

FR601 THRU FR607

FAST RECOVERY RECTIFIERS

Reverse Voltage: 50 to 1000 V

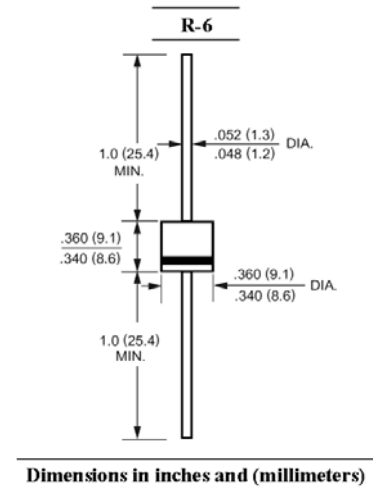
Forward Current: 6 A

Features

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

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



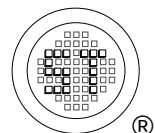
Maximum Ratings and Electrical Characteristics

Ratings at $T_a = 25^\circ\text{C}$ 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}	200							A
Maximum Instantaneous Forward Voltage at 6 A	V _F	1.3							V
Maximum DC Reverse Current T _a = 25 °C at Rated DC Blocking Voltage T _a = 100 °C	I _R	10 200							μA
Maximum Reverse Recovery Time ¹⁾	t _{rr}	150				250	500		nS
Typical Junction Capacitance ²⁾	C _J	150							pF
Operating and Storage Temperature Range	T _j , T _{stg}	- 55 to + 150							°C

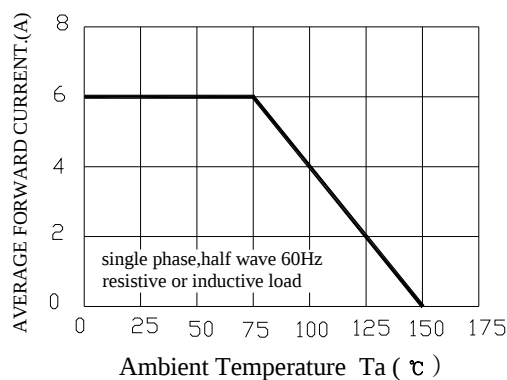
¹⁾ Reverse recovery time test conditions: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $t_{rr} = 0.25\text{ A}$

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

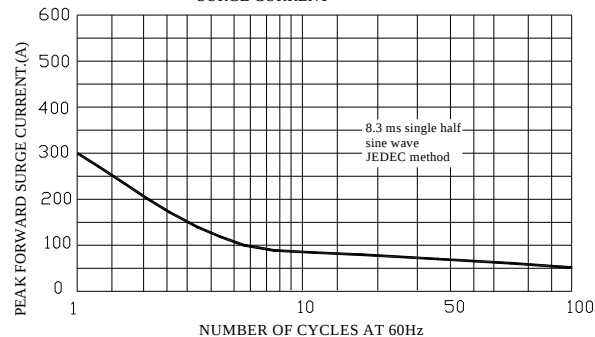


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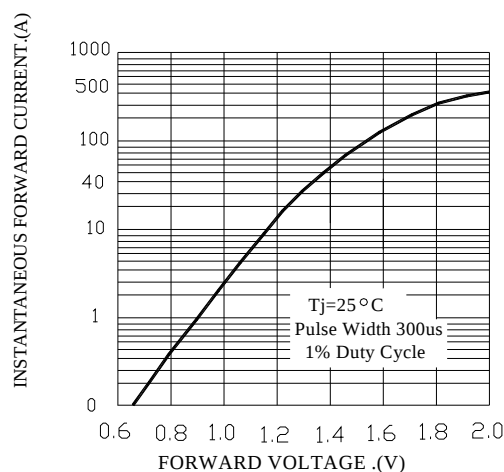
TYPICAL FORWARD CURRENT
DERATING CURVE



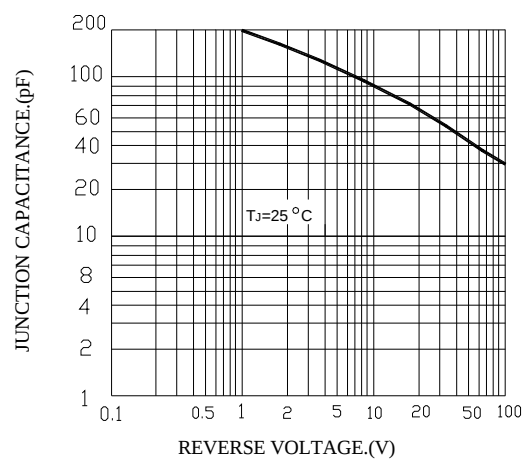
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT



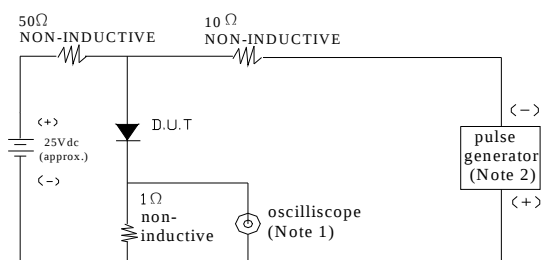
TYPICAL FORWARD CHARACTERISTICS



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.

