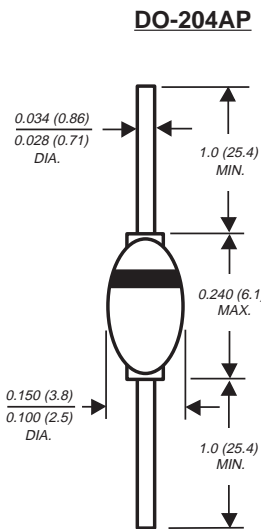


# BYV27-50 THRU BYV27-200

## 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.

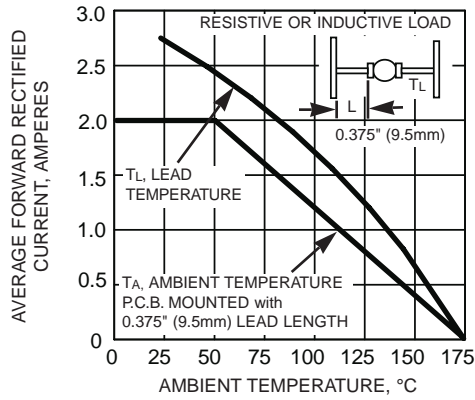
|   | SYMBOLS                              | BYV27-50                                      | BYV27-100    | BYV27-150 | BYV27-200 | UNITS |
|---|--------------------------------------|---|--------------|-----------|-----------|-------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                     | 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<br>0.375" (9.5mm) lead length at T <sub>L</sub> =85°C                 | I <sub>(AV)</sub>                    | 2.0   |              |           |           | Amps  |
| Peak forward surge current<br>10ms single half sine-wave superimposed<br>on rated load at T <sub>J</sub> =175°C | I <sub>FSM</sub>                     | 50.0  |              |           |           | Amps  |
| Maximum instantaneous forward<br>voltage at 3.0A  | V <sub>F</sub>                       | T <sub>J</sub> =25°C<br>T <sub>J</sub> =175°C | 1.07<br>0.88 |           |           | Volts |
| Maximum DC reverse current<br>at rated DC blocking voltage  | I <sub>R</sub>                       | T <sub>A</sub> =25°C<br>T <sub>A</sub> =165°C | 1.0<br>150.0 |           |           | μA    |
| 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><br>R <sub>θJL</sub> | 65.0<br>20.0                                  |              |           |           | °C/W  |
| Operating junction and storage temperature range  | T <sub>J</sub> , T <sub>STG</sub>    | -65 to +175                                   |              |           |           | °C    |

#### NOTES:

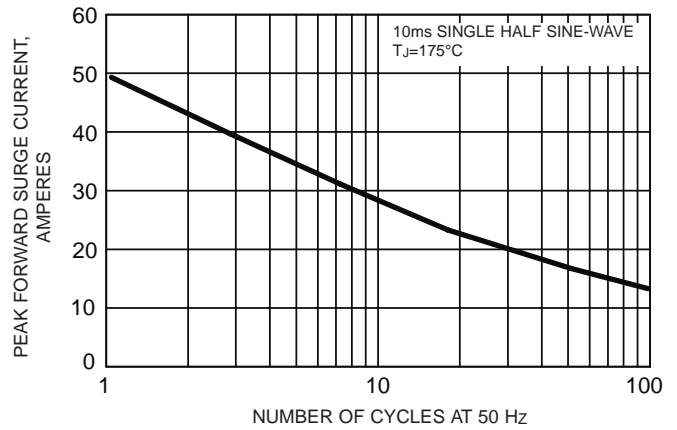
- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks
- (4) Thermal resistance 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

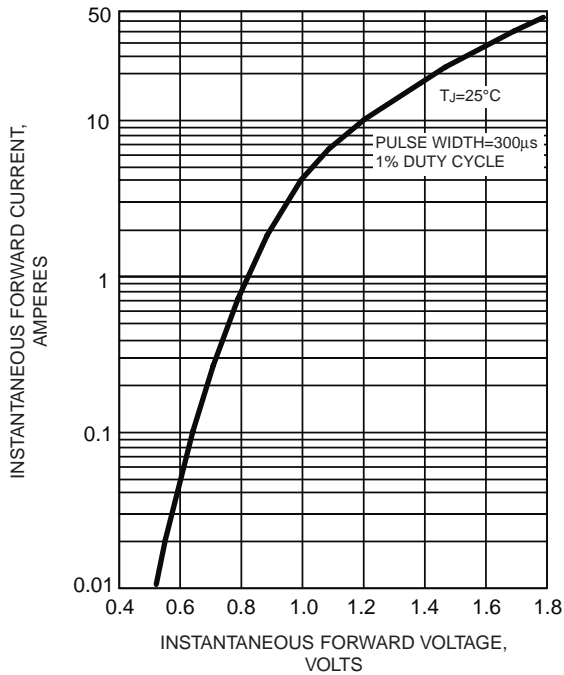
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



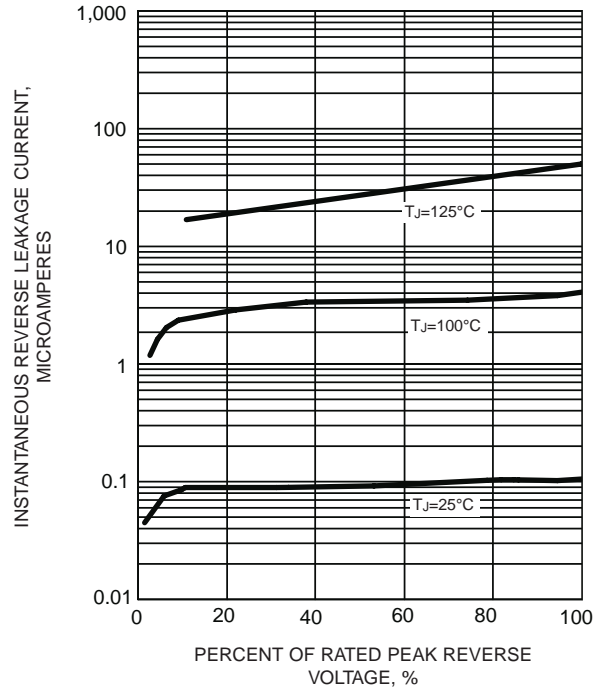
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



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



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



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

