TOP ONE SEMI CONDUCTOR

FAST RECOVERY RECTIFIER

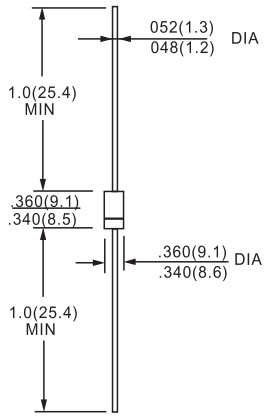
FR601 THRU FR608

50V-1000V 6.0A

FEATURES

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability

R-6



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 2.1 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Epoxy: UL 94V-O rate flame retardant

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Characteristic	Symbol	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @T_A = 55°C	I_O	6.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	200							A
Forward Voltage @I_F = 6.0A	V_{FM}	1.2							V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 100°C	I_{RM}	10 200							μA
Reverse Recovery Time (Note 2)	t_{rr}	150				250	500		nS
Typical Junction Capacitance (Note 3)	C_j	100							pF
Operating Temperature Range	T_j	-65 to +125							°C
Storage Temperature Range	T_{STG}	-65 to +150							°C

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
2. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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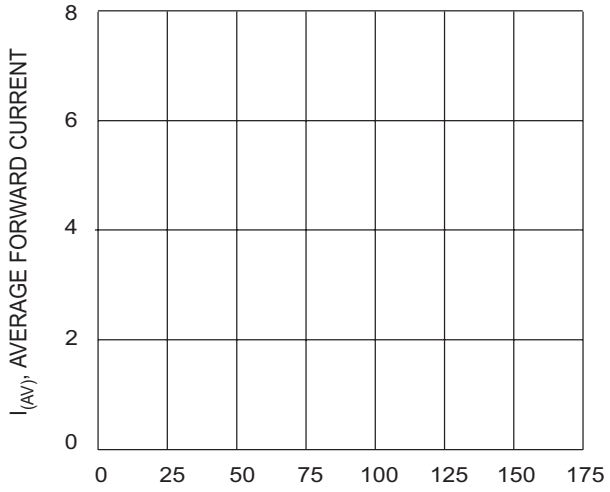


Fig. 1, Typical Forward Current Derating Curve

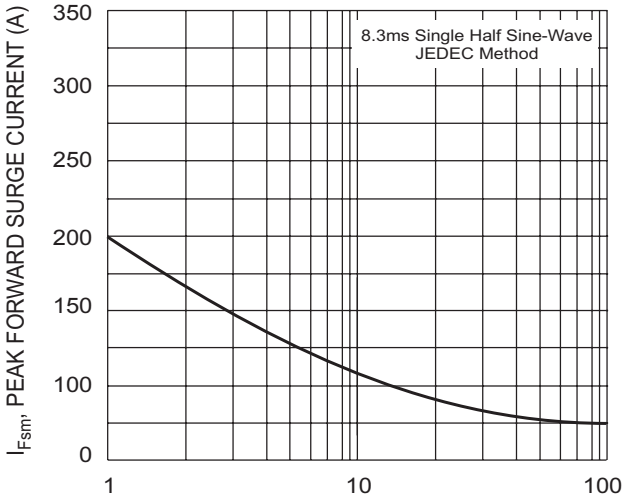


Fig. 2 Max Non-Repetitive Peak Surge Current

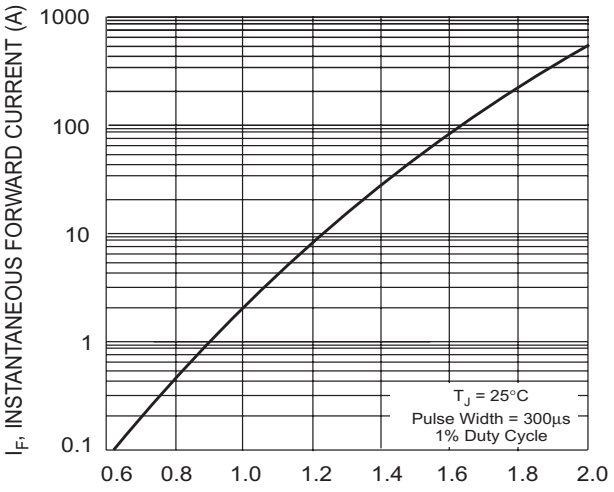


Fig. 3, Typical Instantaneous Forward Characteristics

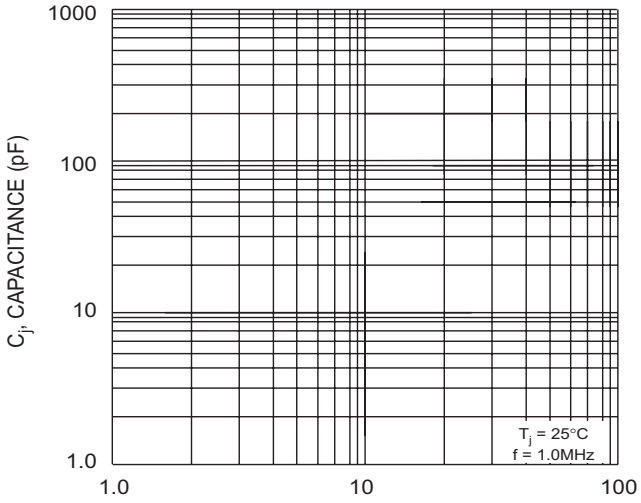
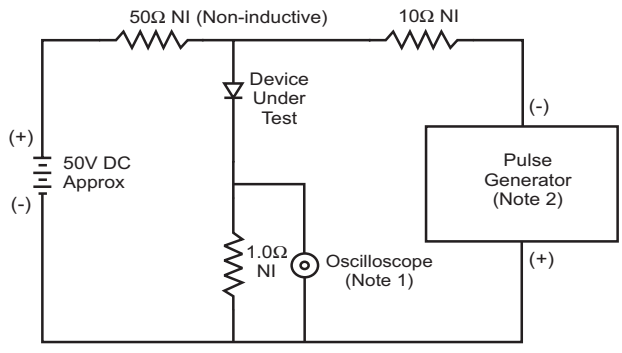


Fig. 4 Typical Junction Capacitance



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

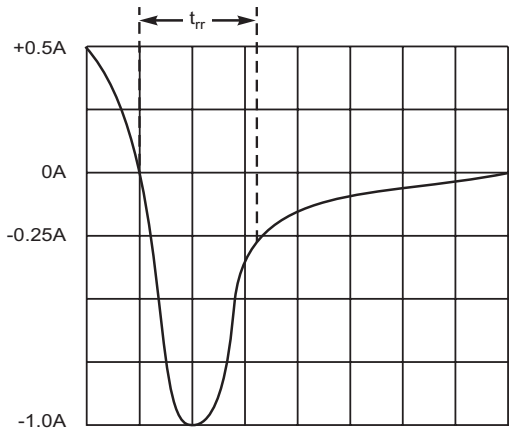


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit