



## FAST RECOVER RECTIFIER

BY396 THRU BY399

VOLTAGE RANGE  
CURRENT

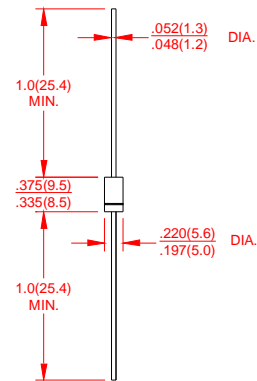
100 to 800 Volts  
3.0Ampere

### FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 grams



DO-27

Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

	SYMBOLS	BY396	BY397	BY398	BY399	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	400	800	Volts
Maximum RMS Voltage	$V_{RMS}$	70	140	280	560	Volts
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	800	Volts
Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	3.0				Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	100				Amps
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	1.3				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A = 25^\circ\text{C}$				$\mu\text{A}$
		$T_A = 100^\circ\text{C}$				
Maximum Reverse Recovery Time (Note 3) $T_J=25^\circ\text{C}$	$t_{rr}$	500				ns
Typical Junction Capacitance (Note 1)	$C_J$	28				pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	22				$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	(-55 to +150)				$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)				$^\circ\text{C}$

#### Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volts.
2. Thermal Resistance from junction to Ambient at .375”(9.5mm)lead length, P.C.board mounted.
3. Reverse Recovery Test Conditions:  $I_f=10\text{mA}$ ,  $I_r=10\text{mA}$ ,  $I_{rr}=1\text{A}$



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## RATING AND CHARACTERISTIC CURVES BY396 THRU BY399

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

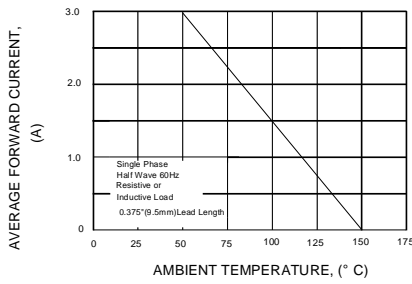


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

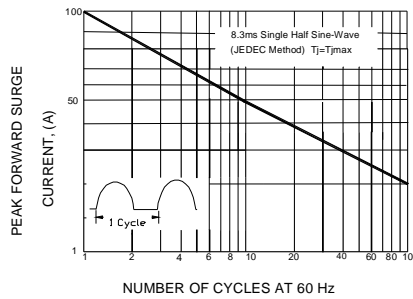


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

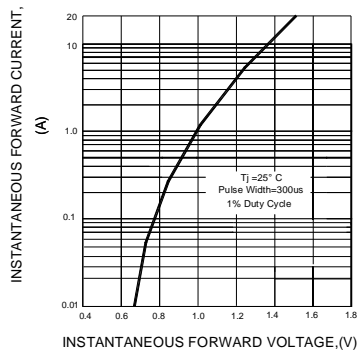


FIG.4-TYPICAL REVERSE CHARACTERISTICS

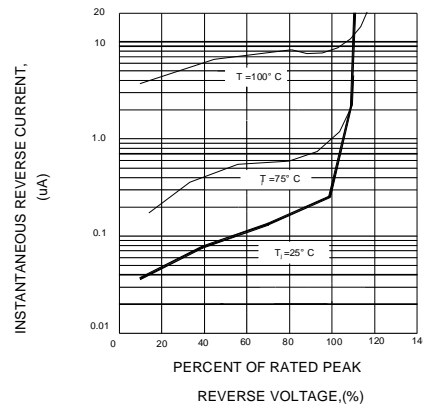


FIG.5-TYPICAL JUNCTION CAPACITANCE

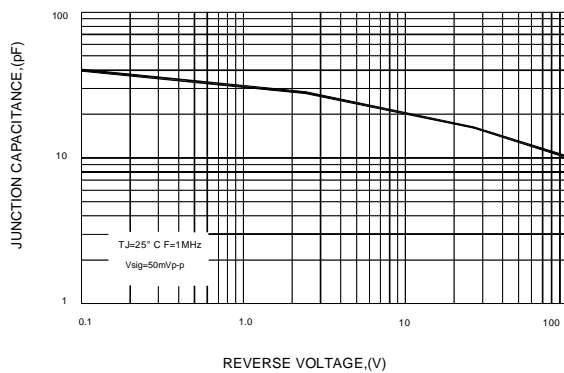


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

