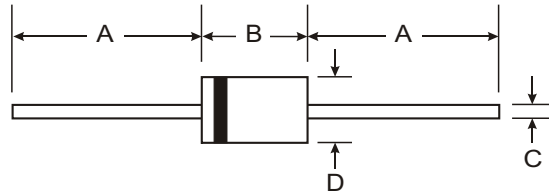


Features

- Glass Passivated Die Construction
- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0



Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.35 grams (approx.)
- Mounting Position: Any

DO-41		
Dim	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

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

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

Characteristic	Symbol	UG1001	UG1002	UG1003	UG1004	UG1005	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Working Peak Reverse Voltage	V_{RWM}						
DC Blocking Voltage	V_R						
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	V
Average Rectified Output Current (Note 1) @ $T_A = 55^\circ\text{C}$	I_O	1.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on Rated Load (JEDEC Method)	I_{FSM}	30					A
Forward Voltage @ $I_F = 1.0\text{A}$	V_{FM}	1.0			1.3	1.7	V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	I_{RM}	5.0 100					μA
Reverse Recovery Time (Note 3)	t_{rr}	50				75	ns
Typical Junction Capacitance (Note 2)	C_j	20				10	pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	95					K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150					$^\circ\text{C}$

- 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 $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$. See figure 5.

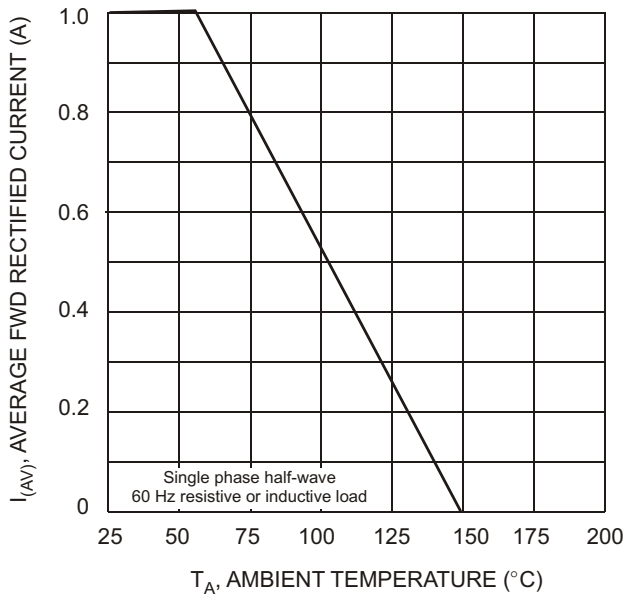


Fig. 1 Forward Current Derating Curve

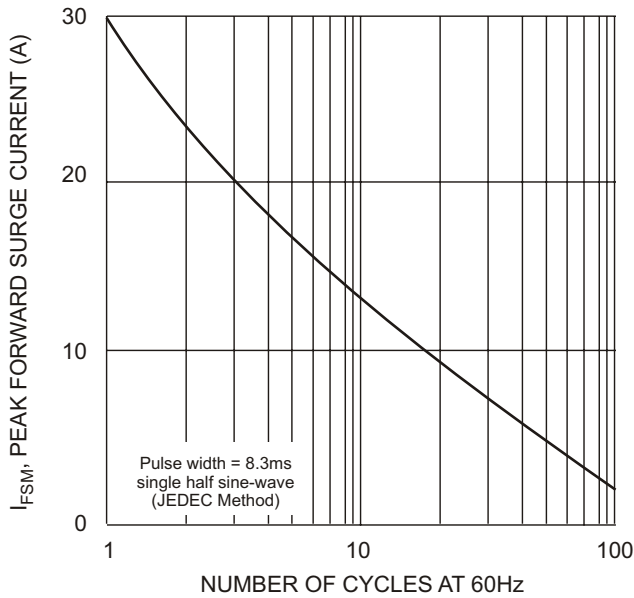
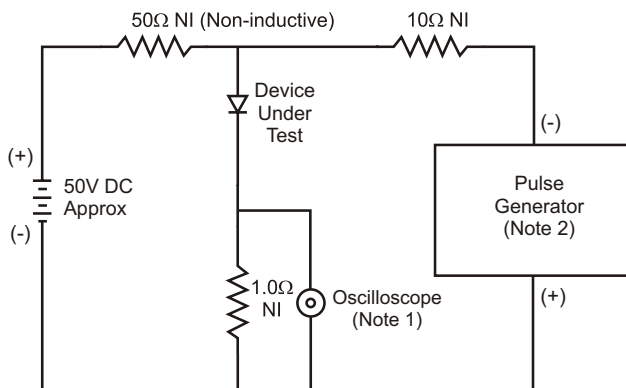


Fig. 3 Peak Forward Surge Current



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 Ω .

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

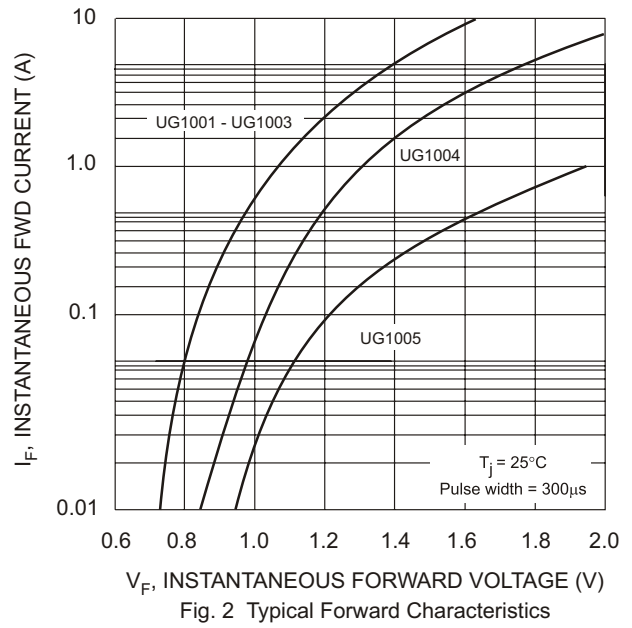


Fig. 2 Typical Forward Characteristics

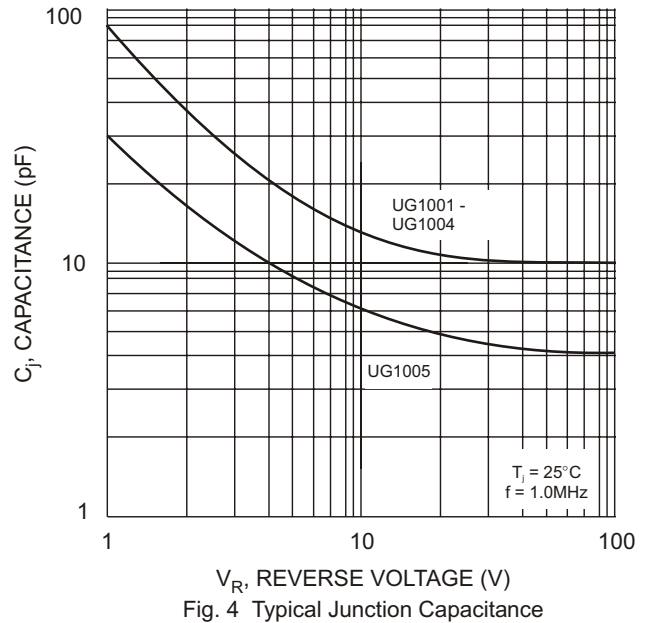


Fig. 4 Typical Junction Capacitance

