

BY396 - BY399

3.0 AMPS. Fast Recovery Rectifiers

DO-201AD

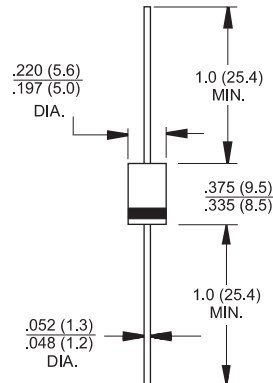


Features

- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, Lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260 °C /10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.2 grams



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	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 Rectified Current .375" (9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$	$I_{(AV)}$	3.0				A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150				A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.2				V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5 150				μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	250				nS
Typical Junction Capacitance (Note 2)	C_j	50				pF
Typical Thermal resistance (Note 3)	$R_{\theta JA}$	40				$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +150				$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150				$^\circ\text{C}$

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

RATINGS AND CHARACTERISTIC CURVES (BY396 THRU BY399)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

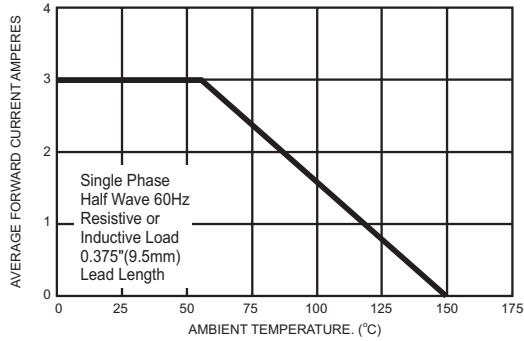


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

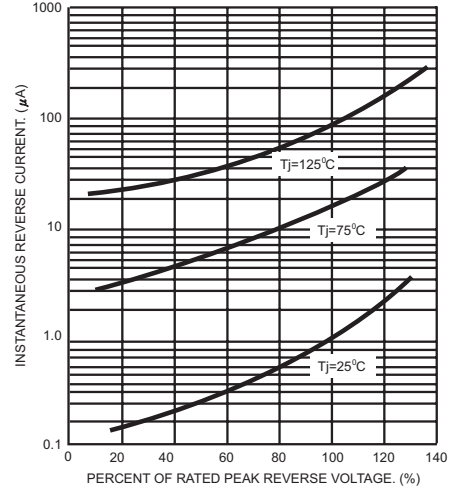


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

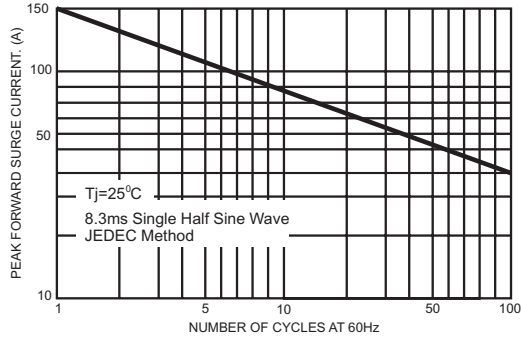


FIG.5- TYPICAL FORWARD CHARACTERISTICS

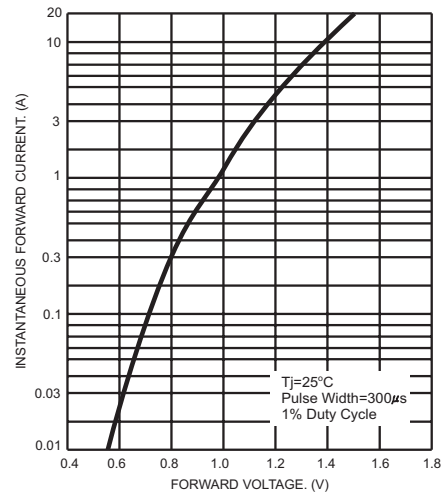


FIG.4- TYPICAL JUNCTION CAPACITANCE

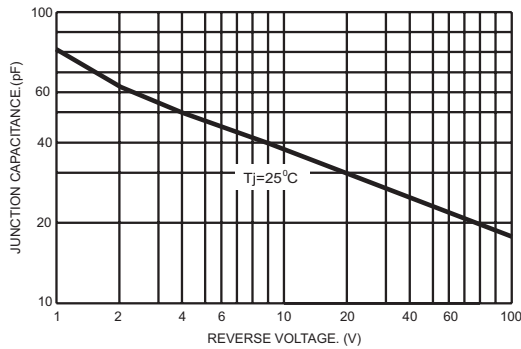


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

