



# DATA SHEET

## BY396 thru BY399

### SOFT RECOVERY, FAST SWITCHING PLASTIC RECTIFIER

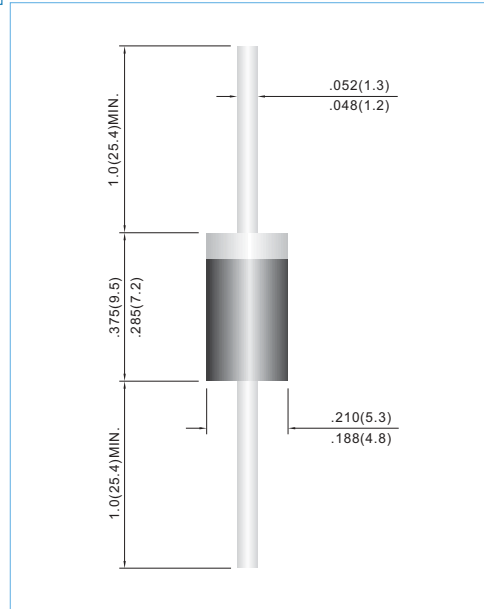
**VOLTAGE** 50 to 1000 Volts    **CURRENT** 3.0 Amperes    **DO-201AD**    Unit: inch(mm)

#### FEATURES

- High current capability.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Void-free molded plastic package
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency.
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

Case: Molded plastic, DO-201AD  
Terminals: Axial leads, solderable to MIL-STD-202, Method 208  
Polarity: Color Band denotes cathode end  
Mounting Position: Any  
Weight: 0.04 ounce, 1.1 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

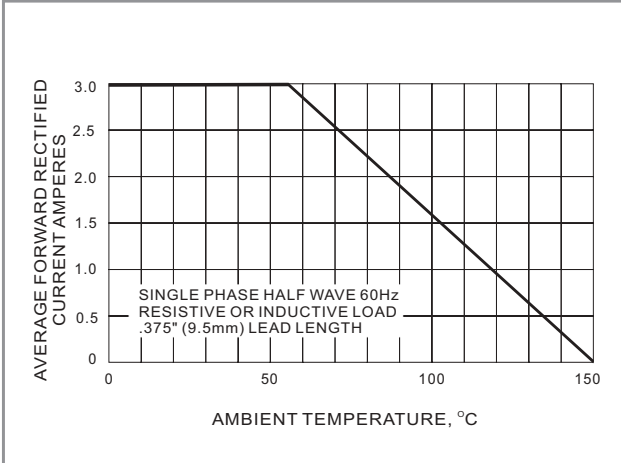
Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.

PARAMETER	SYMBOL	BY396	BY397	BY398	BY399	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	200	400	800	V
Maximum RMS Voltage	$V_{RMS}$	70	140	280	560	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	800	V
Maximum Average Forward Current .375"(9.5mm) lead length at $T_A=50^\circ C$	$I_{AV}$	3.0				A
Peak Forward Surge Current : 10ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	100				A
Maximum Repetitive Peak Forward Surge (Note 1)	$I_{FRM}$	10				A
Maximum Forward Voltage at 3.0A	$V_F$	1.3				V
Maximum DC Reverse Current at $T_A=25^\circ C$ Rated DC Blocking Voltage $T_A=100^\circ C$	$I_R$	10 500				$\mu A$
Maximum Reverse Recovery Time (Note 2)	$T_{RR}$	150				ns
Typical Junction capacitance (Note 3)	$C_J$	60				pF
Typical Thermal Resistance(Note 4)	$R_{\theta JA}$	22				$^\circ C / W$
Operating Junction Temperature Range	$T_J$	-55 TO +125				$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 TO +150				$^\circ C$

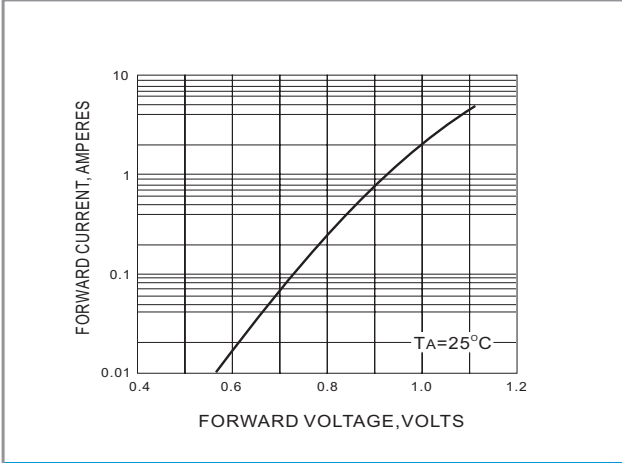
- NOTES: 1. Repetitive Peak Forward Surge Current at  $f < 15KHz$ .  
2. Reverse Recovery Test Conditions:  $I_F = .5A$ ,  $I_R = 1A$ ,  $I_{rr} = .25A$ .  
3. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.  
4. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted.



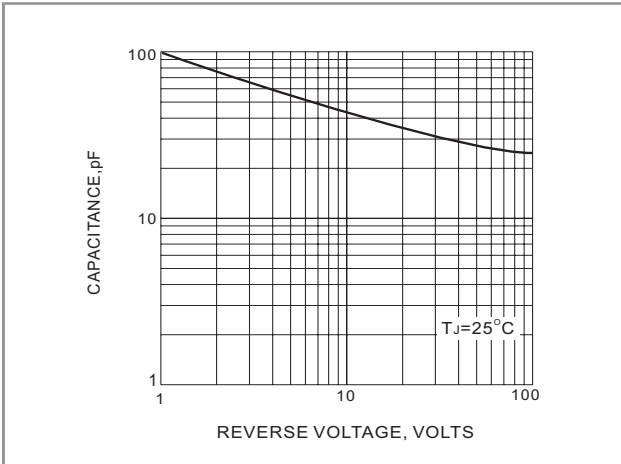
**RATING AND CHARACTERISTIC CURVES**



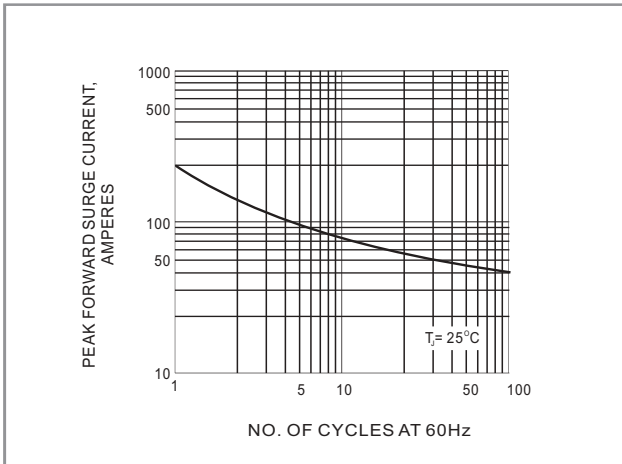
**FIG.1 FORWARD CURRENT DERATING CURVE**



**FIG.2 TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 TYPICAL JUNCTION CAPACITANCE**



**FIG.4 PEAK FORWARD SURGE CURRENT**