

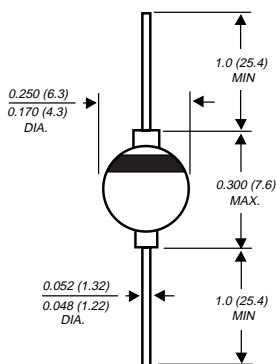
# BYW72 THRU BYW76 SERIES

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

Reverse Voltage - 200 to 600 Volts    Forward Current - 3.0 Amperes

**PATENTED \***

Case Style G3



Dimensions in inches and (millimeters)

\* Brazed-lead assembly is covered by Patent No. 3,930,306

### FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ Glass passivated cavity-free junction
- ♦ Hermetically sealed package
- ♦ 3.0 ampere operation at  $T_A=45^\circ\text{C}$  with no thermal runaway
- ♦ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** Solid glass body

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

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.1grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	BYW72	BYW73	BYW74	BYW75	BYW76	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	300	400	500	600	Volts
Maximum RMS voltage	$V_{RMS}$	140	210	280	350	420	Volts
Maximum DC blocking voltage	$V_{DC}$	200	300	400	500	600	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=45^\circ\text{C}$	$I_{(AV)}$	3.0					Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_J=150^\circ\text{C}$	$I_{FSM}$	60.0					Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.1					Volts
Maximum average reverse current at rated peak reverse voltage at $T_A=100^\circ\text{C}$	$I_{R(AV)}$	50.0					$\mu\text{A}$
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0					$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	200					ns
Typical junction capacitance (NOTE 2)	$C_J$	40.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	22.0					$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +175					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +300					$^\circ\text{C}$

**NOTES:**

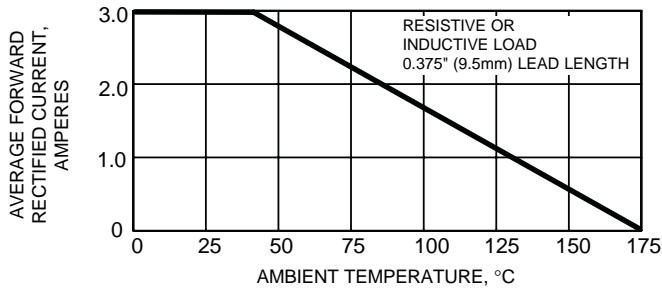
(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

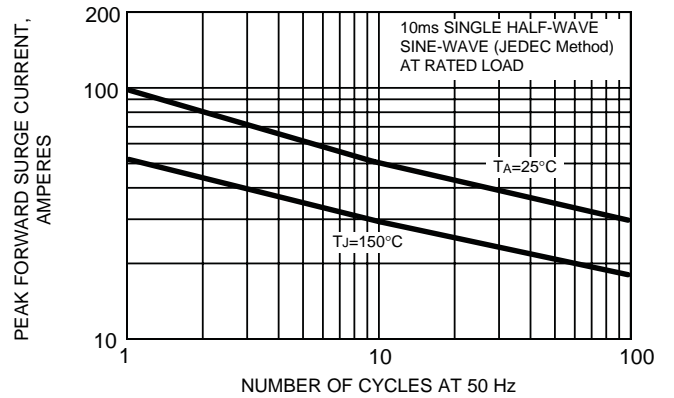
(3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, with both leads attached to heat sink

# RATINGS AND CHARACTERISTIC CURVES BYW72 THRU BYW76 SERIES

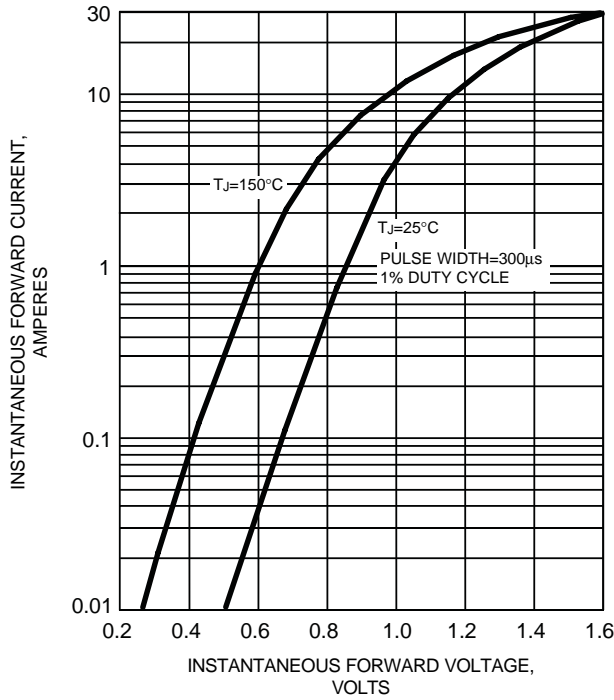
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



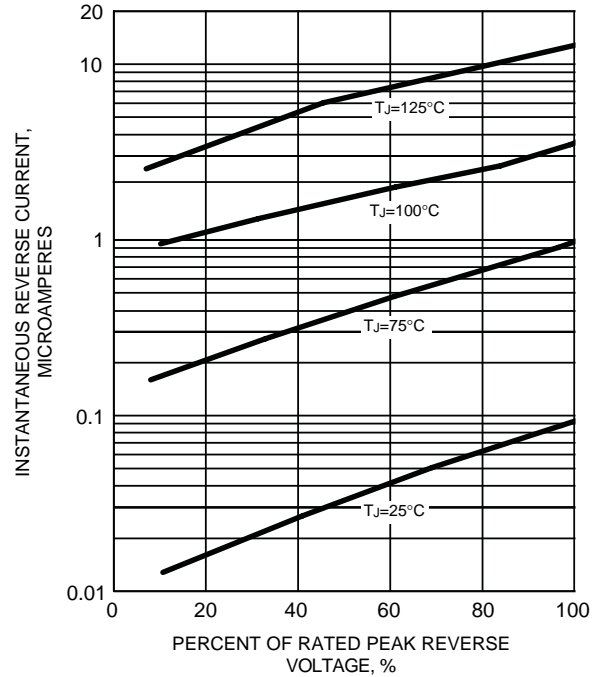
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

