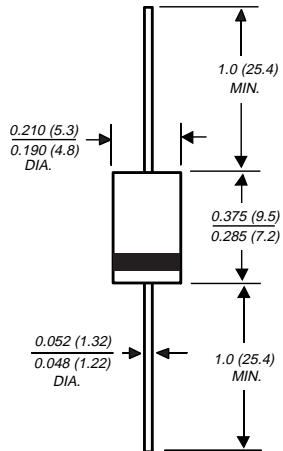


# BY396P THRU BY399P

## SOFT RECOVER FAST - SWITCHING PLASTIC RECTIFIER

Reverse Voltage - 100 to 800 Volts      Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Construction utilizes void-free molded plastic technique
- ◆ 3.0 Ampere operation at  $T_A=50^\circ\text{C}$  with no thermal runaway
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.1 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

	SYMBOLS	BY396P	BY397P	BY398P	BY399P	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 lengths at $T_A=50^\circ\text{C}$	$I_{(AV)}$	3.0				Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_A=50^\circ\text{C}$	$I_{FSM}$	100.0				Amps
Maximum repetitive peak forward surge (NOTE 1)	$I_{FRM}$	10.0				Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.25				Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$ 10.0 $T_A=100^\circ\text{C}$ 500.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 2)	$t_{rr}$	500.0				ns
Maximum forward recovery time at 100mA, $di/d = 50\text{A}/\mu\text{s}$	$t_{fr}$	1.0				$\mu\text{s}$
Typical junction capacitance (NOTE 3)	$C_J$	28.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$	22.0				$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-50 to +125				$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-50 to +150				$^\circ\text{C}$

#### NOTES:

- (1) Repetitive peak forward surge current at  $f < 15$  KHz
- (2) Reverse recovery test conditions:  $I_F=10\text{mA}$ ,  $I_R=10\text{mA}$ ,  $I_{rr}=1.0\text{mA}$
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

# RATINGS AND CHARACTERISTIC CURVES BY396P THRU BY399P

