



UG3001 - UG3005

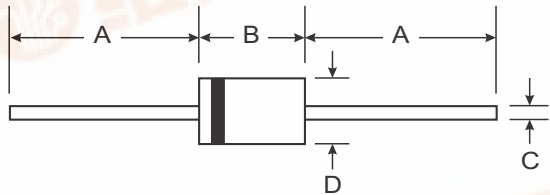
3.0A ULTRA-FAST GLASS PASSIVATED RECTIFIER

Features

- Glass Passivated Die Construction
- Ultra-Fast Switching for High Efficiency
- Surge Overload Rating to 125A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**

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 — Tin. Plated Leads Solderable per MIL-STD-202, Method 208 **(e3)**
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Last Page
- Weight: 1.1 grams (approximate)



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		

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	UG3001	UG3002	UG3003	UG3004	UG3005	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 5)	V_{RRM} V_{RWM} V_R	50	100	200	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	V
Average Rectified Output Current (Note 1) @ $T_A = 55^{\circ}C$	I_O	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I_{FSM}	125					A
Forward Voltage @ $I_F = 3.0A$	V_{FM}	0.95			1.25	1.7	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 5) @ $T_A = 25^{\circ}C$ @ $T_A = 100^{\circ}C$	I_{RM}	5.0 100					μA
Reverse Recovery Time (Note 3)	t_{rr}	50				75	ns
Typical Total Capacitance (Note 2)	C_T	60				30	pF
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	35					$^{\circ}C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150					$^{\circ}C$

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.
 5. Short duration pulse test used to minimize self-heating effect.



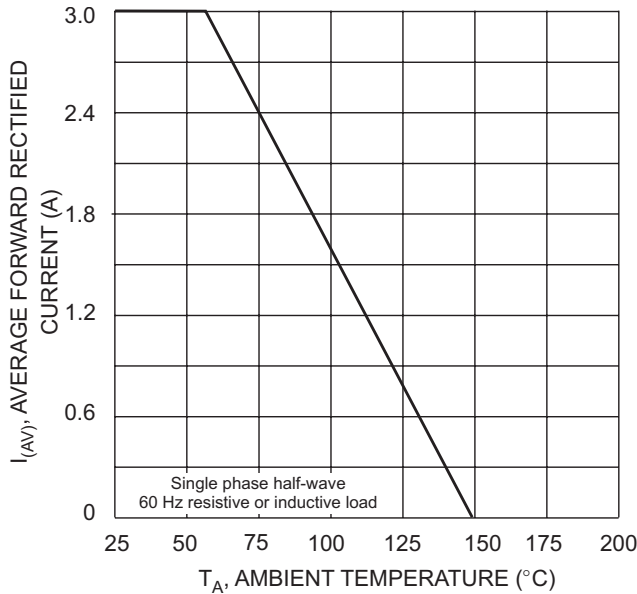


Fig. 1 Forward Current Derating Curve

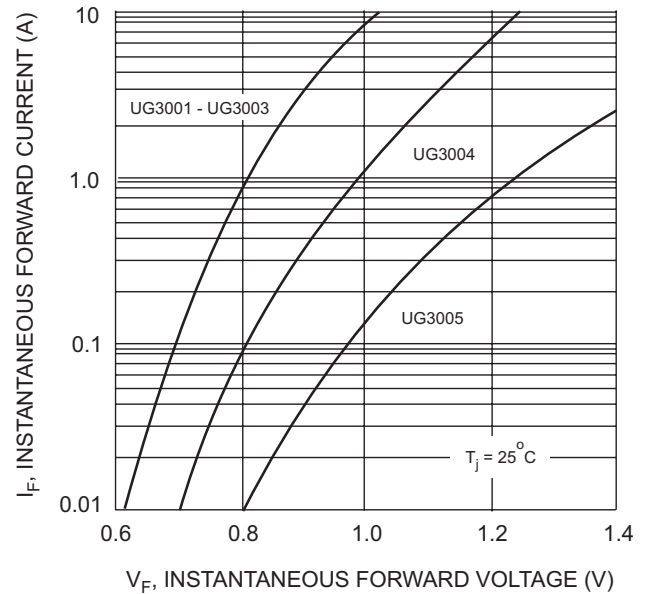


Fig. 2 Typical Forward Characteristics

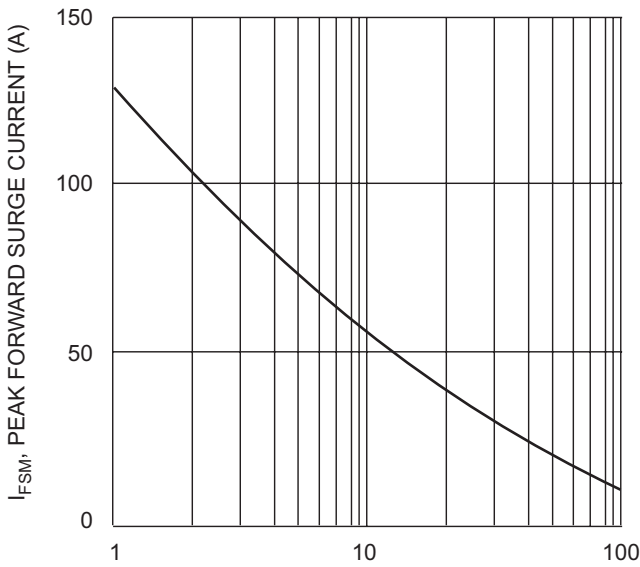


Fig. 3 Peak Forward Surge Current

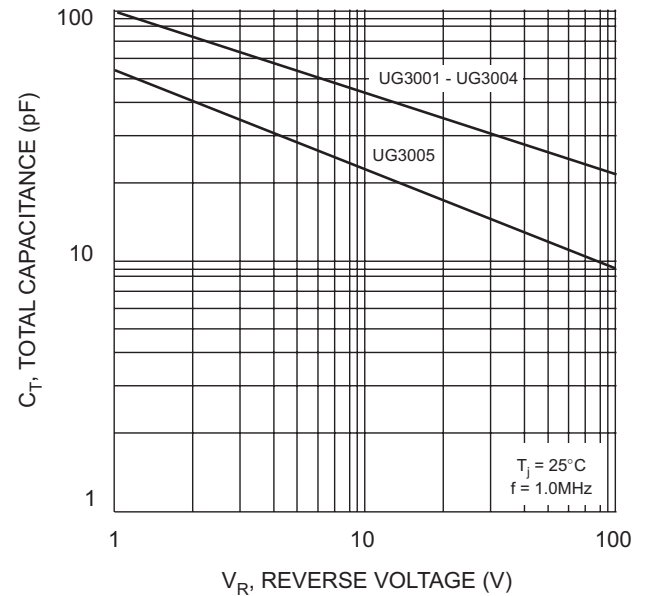
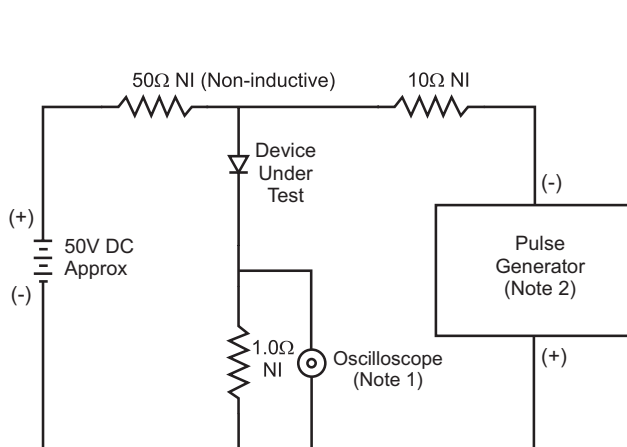
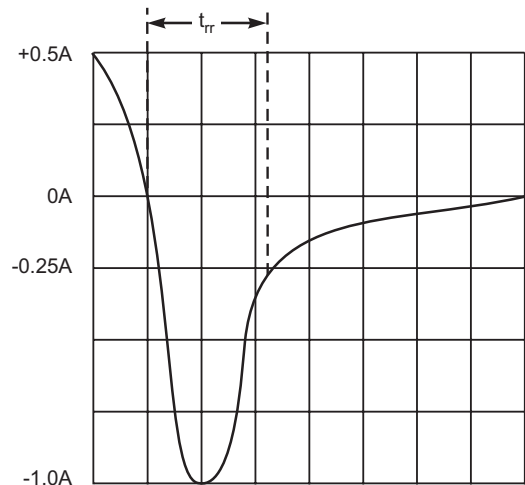


Fig. 4 Typical Total Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



Ordering Information (Note 6)

Device	Packaging	Shipping
UG3001-B	DO-201AD	500/Bulk
UG3001-T	DO-201AD	1.2K/Tape & Reel, 13-inch
UG3002-B	DO-201AD	500/Bulk
UG3002-T	DO-201AD	1.2K/Tape & Reel, 13-inch
UG3003-B	DO-201AD	500/Bulk
UG3003-T	DO-201AD	1.2K/Tape & Reel, 13-inch
UG3004-B	DO-201AD	500/Bulk
UG3004-T	DO-201AD	1.2K/Tape & Reel, 13-inch
UG3005-B	DO-201AD	500/Bulk
UG3005-T	DO-201AD	1.2K/Tape & Reel, 13-inch

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>

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