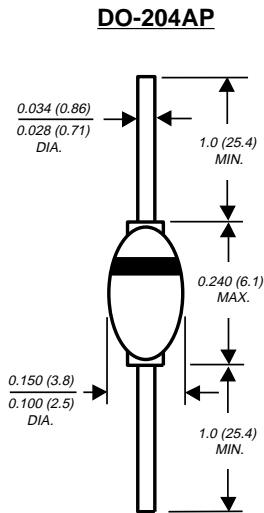


# BYV95 AND BYV96 SERIES

## MINIATURE GLASS PASSIVATED FAST SWITCHING RECTIFIER

Reverse Voltage - 200 to 1000 Volts Forward Current - 1.5 Amperes

**PATENTED\***

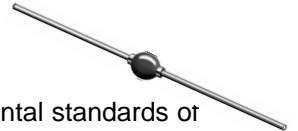


Dimensions in inches and (millimeters)

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

### FEATURES

- ◆ High temperature metallurgically bonded construction
- ◆ Hermetically sealed package
- ◆ Glass passivated cavity-free junction
- ◆ 1.5 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-204AP 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:** 0.02 ounce, 0.56 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	BYV95A	BYV95B	BYV95C	BYV96D	BYV96E	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1000	Volts
Minimum avalanche breakdown voltage at $100\mu\text{A}$	$V_{(BR)}$	300	500	700	900	1100	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.5					Amps
Peak forward surge current, 10ms single half sine-wave superimposed on rated load at $T_J=165^\circ\text{C}$	$I_{FSM}$	35.0					Amps
Maximum instantaneous forward voltage at 1.5A $T_J=25^\circ\text{C}$ $T_J=165^\circ\text{C}$	$V_F$	1.6 1.35					Volts
Maximum full load reverse current, full cycle average, 0.375", (9.5mm) lead length at $T_J=25^\circ\text{C}$ $T_J=165^\circ\text{C}$	$I_{R(AV)}$	1.0 150.0					$\mu\text{A}$
Maximum DC reverse current at rated DC blocking voltage	$I_R$	2.0					$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	250			300		ns
Typical junction capacitance (NOTE 2)	$C_J$	10.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0					$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +175					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +200					$^\circ\text{C}$

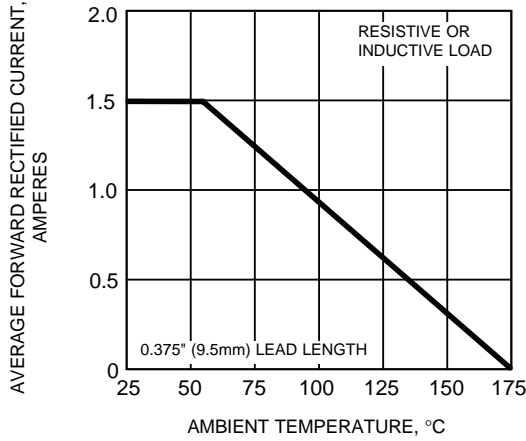
NOTES: (1) Measured with  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

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

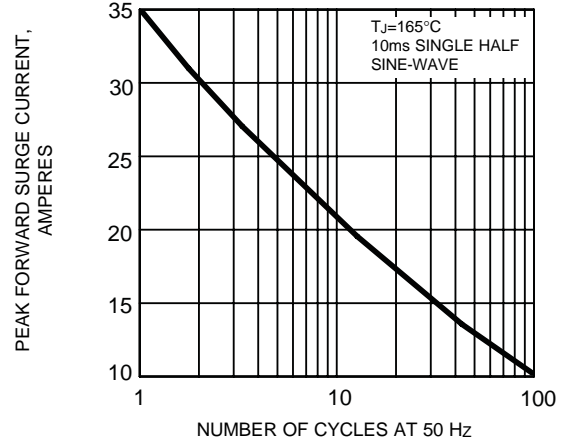
(3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES BYV95 AND BYV96 SERIES

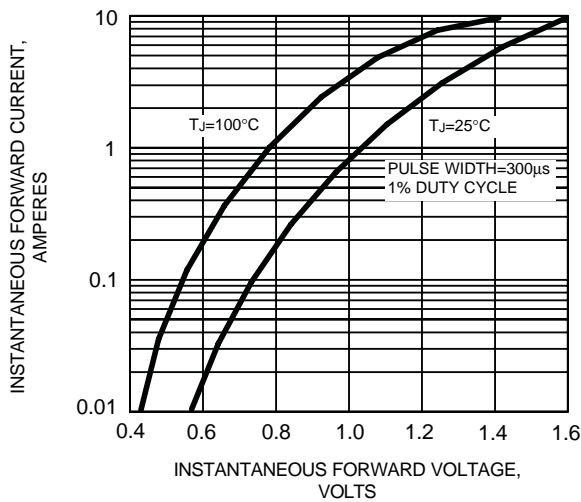
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



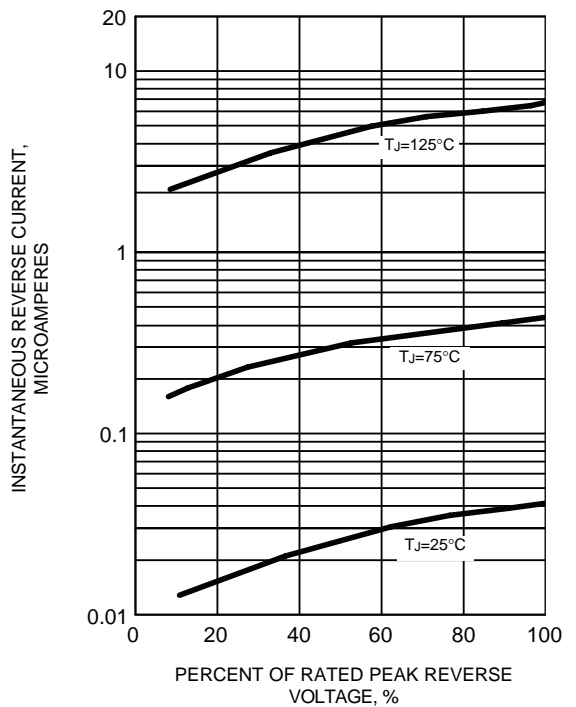
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



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



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

