DIGITRON™ Semiconductors

High-reliability discrete products and engineering services since 1977

1N4148UR

GLASS SWITCHING DIODE

FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.
- Metallurgically bonded.
- Hermetically sealed.
- Double plug construction.

MAXIMUM RATINGS @ 25°C

Ratings	Symbol	Value	Unit
Junction and storage temperature range	T_J, T_{stg}	-65 to 175	°C
Thermal resistance, junction to ambient (1)	$R_{\Theta JA}$	325	°C/W
Thermal resistance, junction to endcap (2)	$R_{\Theta JEC}$	100	°C/W
Maximum breakdown voltage	$V_{(BR)}$	100	V
Working peak reverse voltage	V_{RWM}	75	V
Average rectified current @ T_A = 75°C (3)	I_O	200	mA
Non-repetitive sinusoidal surge current (tp = 8.3ms)	I_{FSM}	2	A(pk)

Note 1: T_A = 75°C on printed circuit board (PCB), PCB = FR4-0.0625” 1-layer 1-oz Cu, horizontal, in still air; pads = 0.061” x 0.105”; $R_{\Theta JA}$ with a defined PCB thermal resistance condition included, is measured at I_O = 200mA dc.
Note 2: See Figure 2
Note 3: See Figure 1

ELECTRICAL CHARACTERISTICS @ 25°C unless otherwise noted

Forward voltage	**Forward voltage**	**Reverse recovery time**	**Forward recovery time**	**Reverse current**	**Reverse current**	**Reverse current**	**Reverse current**	**Capacitance**	**Capacitance**
V_{F1} @ I_F = 10mA	**V_{F2} @ I_F = 100mA**	**t_{rr}**(1)	**T_{fr}**(2)	**I_{R1} @ 20V**	**I_{R2} @ 75V**	**I_{R3} @ 20V, T_A = 150°C**	**I_{R4} @ 75V, T_A = 150°C**	**C**(3)	**C**(4)
V	**V**	**ns**	**ns**	**nA**	**µA**	**µA**	**µA**	**pF**	**pF**
0.8	1.2	5	20	25	0.5	35	75	4.0	2.8

Note 1: I_F = I_R = 10mA, R_L = 100ohms
Note 2: I_F = 50mA
Note 3: V_R = 0V, f = 1MHz, V_{SIG} = 50mV (pk to pk)
Note 4: V_R = 1.5V, f = 1MHz, V_{SIG} = 50mV (pk tp pk)

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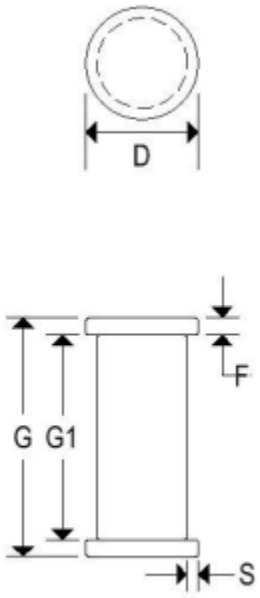
MECHANICAL CHARACTERISTICS

Case:	SOD-80 (DO-213AA)
Polarity:	Cathode band
Lead finish:	Tin/lead or lead free



	SOD-80			
	Inches		Millimeters	
	Min	Max	Min	Max
D	0.055	0.067	1.397	1.702
F	-	0.022	-	0.559
G	0.130	0.146	3.302	3.708
G1	0.100 REF		2.540 REF	
S	0.001	-	0.025	-

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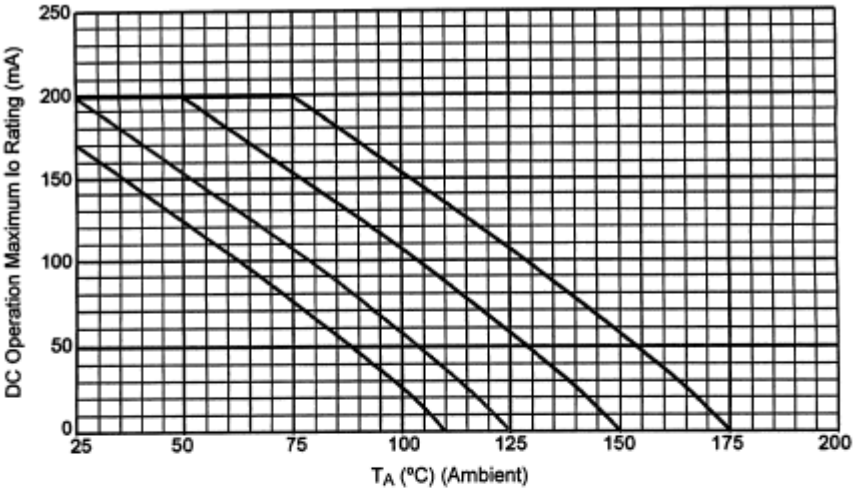

FIGURE 1 – Temperature – Current Derating

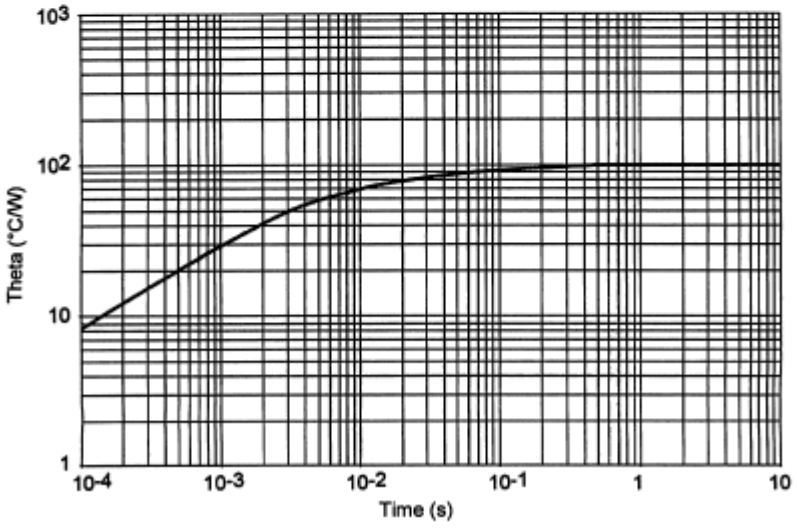

FIGURE 2 – Thermal Impedance