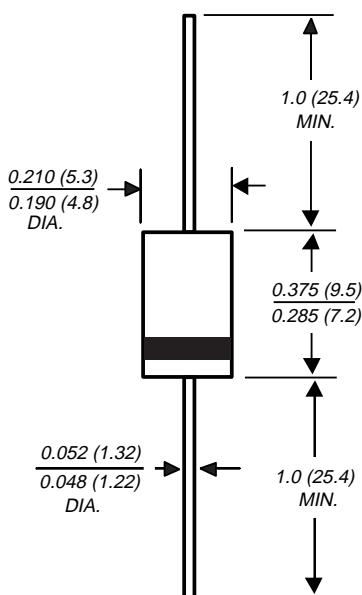




## Soft Recovery Fast-Switching Plastic Rectifier

DO-201AD



Dimensions in inches and (millimeters)

 Reverse Voltage 100 to 800 V  
 Forward Current 3.0 A

### Features

- Plastic package has Underwriters Laboratories 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 oz., 1.1 g

**Packaging codes/options:**

1/Bulk - 1.5K per container, 15K per box

4/1.4K per 13" reel, 5.6K per box

23/1K per Ammo. mag., 9K per box

### Maximum Ratings & Thermal Characteristics

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

	Symbols	BY396P	BY397P	BY398P	BY399P	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	100	200	400	800	V
Maximum RMS voltage	V <sub>RMS</sub>	70	140	280	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	100	200	400	800	V
Maximum average forward rectified current 0.375" (9.5mm) lead lengths at $T_A=50^\circ\text{C}$	I <sub>F(AV)</sub>	3.0				A
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_A=50^\circ\text{C}$	I <sub>FSM</sub>	100				A
Maximum repetitive peak forward surge at $f < 15$ KHz	I <sub>FRM</sub>	10				A
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	22				°C/W
Operating junction temperature range	T <sub>J</sub>	-50 to +125				°C
Storage temperature range	T <sub>STG</sub>	-50 to +150				°C

### Electrical Characteristics

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

Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.25	V
Maximum DC reverse current $T_A= 25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I <sub>R</sub>	10 500	µA
Maximum reverse recovery time at $I_F=10\text{mA}$ , $I_R=10\text{mA}$ , $I_{rr}=1.0\text{mA}$	t <sub>rr</sub>	500	ns
Maximum forward recovery time at 100mA, $dI/dt = 50\text{A}/\mu\text{s}$	t <sub>f</sub>	1.0	µs
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	28	pF

**Notes:**

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

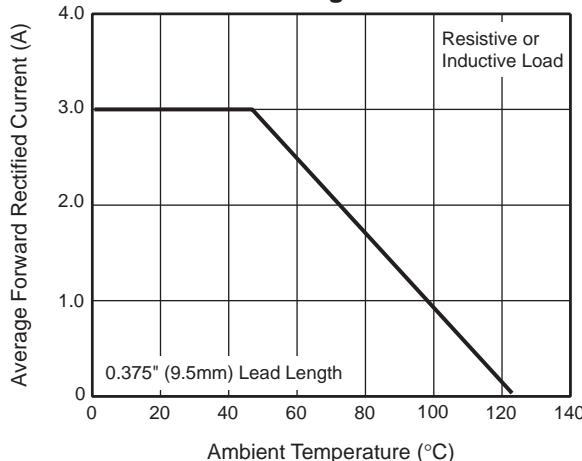
# BY396P thru BY399P



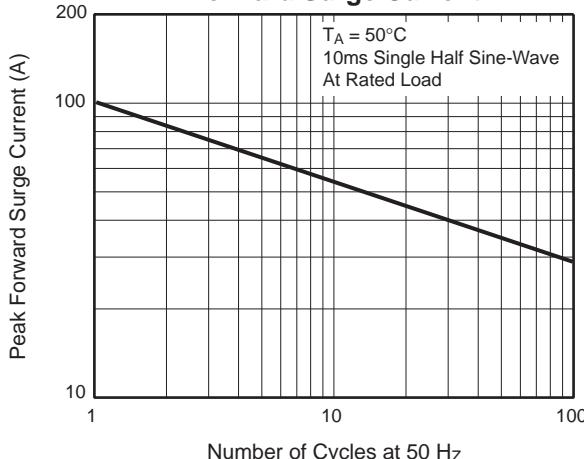
Vishay Semiconductors  
formerly General Semiconductor

## Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

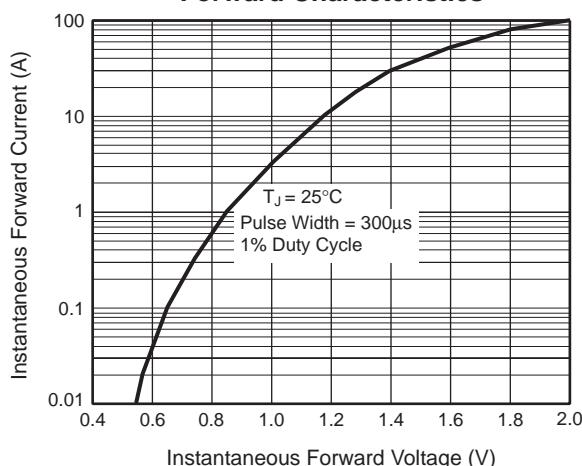
**Fig. 1 – Forward Current  
Derating Curve**



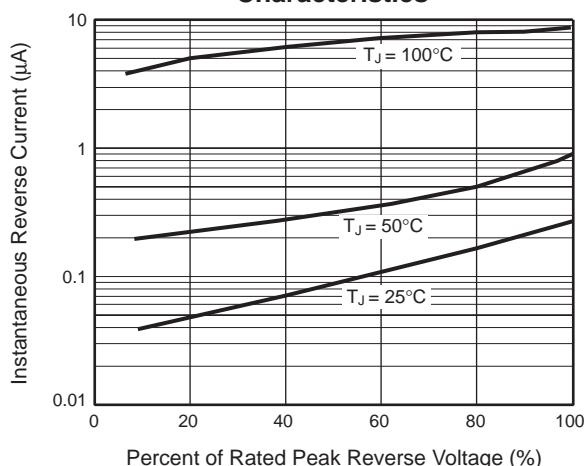
**Fig. 2 – Maximum Non-Repetitive Peak  
Forward Surge Current**



**Fig. 3 – Typical Instantaneous  
Forward Characteristics**



**Fig. 4 – Typical Reverse  
Characteristics**



**Fig. 5 – Typical Junction Capacitance**

