



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

BY396  
THRU  
BY399

**TECHNICAL SPECIFICATIONS OF FAST RECOVERY RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 3.0 Ampere**

**FEATURES**

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

**MECHANICAL DATA**

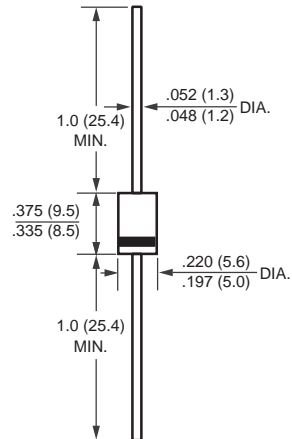
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 1.18 gram approx.

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings 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%.



DO-27



Dimensions in inches and (millimeters)

	SYMBOL	BY396	BY397	BY398	BY399	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	100	200	400	800	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	70	140	280	560	Volts
Maximum DC Blocking Voltage	V <sub>dc</sub>	100	200	400	800	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°C	I <sub>o</sub>	3.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200				Amps
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	1.3				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T <sub>A</sub> =25°C	I <sub>R</sub>	10				μAmps
Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T <sub>L</sub> = 55°C		150				
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	150			500	nSec
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	65				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150				°C

NOTES : 1. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A  
2. Measured at 1MHz and applied reverse voltage of 4.0 volts

# RATING AND CHARACTERISTIC CURVES (BY396 THRU BY399)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

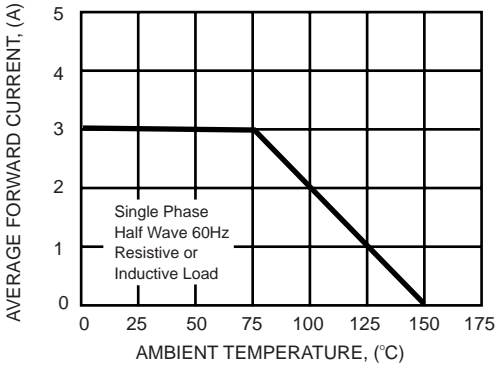


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

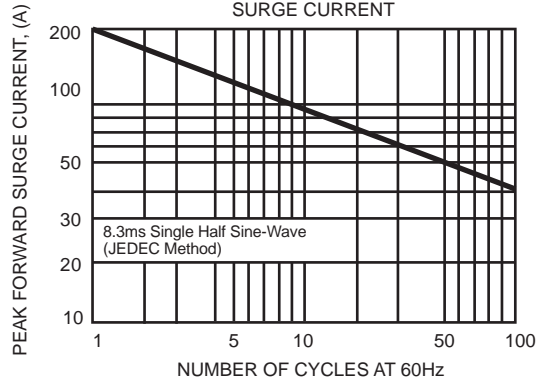


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

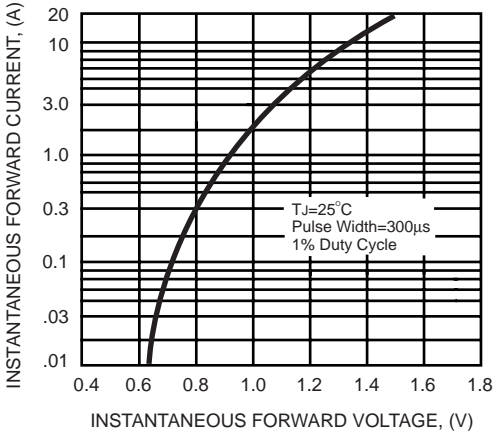


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

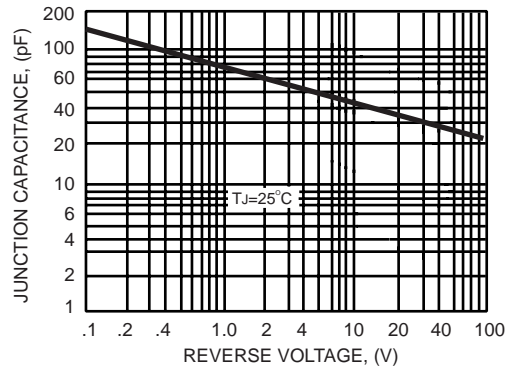
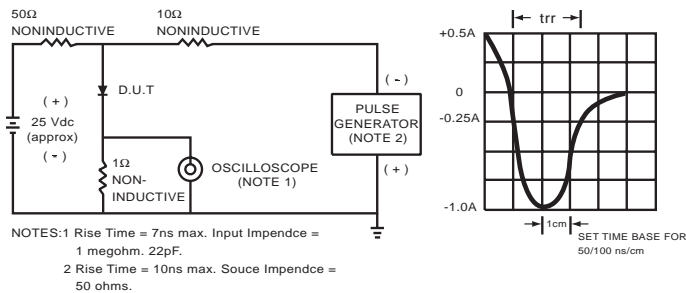


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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