

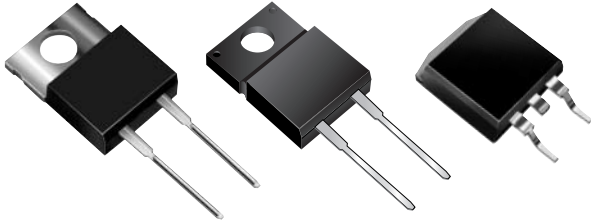


# BYW29, BYWF29, BYWB29 Series

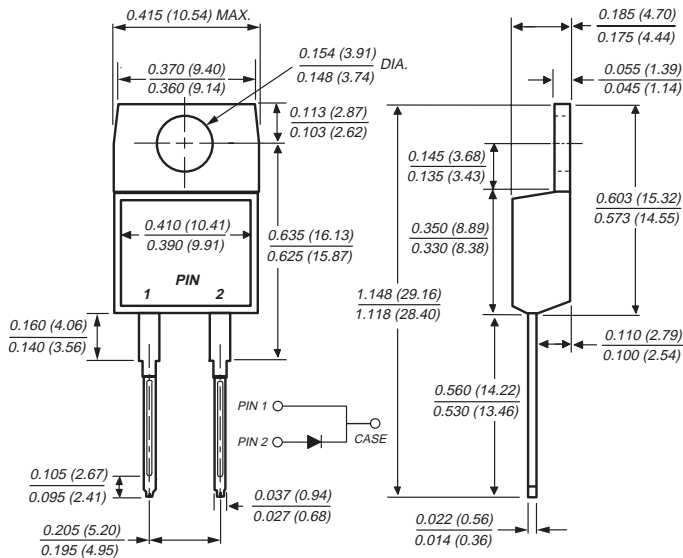
Vishay Semiconductors  
formerly General Semiconductor

## Ultrafast Rectifiers

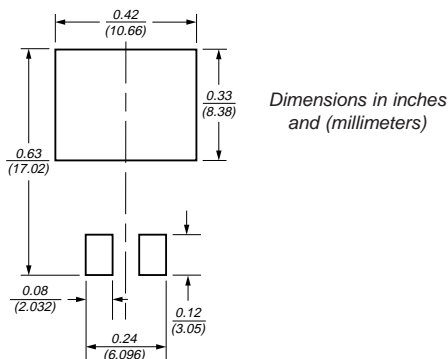
Reverse Voltage 50 to 200V  
Forward Current 8.0A  
Reverse Recovery Time 25ns



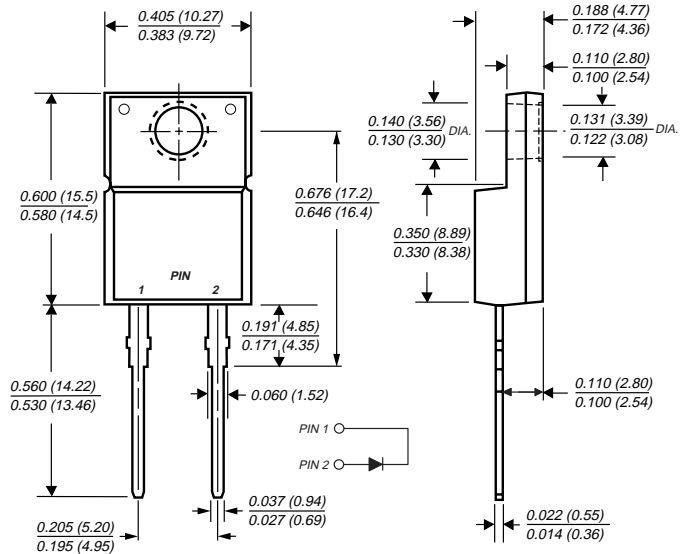
**TO-220AC (BYW29 Series)**



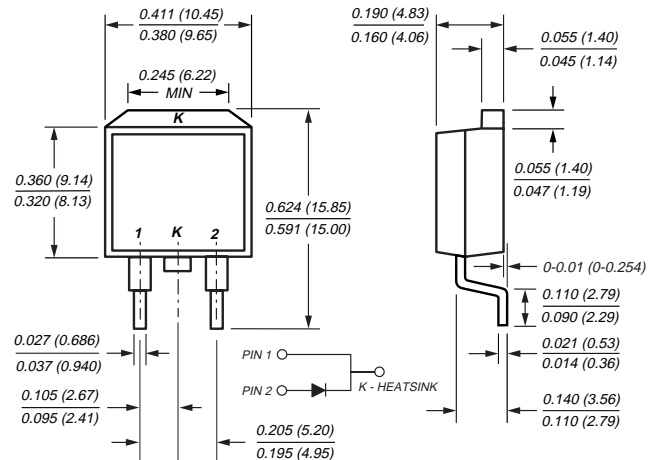
**Mounting Pad Layout TO-263AB**



**ITO-220AC (BYWF29 Series)**



**TO-263AB (BYWB29 Series)**



## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- Low power loss
- Low leakage current
- High surge current capability
- Superfast recovery time for high efficiency

## Mechanical Data

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

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

High temperature soldering in accordance with CECC 802 / Reflow guaranteed

**Polarity:** As marked

**Mounting Position:** Any

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

**Weight:** approx. 0.05 oz., 1.35 g

# BYW29, BYWF29, BYWB29 Series



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

Parameter	Symbol	BYW29-50	BYW29-100	BYW29-150	BYW29-200	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> = 105°C	I <sub>F(AV)</sub>	8.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I <sub>FSM</sub>	100				A
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150				°C
RMS Isolation voltage (BYWF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V <sub>ISOL</sub>	4500 <sup>(1)</sup> 3500 <sup>(2)</sup> 1500 <sup>(3)</sup>				V

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

Parameter	Symbol	BYW29-50	BYW29-100	BYW29-150	BYW29-200	Unit
Maximum instantaneous forward voltage at: <sup>(4)</sup> I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C I <sub>F</sub> = 8.0A, T <sub>J</sub> = 150°C	V <sub>F</sub>	1.3 0.8				V
Maximum DC reverse current at rated DC blocking voltage T <sub>C</sub> =25°C T <sub>C</sub> =100°C	I <sub>R</sub>	10 500				μA
Maximum reverse recovery time at 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 at 4V, 1MHz	C <sub>J</sub>	45				pF

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

Parameter	Symbol	BYW	BYWF	BYWB	Unit
Typical thermal resistance from junction to case per leg	R <sub>θJC</sub>	2.5	5.5	2.5	°C/W

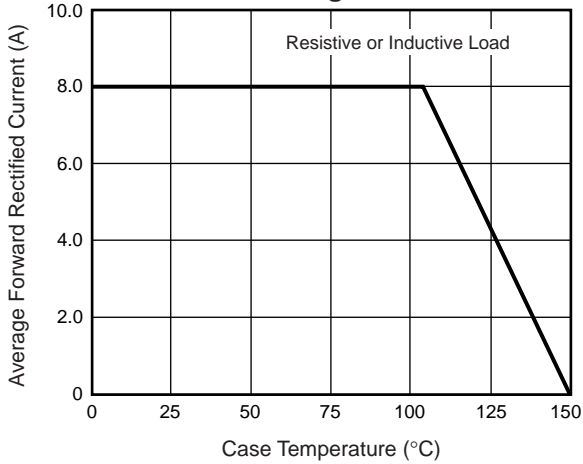
### Notes:

- (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

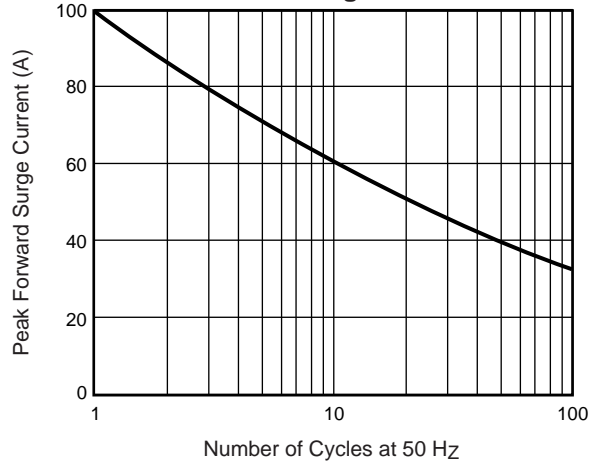


**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

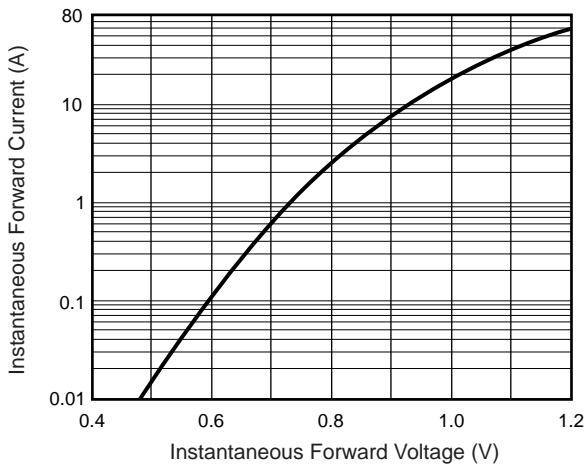
**Fig. 1 – Maximum Forward Current Derating Curve**



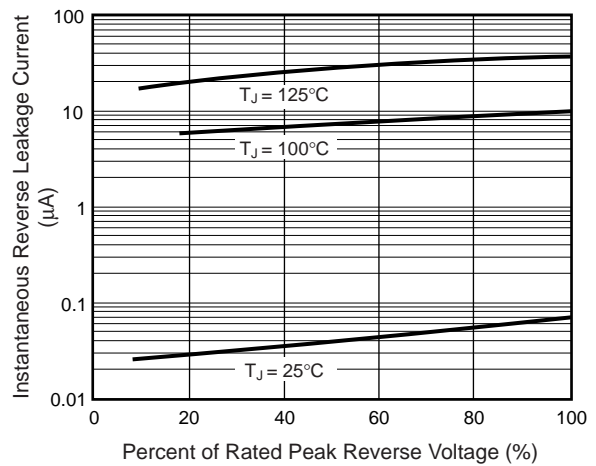
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**

