

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 (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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 (e3)
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 1.1 grams (approximate)

Ordering Information (Note 4)

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:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Maximum Ratings @T_A = 25°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 5)	V _R				
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	V
Average Rectified Output Current (Note 6)	I _O		3.0		A
		@ T _L = 95°C			
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}		80		A
		@ T _L = 75°C			

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance (Note 7)	R _{θJA}	40	°C/W
	R _{θJL}	10	
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	1N5820	1N5821	1N5822	Unit
Forward Voltage	V _{FM}	@ I _F = 3.0A	0.475	0.500	0.525
		@ I _F = 9.4A	0.850	0.900	0.950
Peak Reverse Current at Rated DC Blocking Voltage (Note 5)	I _{RM}	@ T _A = 25°C	2.0		
		@ T _A = 100°C	20		

- Notes:
5. Short duration pulse test used to minimize self-heating effect.
 6. Measured at ambient temperature at a distance of 9.5mm from the case
 7. 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.

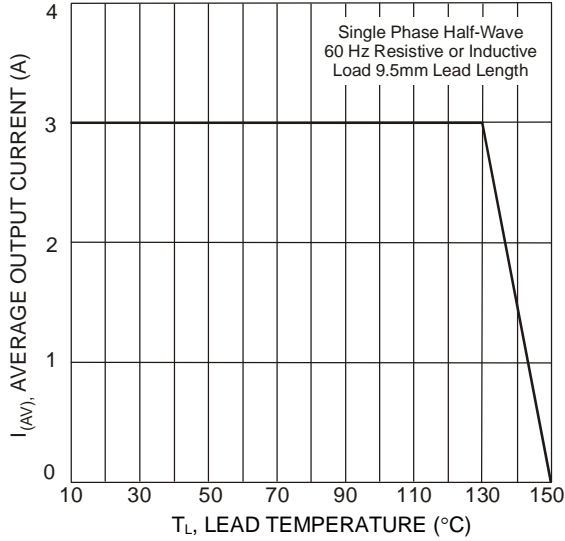


Fig. 1 Forward Current Derating Curve

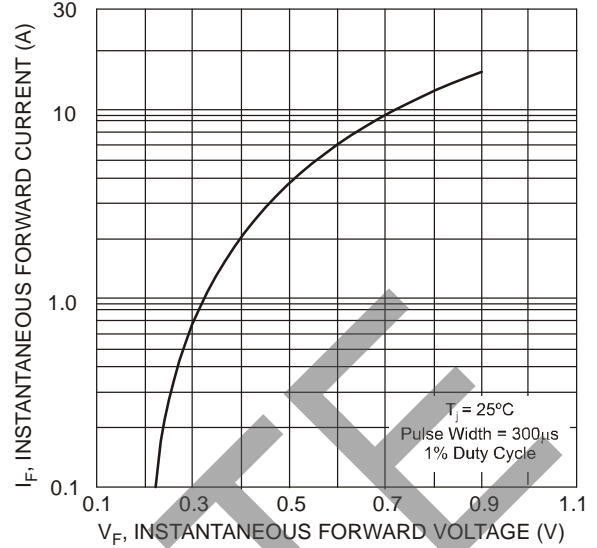


Fig. 2 Typical Forward Voltage Characteristics

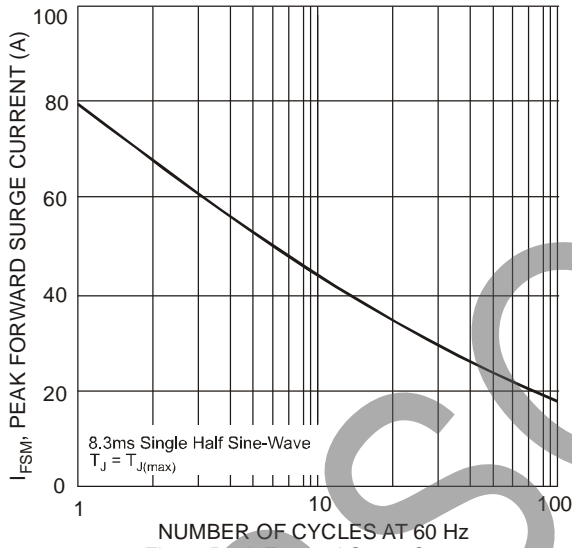


Fig. 3 Peak Forward Surge Current

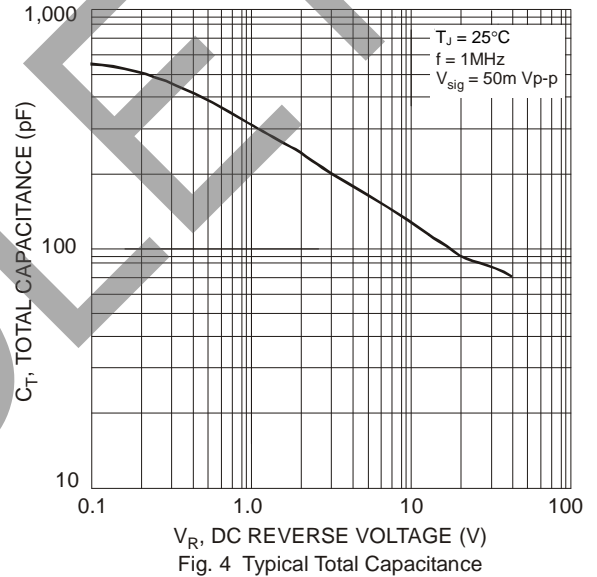
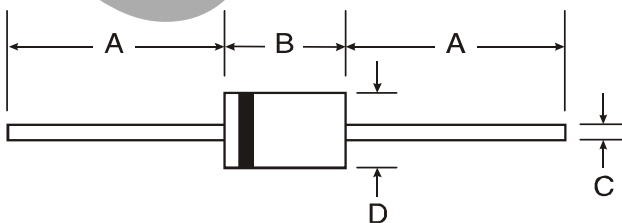


Fig. 4 Typical Total Capacitance

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

DO-201AD



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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