Silicon Diode

BYV32-50

Fast Efficient Rectifier

50V / 18A

DATASHEET

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OEM – General Semiconductor

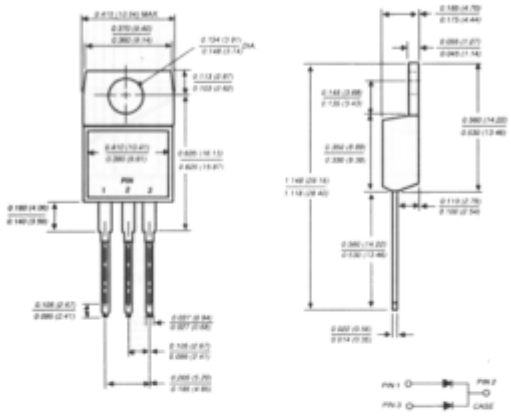
Source: General Semiconductor Databook 1998

BYV32-50 THRU BYV32-200

FAST EFFICIENT PLASTIC RECTIFIER

***Reverse Voltage** - 50 to 150 Volts* ***Forward Current** - 18.0 Amperes*

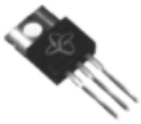
TO-220AB



Dimensions in inches and (millimeters)

FEATURES

- Dual rectifier construction, positive centertap
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junctions
- Low power loss
- Low forward voltage, high current capability
- High surge capability
- Superfast recovery time for high efficiency
- High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds



MECHANICAL DATA

Case: JEDEC TO-220AB molded plastic body over passivated chips
Terminals: Plated leads solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Weight: 0.08 ounce, 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	BYV32-50	BYV32-100	BYV32-150	BYV32-200	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current at T_C=120°C	$I_{(AV)}$	18.0				Amps
Peak forward surge current 10ms single half sine-wave superimposed at at T_J=150°C	I_{FSM}	150.0				Amps
Maximum instantaneous forward voltage per leg at: I_F=20A I_F=5.0A, T_J=100°C	V_F	1.15 0.85				Volts
Maximum DC reverse current T_C=25°C at rated DC blocking voltage T_C=100°C	I_R	10.0 600.0				µA
Maximum reverse recovery time per leg (NOTE 1)	t_{rr}	25.0				ns
Typical junction capacitance per leg (NOTE 2)	C_J	45.0				pF
Maximum thermal resistance per leg (NOTE 3)	$R_{\theta JA}$ $R_{\theta JC}$	20.0 3.0				°C/W
Operating and storage temperature range	T_J, T_{STG}	-65 to +150				°C

NOTES:
(1) Reverse recovery test conditions: I_F=1A V_R=30V, di/dt=100A/µs, I_{rr}=10% I_{RM}
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to ambient and from junction to case per leg mounted on heatsink

RATINGS AND CHARACTERISTIC CURVES BYV32-50 THRU BYV32-200

FIG.1 - FORWARD CURRENT DERATING CURVE

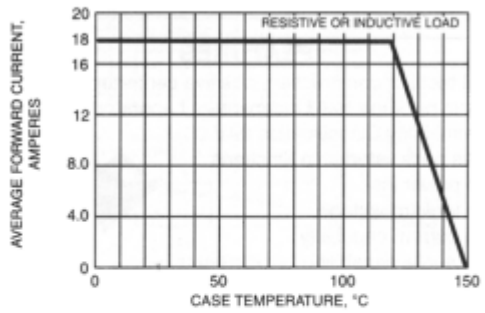


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

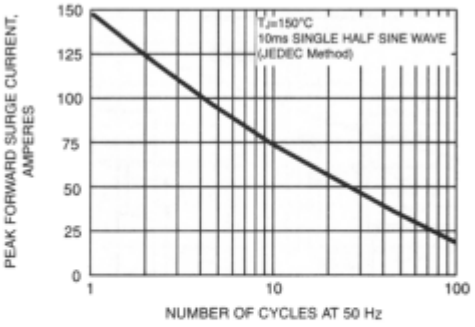


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

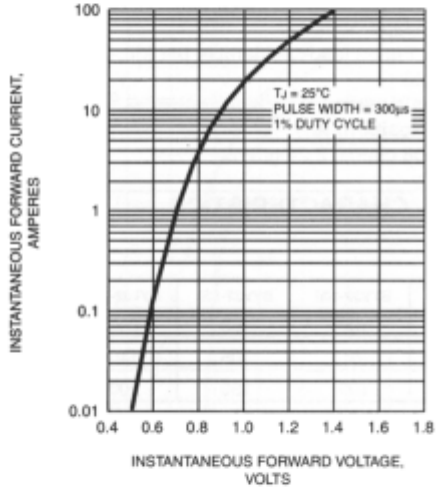


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

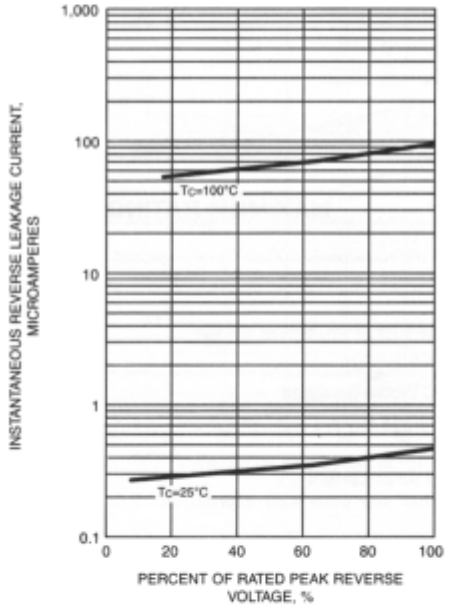


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG