Silicon Diode

BYV95E

Fast Switching Rectifier

1000V / 1,5A

DATASHEET

from

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

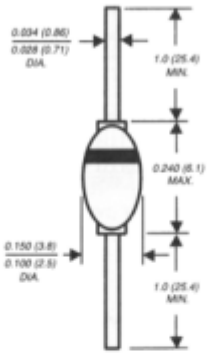
BYV95 AND BYV96 SERIES

MINIATURE GLASS PASSIVATED FAST SWITCHING RECTIFIER

***Reverse Voltage** - 200 to 1000 Volts **Forward Current** - 1.5 Amperes*

PATENTED*

DO-204AP



Dimensions in inches and (millimeters)

* *Brazed-lead assembly is covered by Patent No. 3,930,306*

FEATURES

- High temperature metallurgically bonded construction
- Hermetically sealed package
- Glass passivated cavity-free junction
- 1.5 Ampere operation at T_A=55°C with no thermal runaway
- Typical I_R less than 0.1µA
- Capable of meeting environmental standards of MIL-S-19500
- Fast switching for high efficiency
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-204AP solid glass body
Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.02 ounce, 0.56 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	BYV95A	BYV95B	BYV95C	BYV96D	BYV96E	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	Volts
Minimum avalanche breakdown voltage at 100µA	$V_{(BR)}$	300	500	700	900	1100	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A=55°C	$I_{(AV)}$	1.5					Amps
Peak forward surge current, 10ms single half sine-wave superimposed on rated load at T_J=165°C	I_{FSM}	35.0					Amps
Maximum instantaneous forward voltage at 1.5A T_J=25°C / T_J=165°C	V_F	1.6 / 1.35					Volts
Maximum full load reverse current, full cycle average, 0.375", (9.5mm) lead length at T_J=25°C / T_J=165°C	$I_{R(AV)}$	1.0 / 150.0					µA
Maximum DC reverse current at rated DC blocking voltage	I_R	2.0					µA
Maximum reverse recovery time (NOTE 1)	t_{rr}	250			300		ns
Typical junction capacitance (NOTE 2)	C_J	10.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0					°C/W
Operating junction temperature range	T_J	-65 to +175					°C
Storage temperature range	T_{STG}	-65 to +200					°C

NOTES: (1) Measured with I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES BYV95 AND BYV96 SERIES

FIG. 1 - FORWARD CURRENT DERATING CURVE

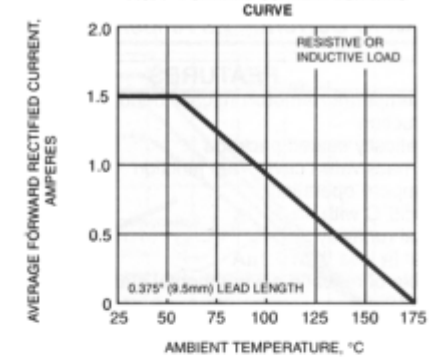


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

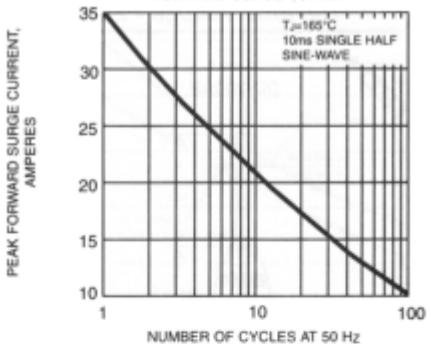


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

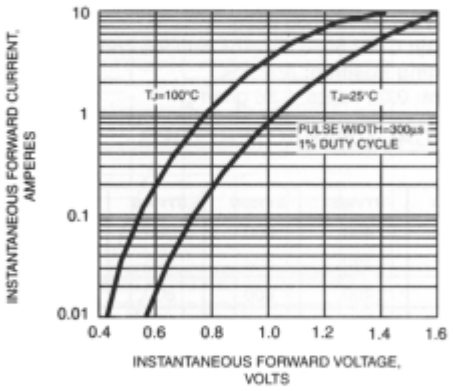


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

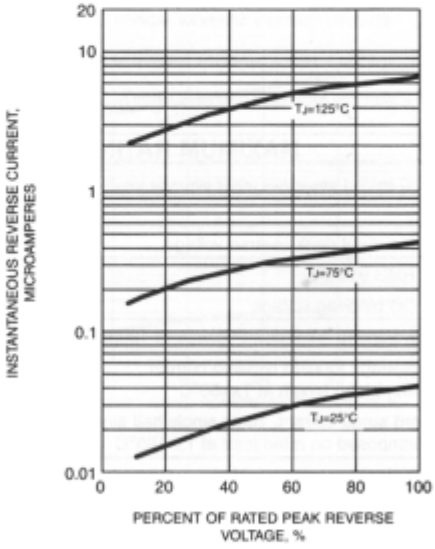


FIG. 5 - TYPICAL JUNCTION CAPACITANCE