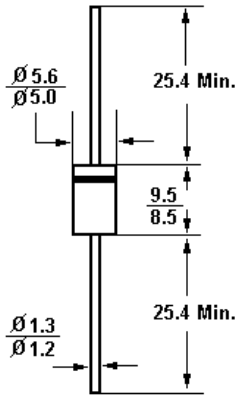
FR501 THRU FR507

FAST RECOVERY RECTIFIERS
Voltage – 50 to 1000 Volts
Current – 5.0 Amperes

DO-201AD



Dimensions in mm

Features

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

Mechanical Data

- **Case:** Molded plastic.
- **Lead:** MIL-STD-202E, method 208C guaranteed.
- **Mounting Position:** Any.

Absolute Maximum Ratings and Characteristics @ 25^{0}C unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	Symbols	FR501	FR502	FR503	FR504	FR505	FR505P	FR506	FR507	FR507 P	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	600	800	1000	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	420	560	700	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	800	`1000	1000	Volts
Maximum Average forward rectified current at T_A = 75 ^{O}C	I_O	5.0									Amps
Peak forward surge current 8.3ms single half sine-wave, superimposed on rated load (JEDEC method)	I_{FSM}	200									Amps
Typical junction capacitance (Note 2)	C_J	65									pF
Operating and storage temperature range	T_J ,T_{STG}	-65 to +150									^{O}C
Maximum instantaneous forward voltage At 3.0A DC	V_F	1.3									Volts
Maximum DC reverse current at rated DC blocking voltage T_A = 25 ^{O}C	I_R	10									µA
Maximum reverse recovery time (Note 1)	T_{rr}	150				250	150	500		250	nS
Maximum full load reverse current average Full cycle 375° (9.5mm) lead length at TL = 55℃	I_R	150									µA

1) test conditions: I_F = 0.5A, I_R = -1A, I_{rr} = -0.25A.

2) Measured at 1MH$_Z$ and applied reverse voltage of 4 volts.

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Dated : 13/12/2003

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FIG.1 - TYPICAL FORWARD CURRENT DERATING CURVE

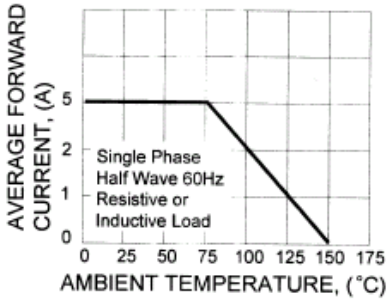


FIG. 2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

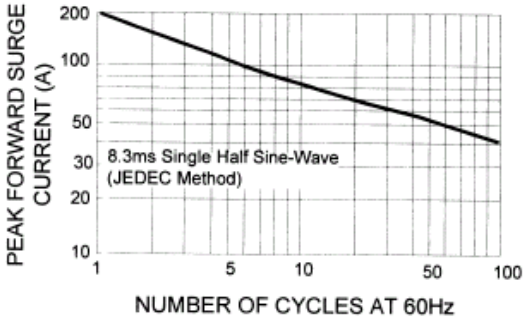


FIG.3 -TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

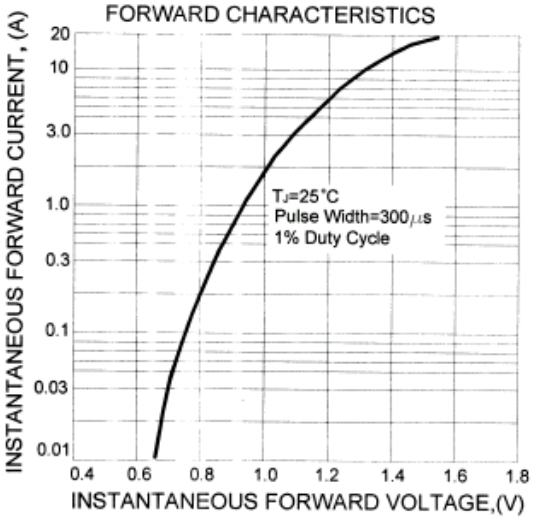


FIG.4- TYPICAL JUNCTION CAPACITANCE

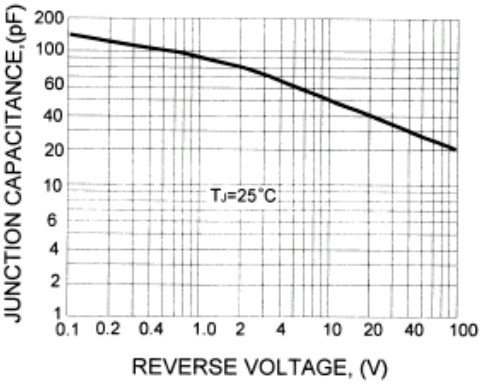
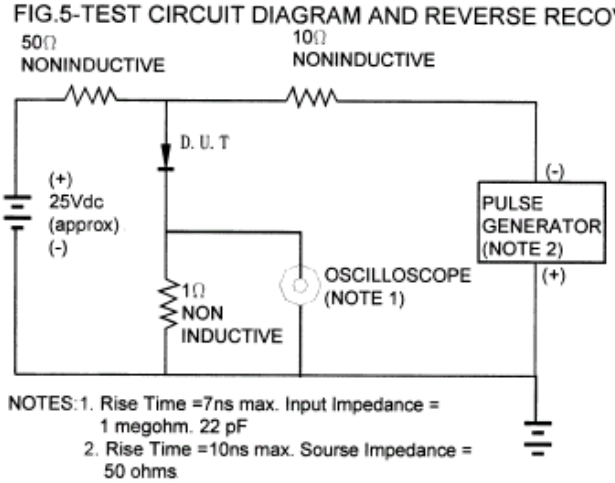
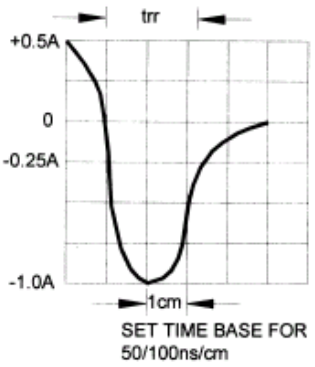


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC





NOTES:1. Rise Time =7ns max. Input Impedance = 1 megohm. 22 pF
2. Rise Time =10ns max. Sourse Impedance = 50 ohms