FR601 THRU FR607

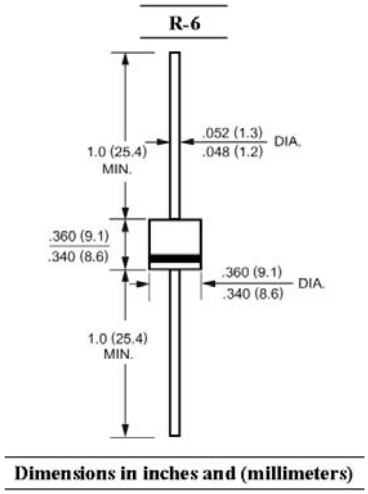
FAST RECOVERY RECTIFIERS

Reverse Voltage: 50 to 1000 V

Forward Current: 6 A

Features

- Low forward voltage drop
- Low leakage
- High current capability
- High reliability
- High current surge
- Fast switching for high efficiency



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Molded plastic, R-6
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solder per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load, for capacitive load, derate current by 20%

Parameter	Symbols	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T_A = 75 °C	$I_{F(AV)}$	6							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	300							A
Maximum Instantaneous Forward Voltage at 6 A	V_F	1.3							V
Maximum DC Reverse Current T_A = 25 °C	I_R	10							μA
at Rated DC Blocking Voltage T_A = 100 °C		200							
Maximum Reverse Recovery Time [1]	t_{rr}	150				250	500		°C
Typical Junction Capacitance [2]	C_J	150							pF
Operating and Storage Temperature Range	T_j, T_{stg}	- 65 to + 150							°C

[1] Reverse recovery time test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A

[2] Measured at 1 MHz and applied reverse voltage of 4 V

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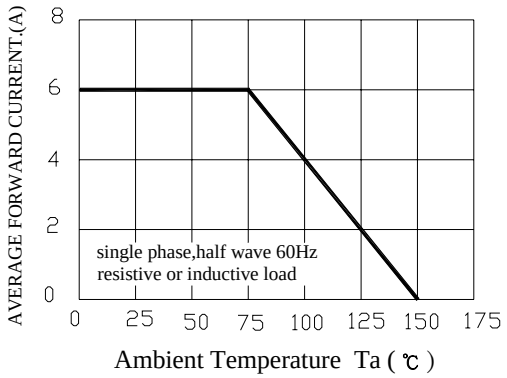
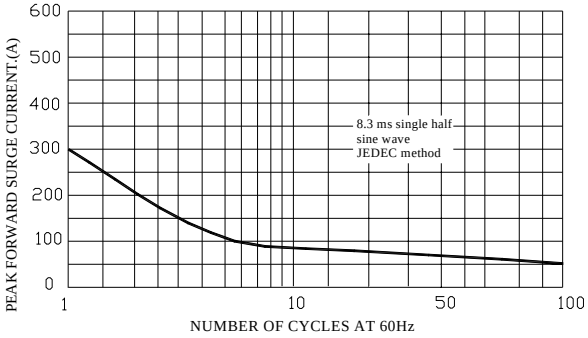
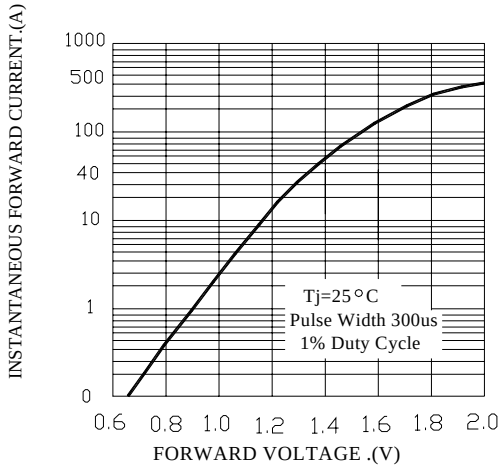
TYPICAL FORWARD CURRENT
DERATING CURVE



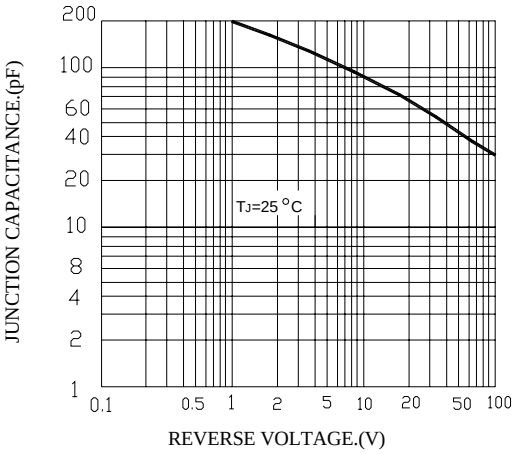
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT



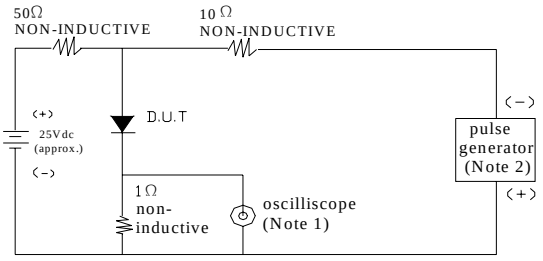
TYPICAL FORWARD CHARACTERISTICS



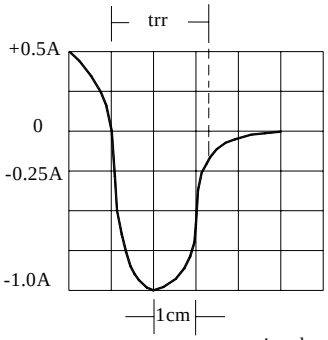
TYPICAL JUNCTION CAPACITANCE



TEST CIRCUIT DIAGRAM AND REVERSE
RECOVERY TIME CHARACTERISTICS



Notes:1.Rise time =2ns max. Input impedance=1megohm.22pF
2. Rise time=10ns max. Source impedance=50ohms.



set time base for
50/10ns/cm