

ANTREX Electronics

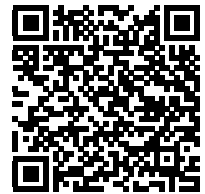
Electronic Components Sourcing Information

Product Reference Information

Part Number: BYVB32-50HE3_A/P
Manufacturer: Vishay General Semiconductor - Diodes Division
Package: Tube
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division/byvb32-50he3-a-p.html>



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Contact Information

Email: info@antrexco.com

WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

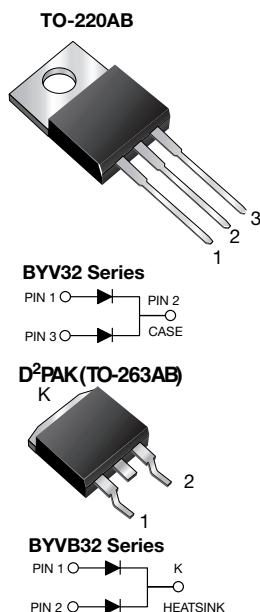
Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Dual Common-Cathode Ultrafast Rectifier



RoHS
COMPLIANT
HALOGEN
FREE
Available

FEATURES

- Power pack
- Glass passivated pellet chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 275 °C max. 10 s, per JESD 22-B106 (for TO-220AB package)
- AEC-Q101 qualified available
- Automotive ordering code:
base P/NHM3 (for D²PAK (TO-263AB package))
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, inverters, freewheeling diodes, DC/DC converters, and other power switching application.

LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	18 A
V_{RRM}	50 V to 200 V
I_{FSM}	150 A
t_{rr}	25 ns
V_F	0.85 V
$T_J \text{ max.}$	150 °C
Package	TO-220AB, D ² PAK (TO-263AB)
Circuit configuration	Common cathode

MECHANICAL DATA

Case: TO-220AB, D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/N-M3 - RoHS-compliant, halogen-free, commercial grade

Base P/NHM3 - RoHS-compliant, halogen-free, AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and M3 suffix meets JESD 201 class 1A whisker test, HM3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs max.

**MAXIMUM RATINGS** ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BYV32-50	BYV32-100	BYV32-150	BYV32-200 BYVB32-200	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at $T_C = 125\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	18				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	150				A
Operating storage and temperature range	T_J, T_{STG}	-65 to +150				$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	BYV32-50	BYV32-100	BYV32-150	BYV32-200 BYVB32-200	UNIT
Maximum instantaneous forward voltage per diode	I _F = 20 A	T _J = 25 °C	V _F ⁽¹⁾	1.15				V
	F = 5.0 A	T _J = 100 °C		0.85				
Maximum DC reverse current per diode at rated DC blocking voltage		T _J = 25 °C	I _R	10				μA
		T _J = 100 °C		600				
Maximum reverse recovery time per diode	I _F = 1 A, V _R = 30 V dI/dt = 100 A/μs, I _{rr} = 10 % I _{RM}		t _{rr}	25				ns
Typical junction capacitance per diode	4.0 V, 1 MHz		C _J	45				pF

Note(1) Pulse test: 300 μs pulse width, 1 % duty cycle**THERMAL CHARACTERISTICS** ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BYV	BYVB	UNIT
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	1.6	1.6	$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	BYV32-200-E3/45	1.85	45	50/tube	Tube
D ² PAK (TO-263AB)	BYVB32-200-M3/I	1.35	I	800/reel	Tape and reel
D ² PAK (TO-263AB)	BYVB32-200HM3/I ⁽¹⁾	1.35	I	800/reel	Tape and reel

Note

(1) AEC-Q101 qualified



RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

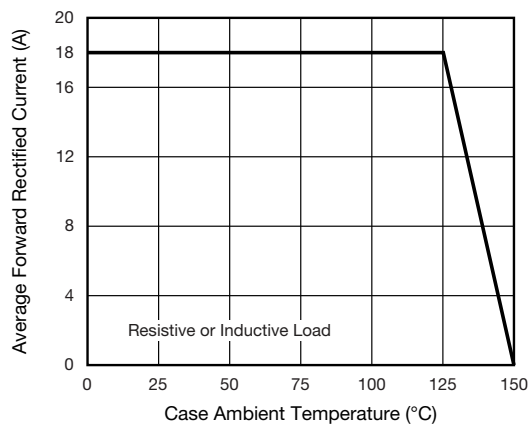


Fig. 1 - Forward Current Derating Curve

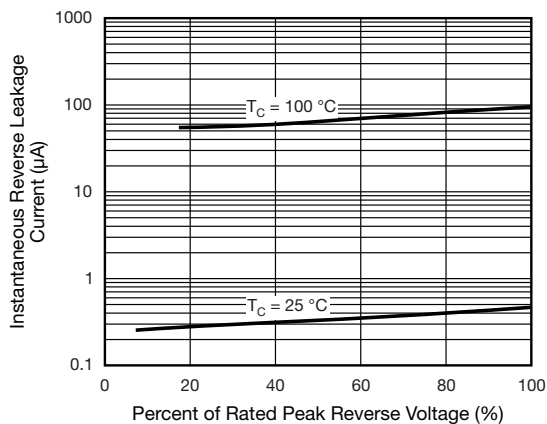


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

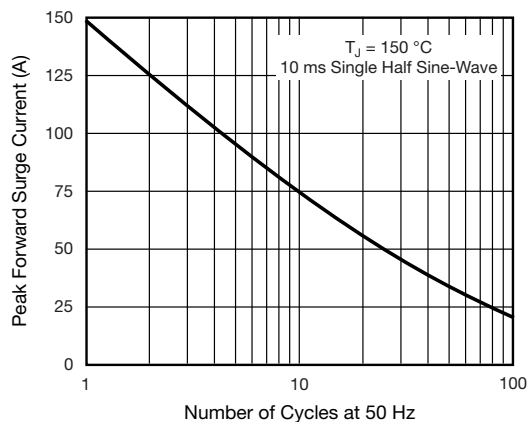


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

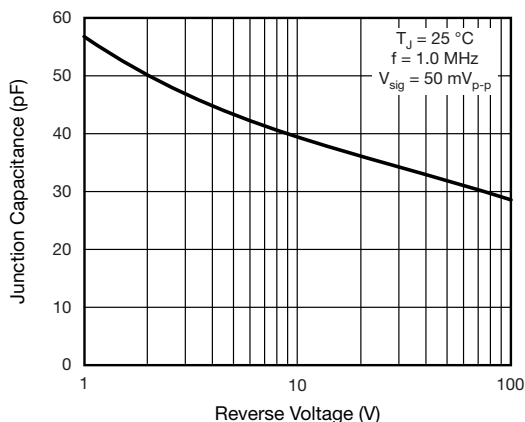


Fig. 5 - Typical Junction Capacitance Per Diode

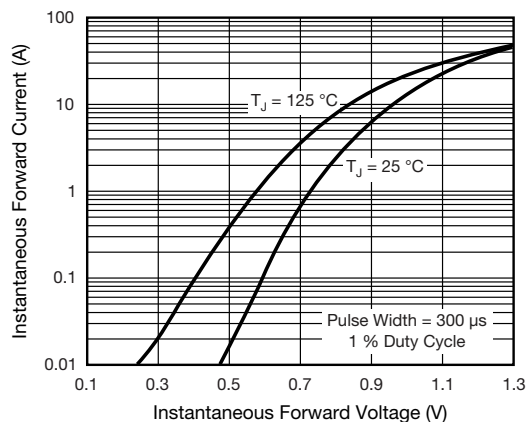
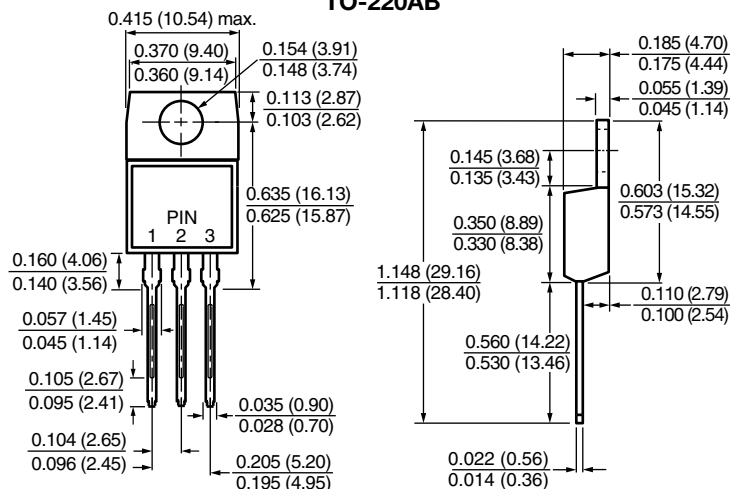


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

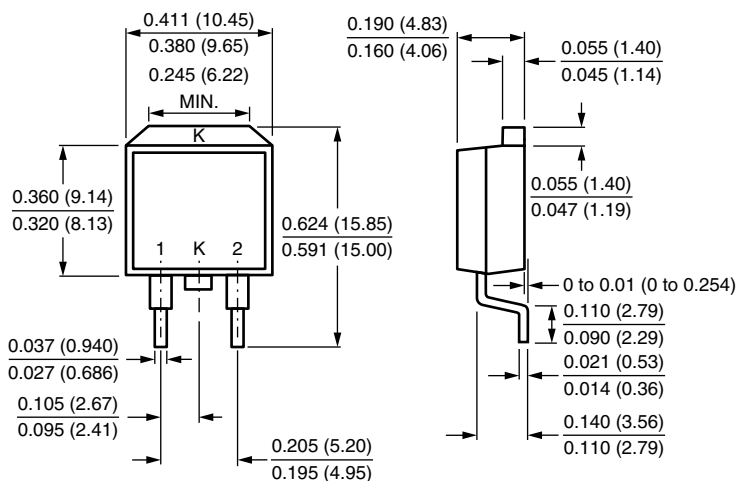


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

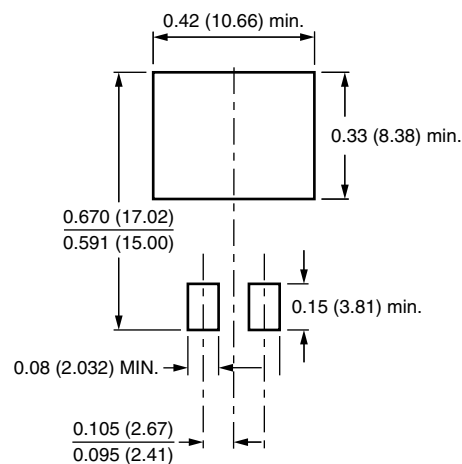
TO-220AB



D²PAK (TO-263AB)



Mounting Pad Layout





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