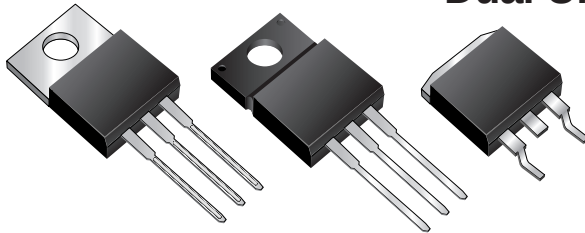




# BYV32, BYVF32 & BYVB32 Series

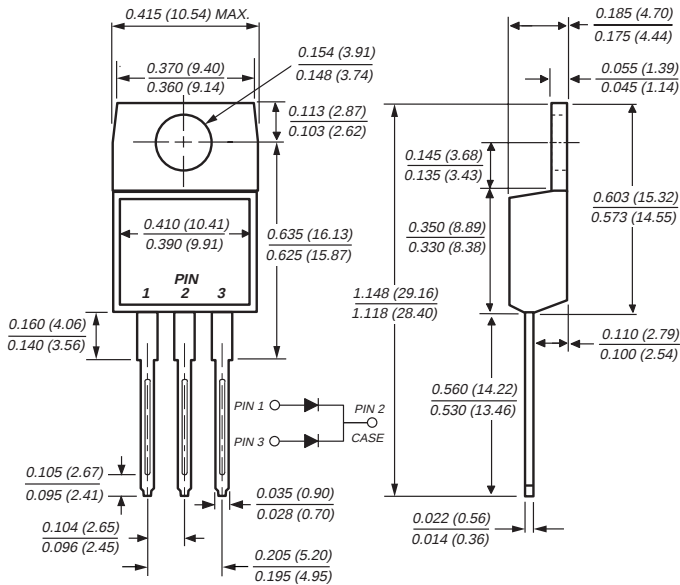
Vishay Semiconductors  
formerly General Semiconductor

## Dual Ultrafast Rectifiers

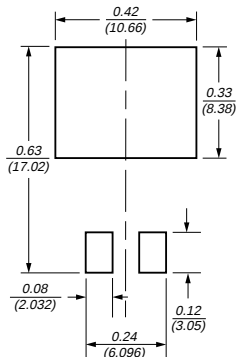


Reverse Voltage 50 to 200V  
Forward Current 18A  
Reverse Recovery Time 25ns

TO-220AB (BYV32 Series)

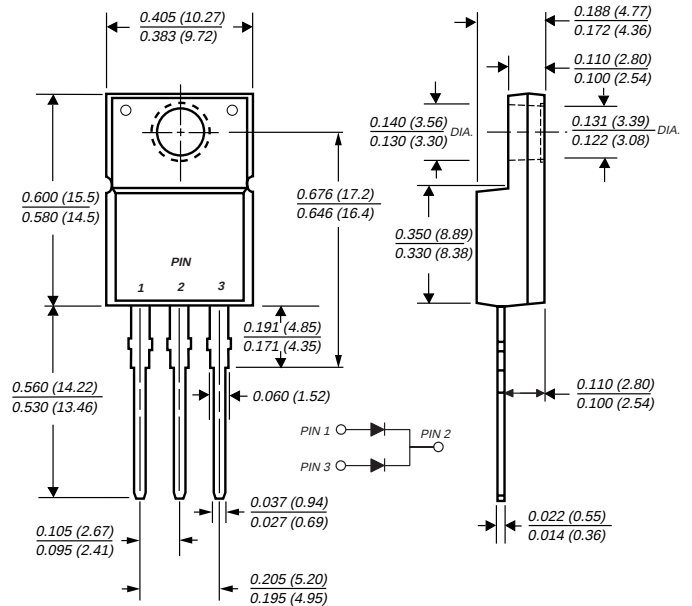


Mounting Pad Layout TO-263AB

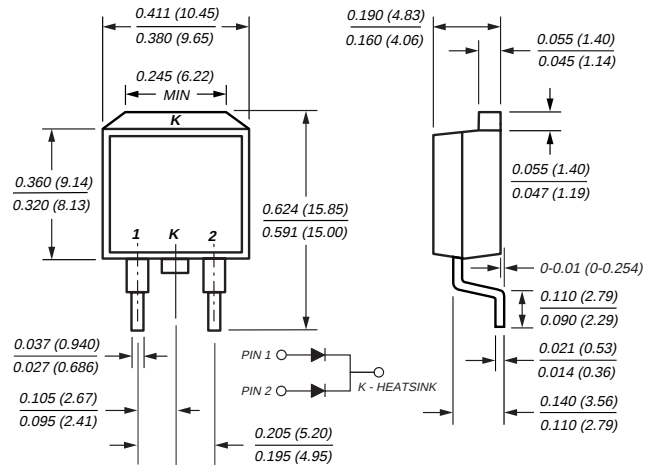


Dimensions in inches  
and (millimeters)

ITO-220AB (BYVF32 Series)



TO-263AB (BYVB32 Series)



## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive centertap
- Glass passivated chip junctions
- Low power loss
- Low forward voltage, high current capability
- High surge current capability
- Superfast recovery times for high efficiency

## Mechanical Data

**Case:** JEDEC TO-220AB, ITO-220AB & TO-263AB molded plastic body

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds

**Polarity:** As marked **Mounting Position:** Any

**Mounting Torque:** 10 in-lbs maximum

**Weight:** 0.08 oz., 2.24 g

# BYV32, BYVF32 & BYVB32 Series

Vishay Semiconductors  
formerly General Semiconductor



## Maximum Ratings (T<sub>C</sub> = 25°C unless otherwise noted)

| Parameter                                                                                                      | Symbol                            | BYV32-50                                                          | BYV32-100 | BYV32-150 | BYV32-200 | Unit |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------|-----------|-----------|-----------|------|
| Maximum repetitive peak reverse voltage                                                                        | V <sub>RRM</sub>                  | 50                                                                | 100       | 150       | 200       | V    |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>                  | 35                                                                | 70        | 105       | 140       | V    |
| Maximum DC blocking voltage                                                                                    | V <sub>DC</sub>                   | 50                                                                | 100       | 150       | 200       | V    |
| Maximum average forward rectified current at T <sub>C</sub> = 125°C                                            | I <sub>F(AV)</sub>                | 18                                                                |           |           |           | A    |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method) per leg | I <sub>FSM</sub>                  | 150                                                               |           |           |           | A    |
| Operating junction and storage temperature range                                                               | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150                                                       |           |           |           | °C   |
| RMS Isolation voltage (BYVF type only) from terminals to<br>heatsink with t = 1.0 second, RH ≤ 30%             | V <sub>ISOL</sub>                 | 4500 <sup>(1)</sup><br>3500 <sup>(2)</sup><br>1500 <sup>(3)</sup> |           |           |           | V    |

## Electrical Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

| Parameter                                                                                                                                       | Symbol          | BYV32-50     | BYV32-100 | BYV32-150 | BYV32-200 | Unit |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|-----------|-----------|-----------|------|
| Maximum instantaneous forward voltage per leg at: <sup>(4)</sup><br>at I <sub>F</sub> = 20A<br>at I <sub>F</sub> = 5.0A, T <sub>J</sub> = 100°C | V <sub>F</sub>  | 1.15<br>0.85 |           |           |           | V    |
| Maximum DC reverse current per leg T <sub>J</sub> = 25°C<br>at rated DC blocking voltage T <sub>J</sub> = 100°C                                 | I <sub>R</sub>  | 10<br>600    |           |           |           | μA   |
| Maximum reverse recovery time per leg at<br>I <sub>F</sub> = 1A, V <sub>R</sub> = 30V, di/dt = 100A/μs, I <sub>rr</sub> = 10% I <sub>RM</sub>   | t <sub>rr</sub> | 25           |           |           |           | ns   |
| Typical junction capacitance per leg at 4V, 1MHz                                                                                                | C <sub>J</sub>  | 45           |           |           |           | pF   |

## Thermal Characteristics (T<sub>C</sub> = 25°C unless otherwise noted)

| Parameter                                        | Symbol           | BYV | BYVF | BYVB | Unit |
|--------------------------------------------------|------------------|-----|------|------|------|
| Thermal resistance from junction to case per leg | R <sub>θJC</sub> | 1.6 | 5.0  | 1.6  | °C/W |

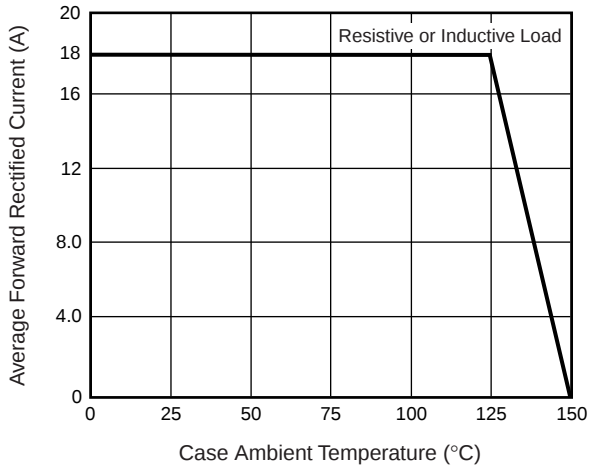
### Notes:

- (1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
- (2) Clip mounting (on case), where leads do overlap heatsink
- (3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9mm (0.19")
- (4) Pulse test: 300μs pulse width, 1% duty cycle

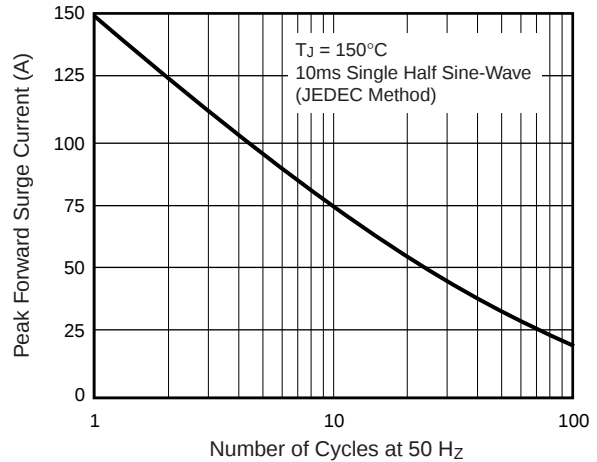


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

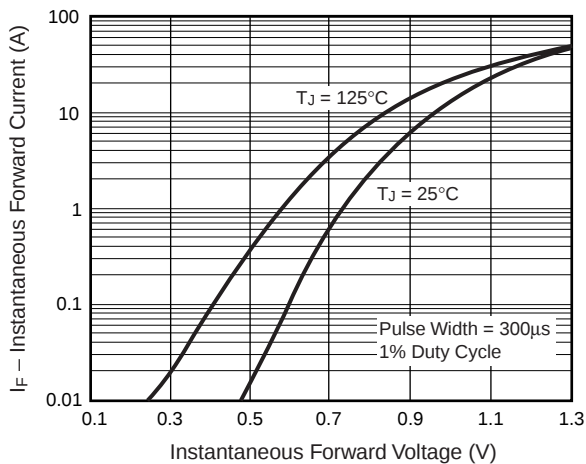
### Forward Current Derating Curve



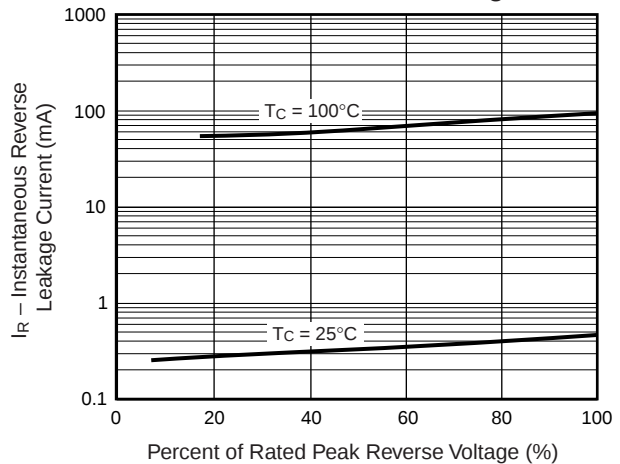
### Maximum Non-Repetitive Peak Forward Surge Current Per Leg



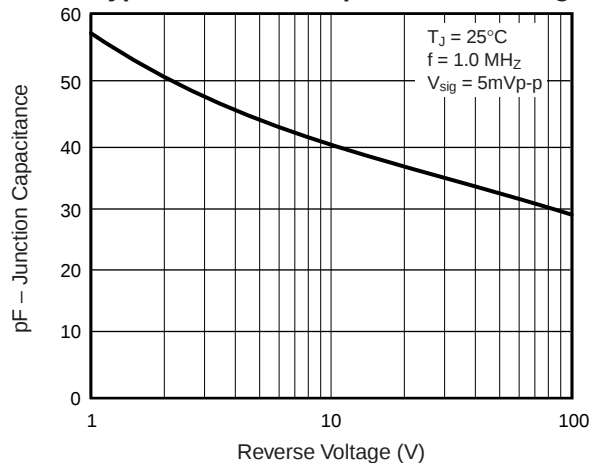
### Typical Instantaneous Forward Characteristics Per Leg



### Typical Reverse Leakage Characteristics Per Leg



### Typical Junction Capacitance Per Leg





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