

Silicon Diode

BY399P

Fast Switching Diode

800V / 3A

DATASHEET

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OEM – General Semiconductor

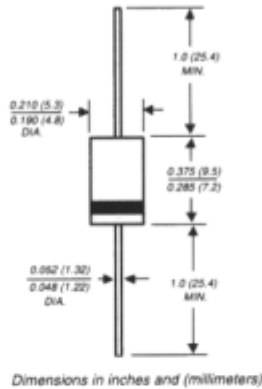
Source: General Semiconductor Databook 1998

BY396P THRU BY399P

SOFT RECOVER FAST - SWITCHING PLASTIC RECTIFIER

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

DO-201AD



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°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	10.0 500.0				μA
		$T_A=25^{\circ}\text{C}$ $T_A=100^{\circ}\text{C}$				
Maximum reverse recovery time (NOTE 2)	t_{rr}	500.0				ns
Maximum forward recovery time at 100mA, $di/dt = 50\text{A}/\mu\text{s}$	t_{fr}	1.0				μs
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: $I_F=10\text{mA}$, $I_R=10\text{mA}$, $I_s=1.0\text{mA}$
- (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

