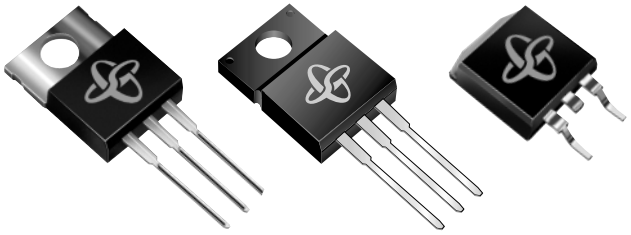
GENERAL SEMICONDUCTOR®

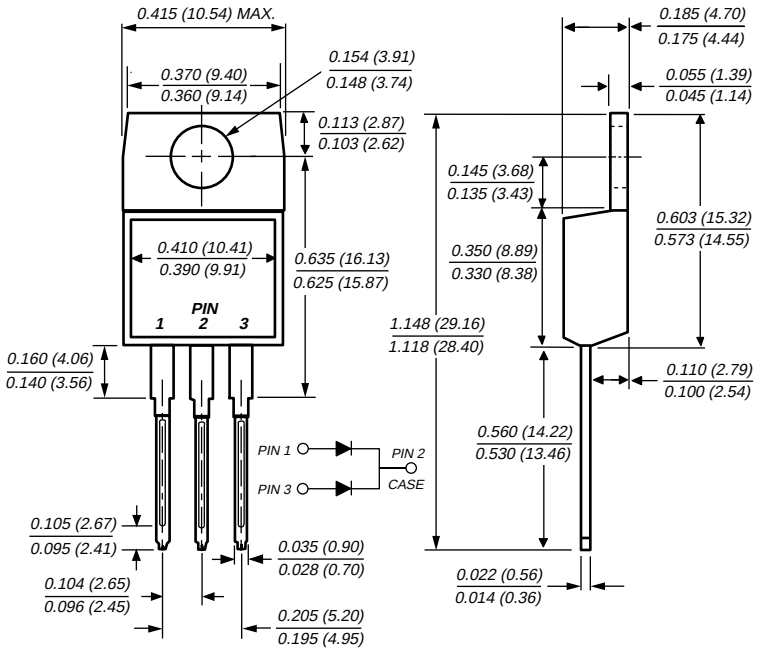
BYV32, BYVF32 & BYVB32 Series

Dual Ultrafast Rectifiers

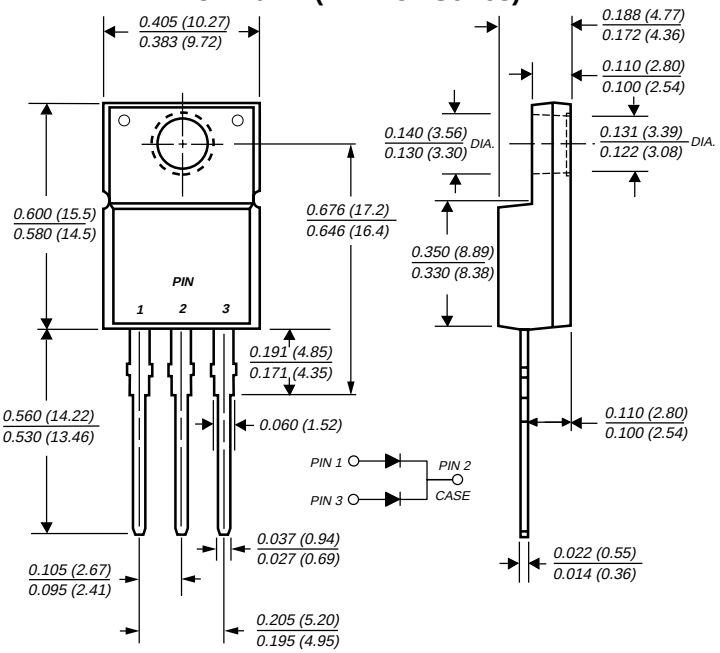
Reverse Voltage 50 to 200V
Forward Current 18A
Reverse Recovery Time 25ns



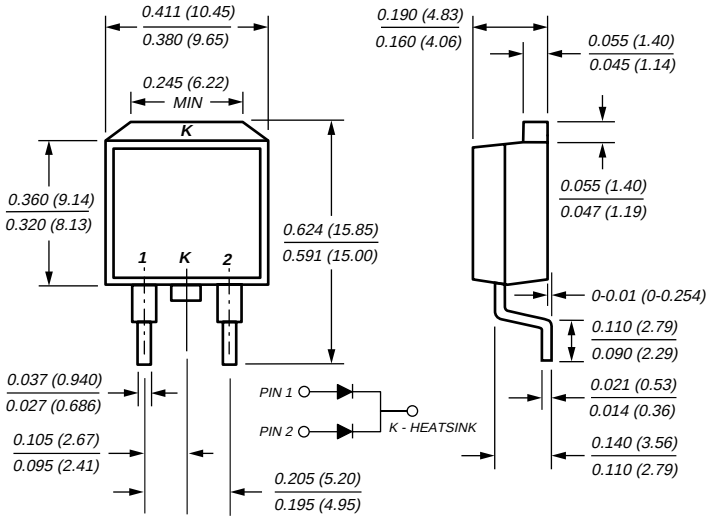
TO-220AB (BYV32 Series)



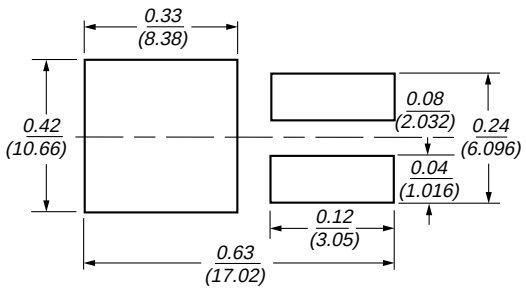
ITO-220AB (BYVF32 Series)



TO-263AB (BYVB32 Series)



Mounting Pad Layout TO-263AB



Dimensions in inches and (millimeters)

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 ounce, 2.24 grams

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

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Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BYV32-50	BYV32-100	BYV32-150	BYV32-200	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°C	$I_{F(AV)}$	18				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I_{FSM}	150				A
Operating junction and storage temperature range	T_J, T_{STG}	–65 to +150				°C
RMS Isolation voltage (BYVF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V_{ISOL}	4500 (1) 3500 (2) 1500 (3)				V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BYV32-50	BYV32-100	BYV32-150	BYV32-200	Unit
Maximum instantaneous forward voltage per leg at: (4) at I_F = 20A at I_F = 5.0A, T_J = 100°C	V_F	1.15 0.85				V
Maximum DC reverse current T_J = 25°C at rated DC blocking voltage T_J = 100°C	I_R	10 600				µA
Maximum reverse recovery time per leg at I_F = 1A, V_R = 30V, di/dt = 100A/µs, I_{rr} = 10% I_{RM}	t_{rr}	25				ns
Typical junction capacitance per leg at 4V, 1MHz	C_J	45				pF

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	BYV	BYVF	BYVB	Unit
Thermal resistance from junction to case per leg	$R_{\Theta JC}$	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

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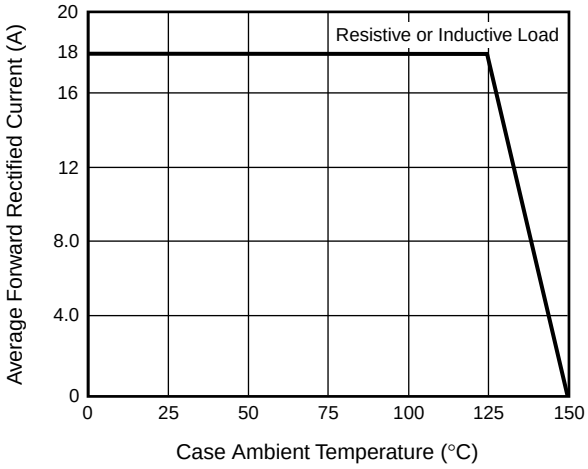
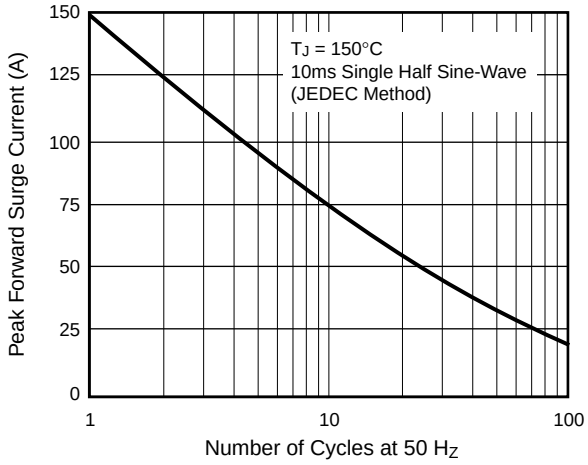
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

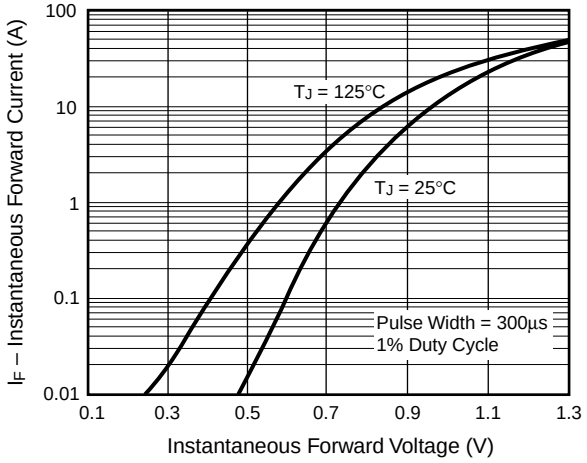
Forward Current Derating Curve



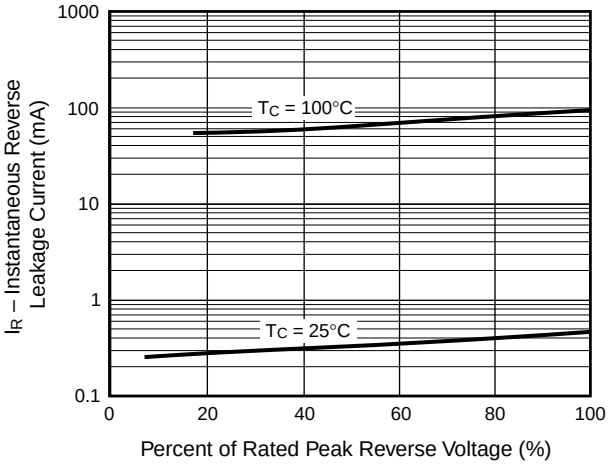
Maximum Non-Repetitive Peak Forward Surge Current Per Leg



Typical Instantaneous Forward Characteristics Per Leg



Typical Reverse Leakage Characteristics Per Leg



Typical Junction Capacitance Per Leg