FR801 - FR805

FAST RECOVERY RECTIFIER DIODES

PRV : 50 - 600 Volts
Io : 8.0 Amperes

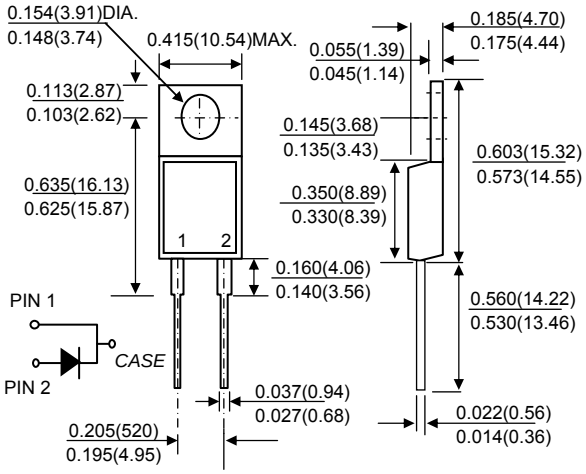
FEATURES :

* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Fast switching for high efficiency
* Pb / RoHS Free

MECHANICAL DATA :

* Case : Epoxy, Molded
* Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
* Polarity: As marked
* Mounting Position: Any
* Weight : 2.24 grams (Approximately)

TO-220AC



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.

RATING	SYMBOL	FR801	FR802	FR803	FR804	FR805	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Forward Current Half-Wave Resistive Load Tc = 100 °C	$I_{F(AV)}$	8.0					A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	150					A
Maximum Peak Forward Voltage at I_F = 8 A	V_F	1.3					V
Maximum Reverse Current at Tc = 25 °C	I_R	10					µA
Rated DC Blocking Voltage Tc = 100 °C	$I_{R(H)}$	150					µA
Maximum Reverse Recovery Time (Note 1)	Trr	150				250	ns
Typical Junction Capacitance(Note 2)	C_J	70					pF
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175					°C

Notes :

(1) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, Irr = 0.25 A.

(2) Measured at 1.0MHz and applied reverse voltage of 4.0V.

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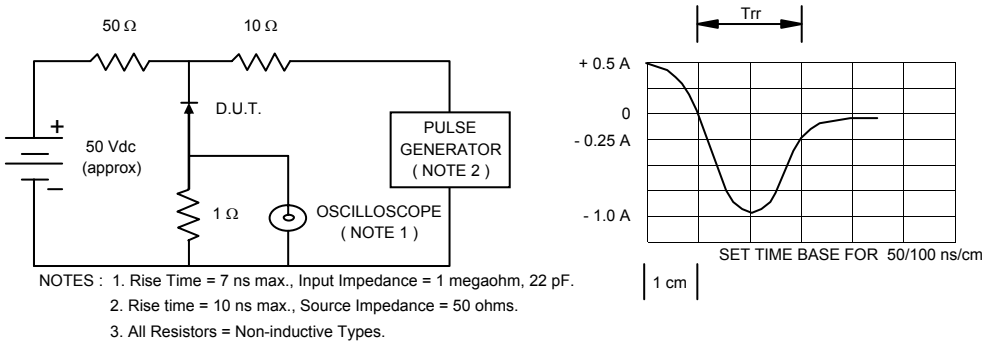
RATING AND CHARACTERISTIC CURVES (FR801 - FR805)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - FORWARD CURRENT DERATING CURVE

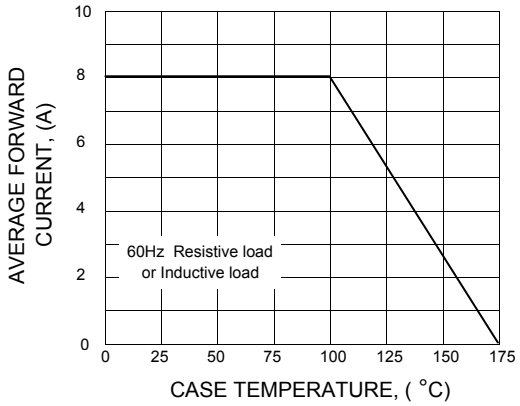


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

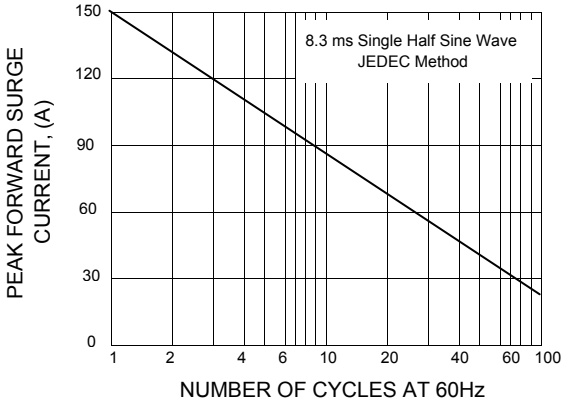


FIG.4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

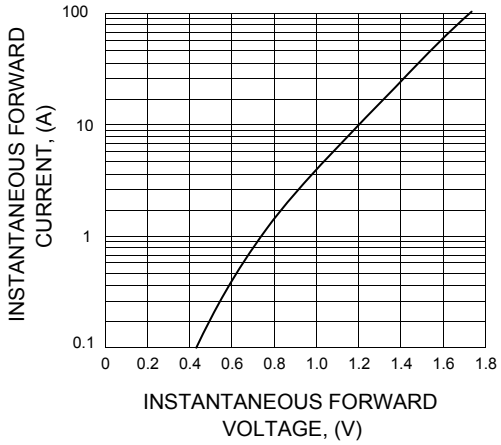
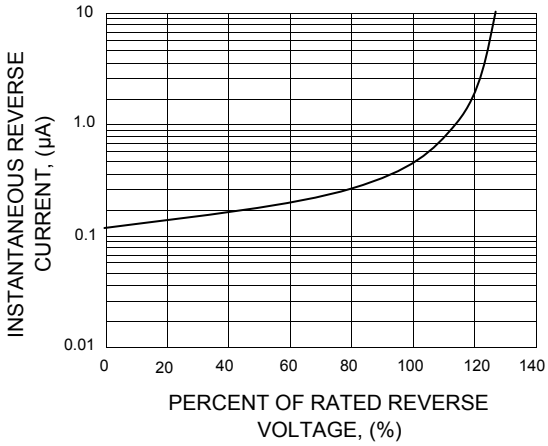


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



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