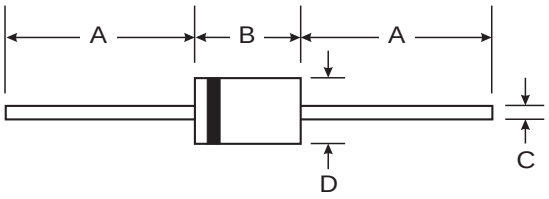
1N5820 - 1N5822

3.0A SCHOTTKY BARRIER RECTIFIERS

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish, RoHS Compliant (Note 4)**



DO-201AD		
Dim	**Min**	**Max**
A	25.40	—
B	7.20	9.50
C	1.20	1.30
D	4.80	5.30
All Dimensions in mm		

Mechanical Data

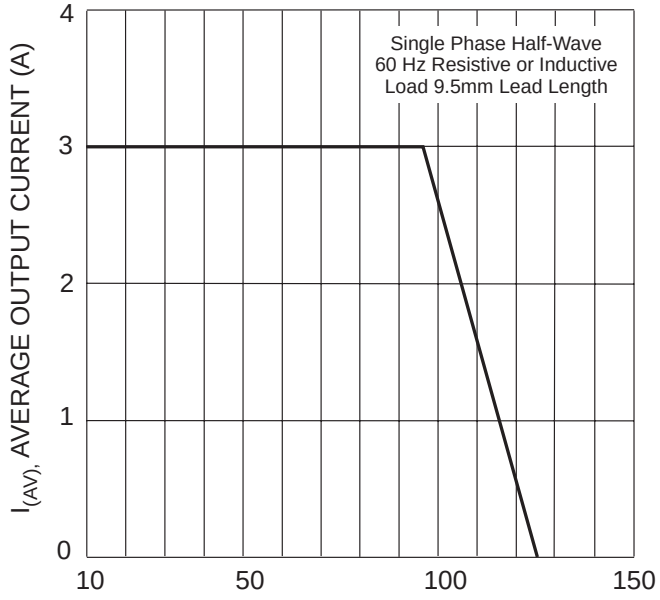
- Case: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Mounting Position: Any
- Marking: Type Number
- Ordering Information: See Last Page
- Weight: 1.1 grams (approximate)

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

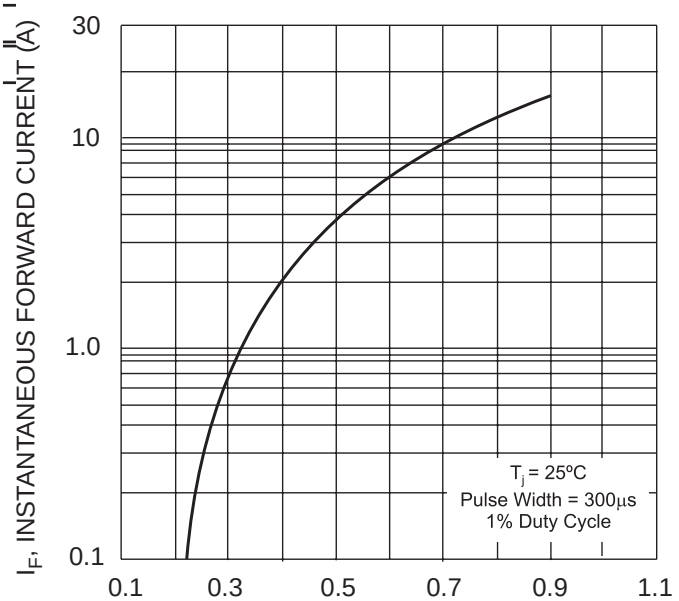
Characteristic	Symbol	1N5820	1N5821	1N5822	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current (Note 1) @ T_L = 95°C	I_O	3.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) @ T_L = 75°C	I_{FSM}	80			A
Forward Voltage (Note 2) @ I_F = 3.0A @ I_F = 9.4A	V_{FM}	0.475 0.850	0.500 0.900	0.525 0.950	V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage (Note 2) @ T_A = 100°C	I_{RM}	2.0 20			mA
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	40			°C/W
	$R_{\theta JL}$	10			
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125			°C

Notes:
1. Measured at ambient temperature at a distance of 9.5mm from the case.
2. Short duration pulse test used to minimize self-heating effect.
3. Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5 x 2.5" (63.5 x 63.5mm) copper pad.
4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.



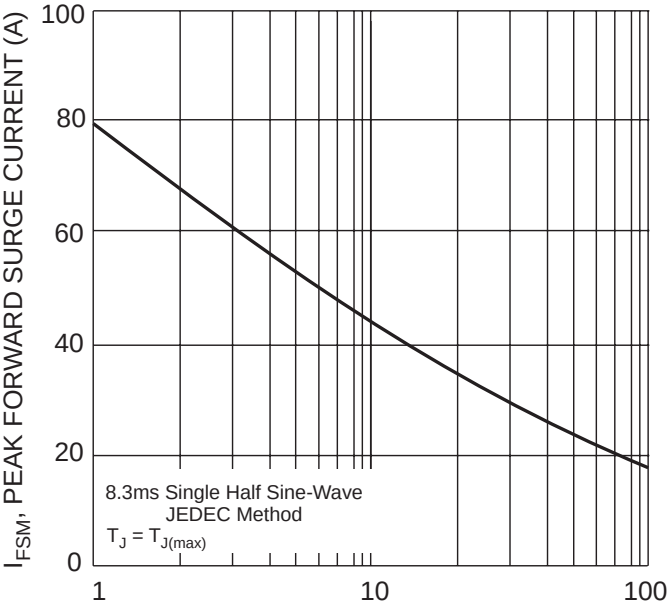
T_L, LEAD TEMPERATURE (ºC)

Fig. 1 Forward Current Derating Curve



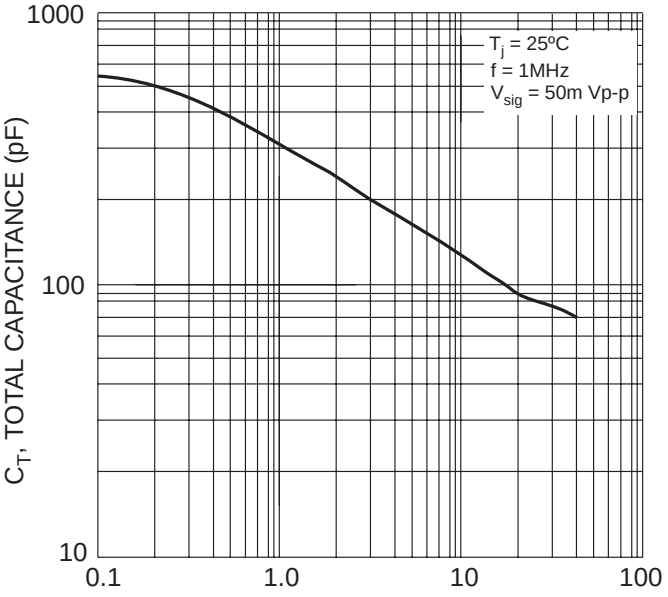
V_F, INSTANTANEOUS FORWARD VOLTAGE (V)

Fig. 2 Typical Forward Voltage Characteristics



NUMBER OF CYCLES AT 60 Hz

Fig. 3 Peak Forward Surge Current



V_R, REVERSE VOLTAGE (V)

Fig. 4 Typical Total Capacitance

Ordering Information (Note 5)

Device	Packaging	Shipping
1N5820-B	DO-201AD	500 Bulk
1N5820-T	DO-201AD	1.2K/Tape & Reel, 13-inch
1N5821-B	DO-201AD	500 Bulk
1N5821-T	DO-201AD	1.2K/Tape & Reel, 13-inch
1N5822-B	DO-201AD	500 Bulk
1N5822-T	DO-201AD	1.2K/Tape & Reel, 13-inch

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf

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