

3.0 AMP FAST RECOVERY RECTIFIERS

FR301 THRU FR307 Vishay General Semiconductor

FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

MECHANICAL DATA

Case: Molded plastic

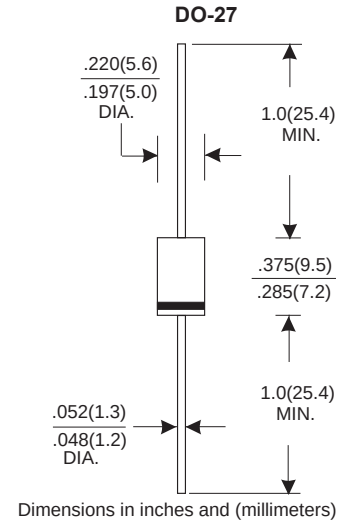
Epoxy: UL 94V-0 rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202,
method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 1.10 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

TYPE NUMBER	FR301	FR302	FR303	FR304	FR305	FR306	FR307	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at Ta=75°C								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)								A
Maximum Instantaneous Forward Voltage at 3.0A								V
Maximum DC Reverse Current Ta=25°C								μA
at Rated DC Blocking Voltage Ta=100°C								μA
Maximum Reverse Recovery Time (Note 1)	150				250	500		nS
Typical Junction Capacitance (Note 2)	60							pF
Operating and Storage Temperature Range Tj, Tstg	-65 — +150							°C

NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

FIG.1-TYPICAL FORWARD CHARACTERISTICS

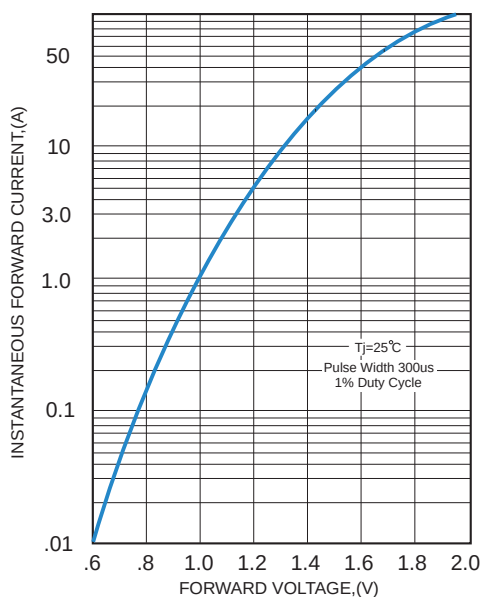


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

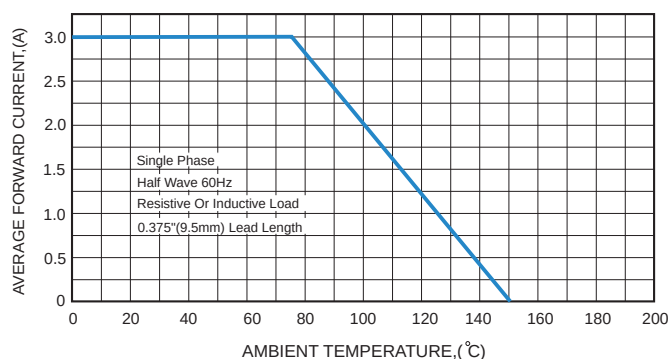


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

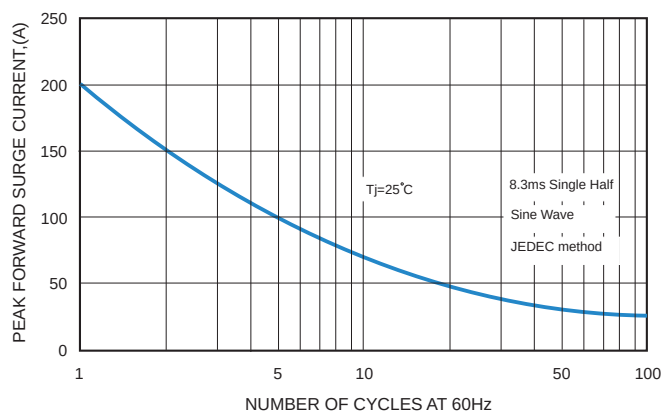
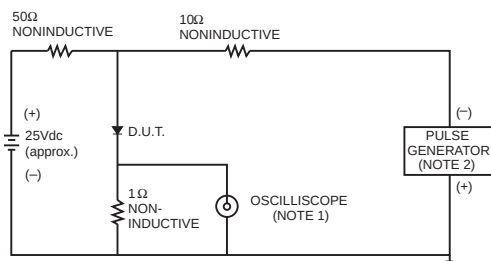


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

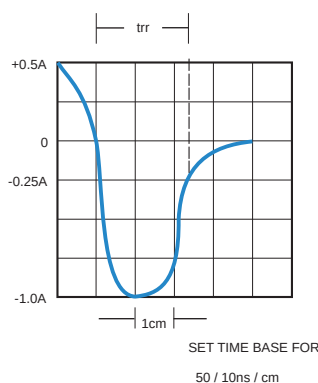


FIG.5-TYPICAL JUNCTION CAPACITANCE

