

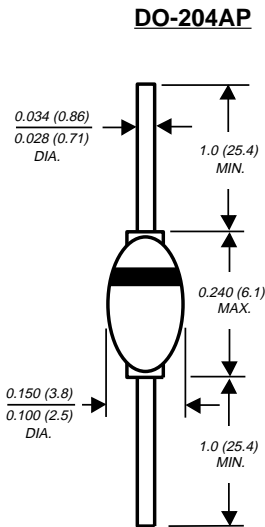
# BYV27-50 THRU BYV27-200

## GLASS PASSIVATED FAST EFFICIENT RECTIFIER

Reverse Voltage - 50 to 200 Volts

Forward Current - 2.0 Amperes

**PATENTED \***



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
- ◆ Superfast recovery time for high efficiency
- ◆ Low forward voltage, high current capability
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Hermetically sealed package
- ◆ Low leakage current
- ◆ High surge current capability
- ◆ High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-204AP solid glass body

**Terminals:** 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°C ambient temperature unless otherwise specified.

	SYMBOLS	BYV27-50	BYV27-100	BYV27-150	BYV27-200	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	Volts
Minimum reverse breakdown voltage at 100 μA	V <sub>BR</sub>	55	110	165	220	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T <sub>L</sub> =85°C	I <sub>(AV)</sub>	2.0				Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load at T <sub>J</sub> =175°C	I <sub>FSM</sub>	50.0				Amps
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	T <sub>J</sub> =25°C	1.07			Volts
		T <sub>J</sub> =175°C	0.88			
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	T <sub>A</sub> =25°C	1.0			μA
		T <sub>A</sub> =165°C	150.0			
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	25.0				ns
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	45.0				pF
Typical thermal resistance (NOTE 3, 4)	R <sub>θJA</sub>	65.0				°C/W
	R <sub>θJL</sub>	20.0				
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175				°C

**NOTES:**

(1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A

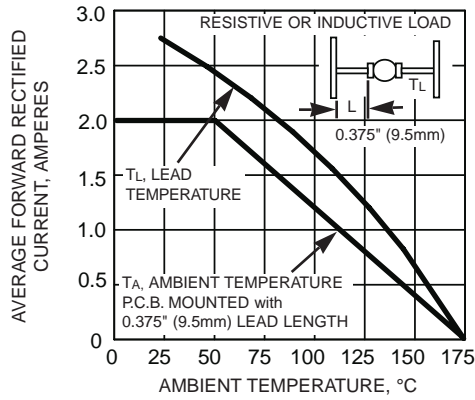
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(3) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks

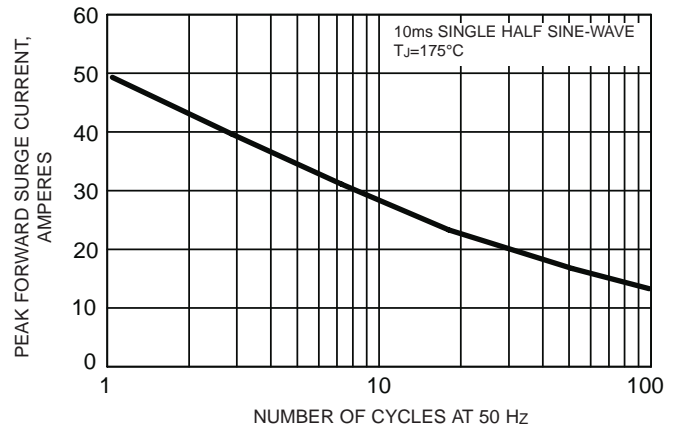
(4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length and mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads

# RATINGS AND CHARACTERISTIC CURVES BYV27-50 THRU BYV27-200

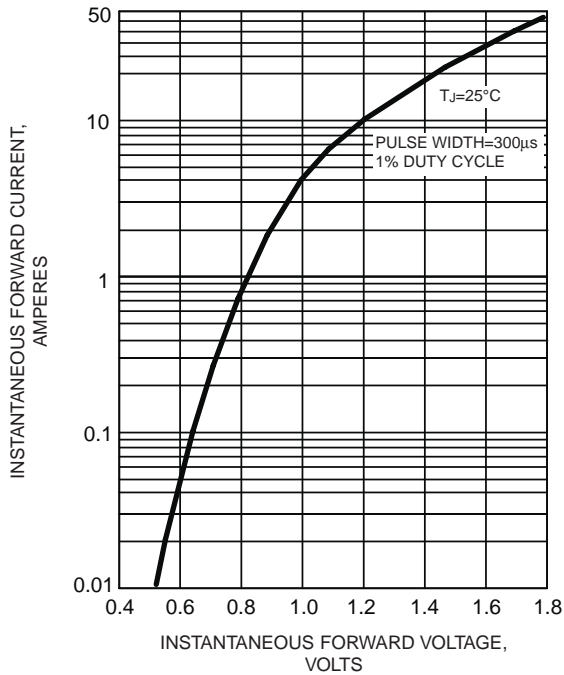
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



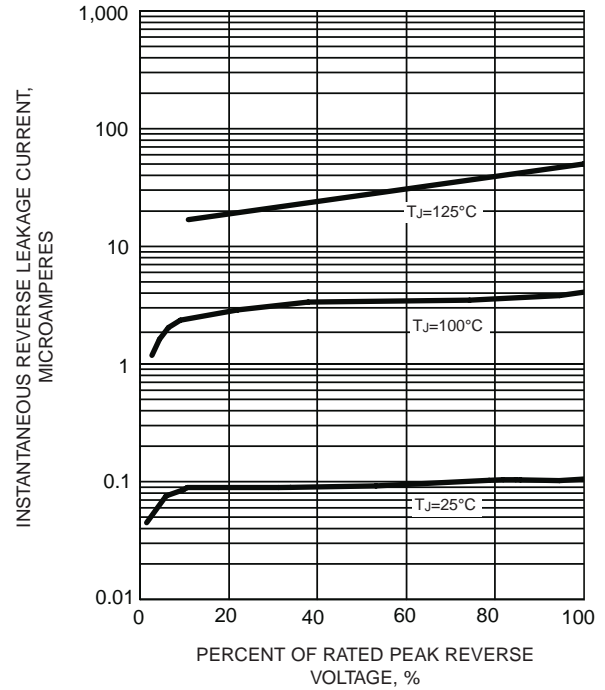
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



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



**FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

