

FR501 THRU FR507

FAST RECOVERY RECTIFIERS

Voltage – 50 to 1000 Volts

Current – 5.0 Amperes

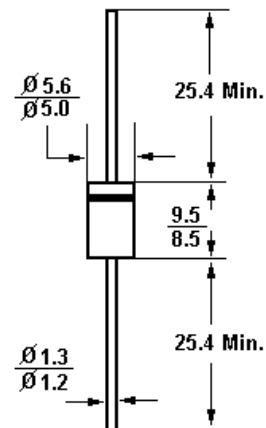
DO-201AD

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.



Dimensions in mm

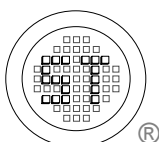
Absolute Maximum Ratings and Characteristics @ 25°C unless otherwise specified.

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 °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									°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 °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°C	I _R	150									μA

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

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



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 13/12/2003

FR501 THRU FR507

FIG.1 - TYPICAL FORWARD CURRENT DERATING CURVE

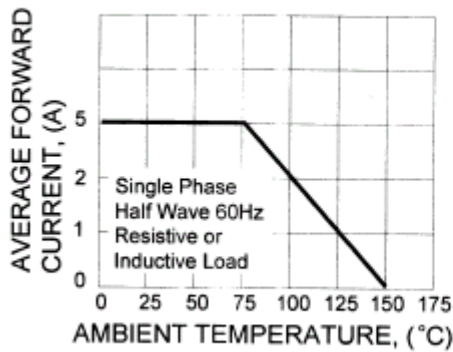


FIG. 2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

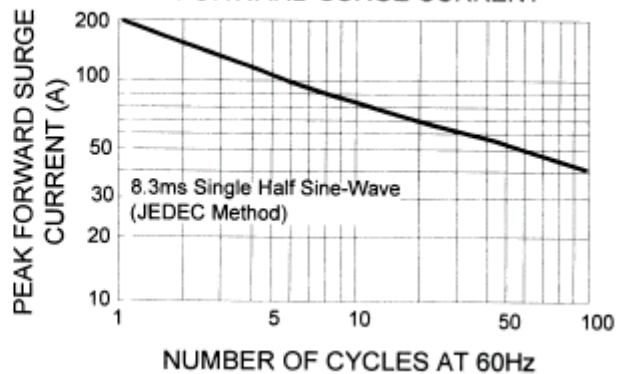


FIG.3 -TYPICAL INSTANTANEOUS

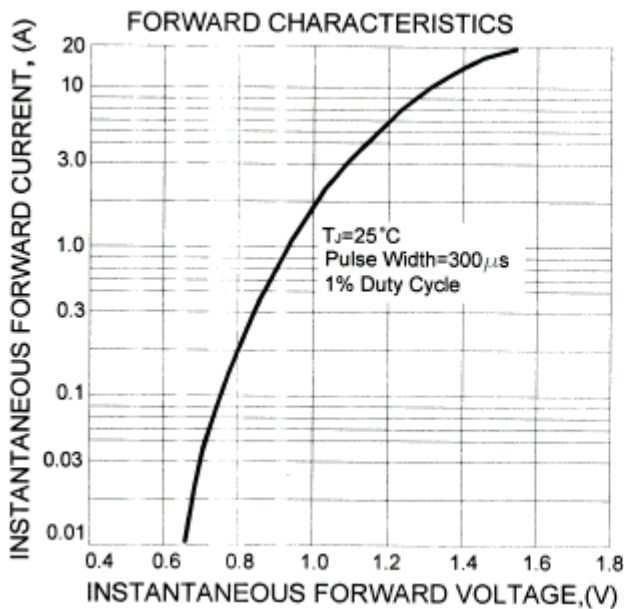


FIG.4- TYPICAL JUNCTION CAPACITANCE

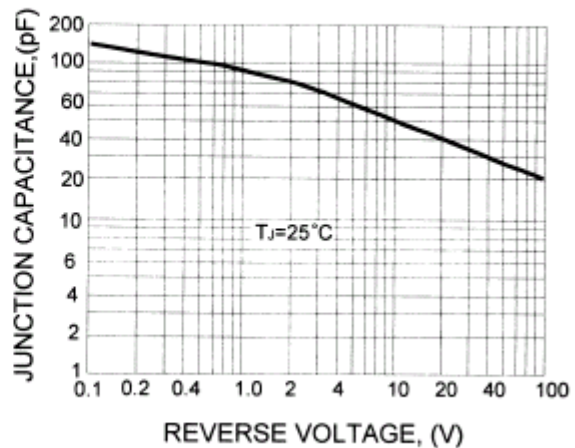
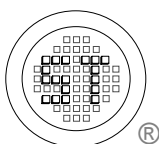
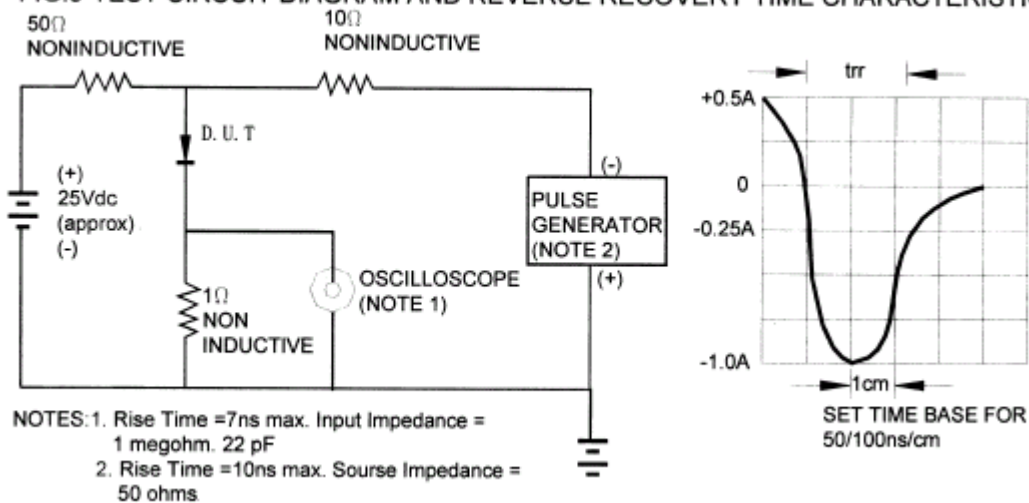
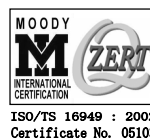


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 13/12/2003