

Features and Benefits

- 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 1)**

Mechanical Data

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

Ordering Information (Note 2)

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

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	1N5820	1N5821	1N5822	Unit
Peak Repetitive Reverse Voltage	V_{RRM}				
Working Peak Reverse Voltage	V_{RWM}	20	30	40	V
DC Blocking Voltage (Note 3)	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current (Note 4)	I_O		3.0		A
			@ $T_L = 95^\circ\text{C}$		
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}		80		A
			@ $T_L = 75^\circ\text{C}$		

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 5)	$R_{\theta JA}$	40	$^\circ\text{C/W}$
	$R_{\theta JL}$	10	
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	1N5820	1N5821	1N5822	Unit
Forward Voltage @ $I_F = 3.0\text{A}$ @ $I_F = 9.4\text{A}$	V_{FM}	0.475	0.500	0.525	V
		0.850	0.900	0.950	
Peak Reverse Current at Rated DC Blocking Voltage (Note 3)	I_{RM}	@ $T_A = 25^\circ\text{C}$	2.0		mA
		@ $T_A = 100^\circ\text{C}$	20		

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
 2. For packaging details, go to our website at <http://www.diodes.com>.
 3. Short duration pulse test used to minimize self-heating effect.
 4. Measured at ambient temperature at a distance of 9.5mm from the case
 5. 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.

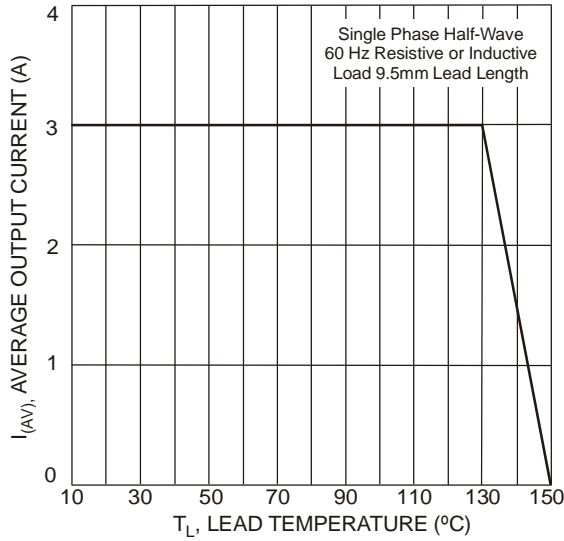


Fig. 1 Forward Current Derating Curve

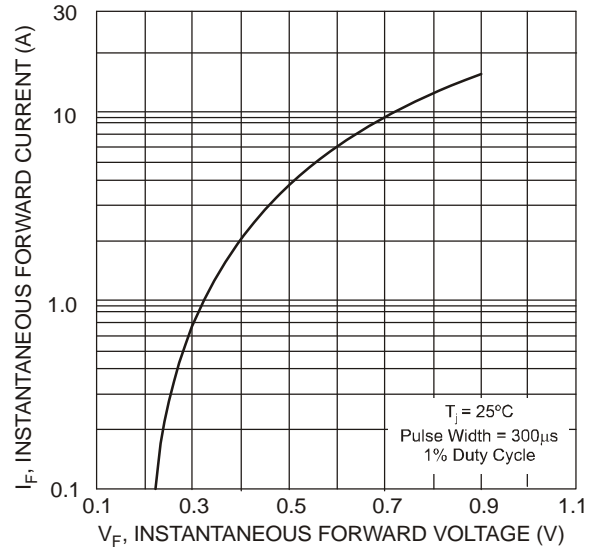


Fig. 2 Typical Forward Voltage Characteristics

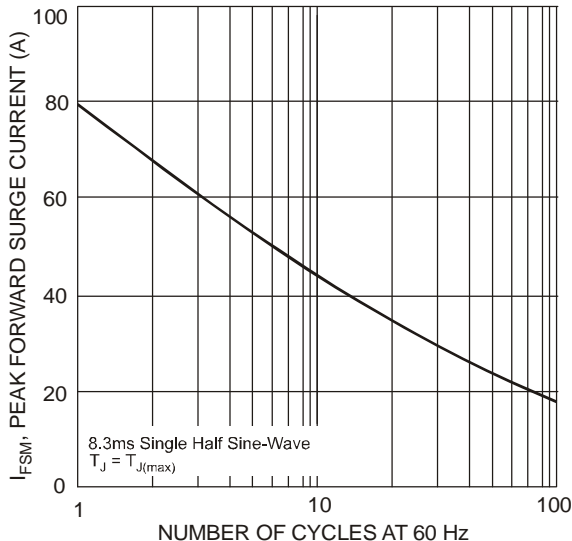


Fig. 3 Peak Forward Surge Current

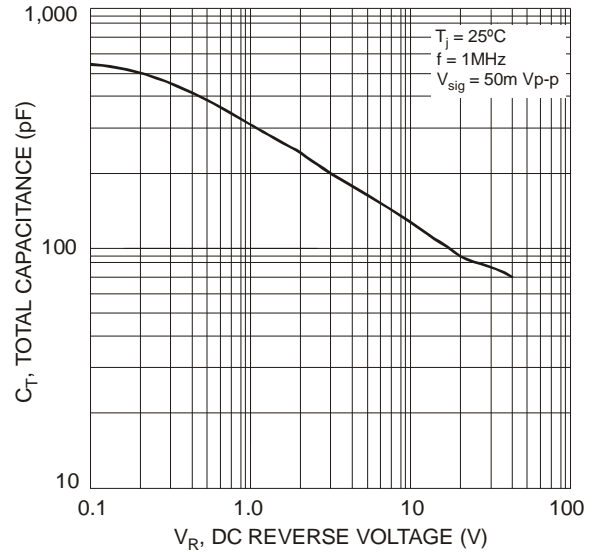
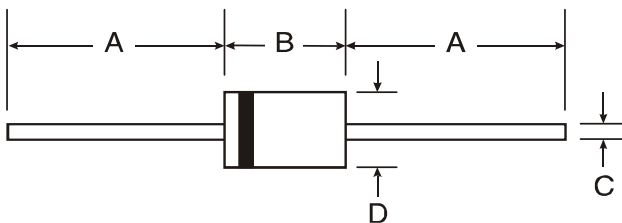


Fig. 4 Typical Total Capacitance

Package Outline Dimensions



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		

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