DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

FR101G-FR107G

FAST RECOVERY RECTIFIERS

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.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A = 25°c unless otherwise noted)

Characteristics	Symbol	FR							Units
		101G	102G	103G	104G	105G	106G	107	
Maximum Forward Rectified Current (Figure 2)	I_O	1.0							A
Maximum Forward Surge Current	I_{FSM}	30							A
Maximum Reverse Current $V_R = V_{RRM}$, T_J = 25°C $V_R = V_{RRM}$, T_J = 125°C	I_R	5.0 150							µA
Diode Junction Capacitance f = 1MHz and applied 4V DC Reverse Voltage	C_J	15							pF
Storage Temperature Range	T_{STG}	-65 to +175							°C
Operating Temperature Range	T_J	-55 to +125							°C
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Continuous Reverse Voltage	V_R	50	100	200	400	600	800	1000	V
Maximum Forward Voltage @ I_F = 1.0A	V_F	1.3	1.3	1.3	1.3	1.3	1.3	1.3	V
Maximum Reverse Recovery Time (2)	t_{rr}	150	150	150	150	250	500	500	ns

Note 1: Thermal resistance from junction to ambient and from junction to lead length 0.375” PCB mounted.
Note 2: Reverse recovery time test condition, I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A

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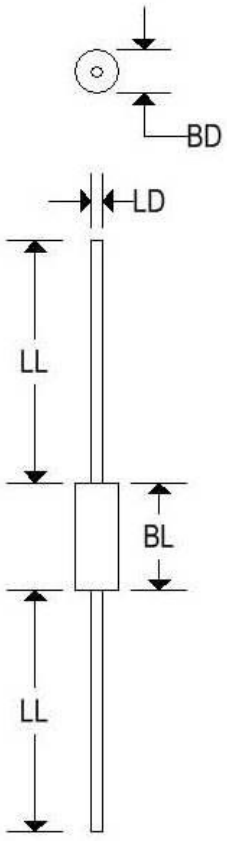
MECHANICAL CHARACTERISTICS

Case:	DO-41
Marking:	Alpha-numeric
Polarity:	Cathode band



	DO-41			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.107	-	2.720
BL	-	0.205	-	5.207
LD	0.028	0.034	0.711	0.864
LL	1.000	-	25.400	-

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FIG.1-TYPICAL FORWARD CHARACTERISTICS

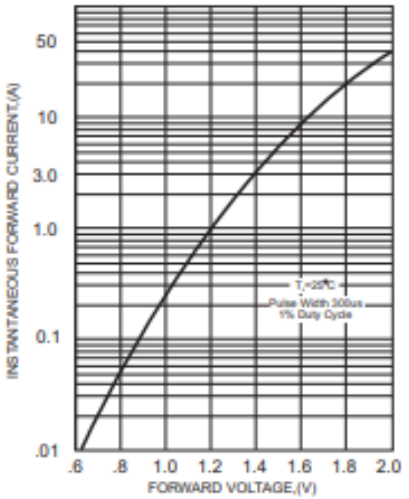


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

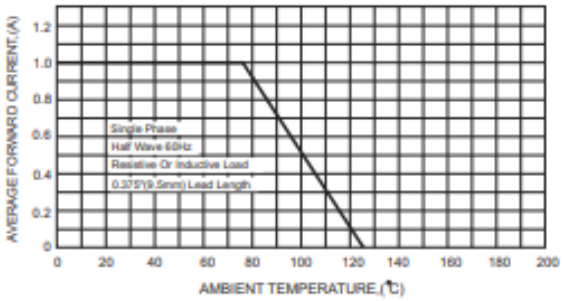
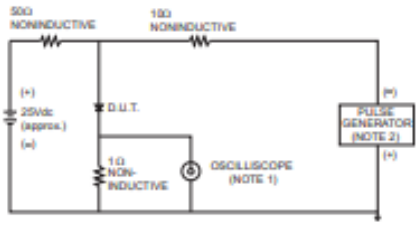


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm,22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

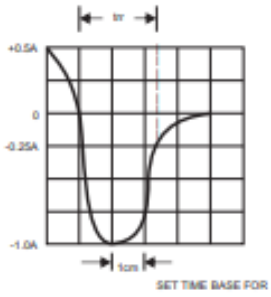


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

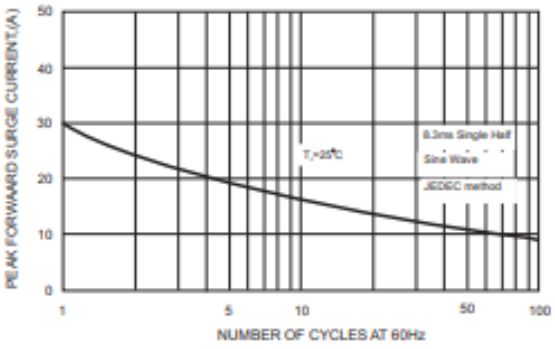


FIG.5-TYPICAL JUNCTION CAPACITANCE