Silicon Diode

BYV27-200

Fast Efficient Rectifier

200V / 2A

DATASHEET

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

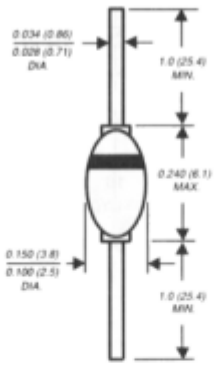
BYV27-50 THRU BYV27-200

GLASS PASSIVATED FAST EFFICIENT RECTIFIER

***Reverse Voltage** - 50 to 200 Volts* ***Forward Current** - 2.0 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
- Glass passivated cavity-free junction
- Superfast recovery time for high efficiency
- Low forward voltage, high current capability
- Capable of meeting environmental standards of MIL-S-19500
- Hermetically sealed package
- Low leakage current
- High surge current capability
- 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: 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	BYV27-50	BYV27-100	BYV27-150	BYV27-200	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
Minimum reverse breakdown voltage at 100 µA	V_{BR}	55	110	165	220	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L=85°C	$I_{(AV)}$	2.0				Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load at T_J=175°C	I_{FSM}	50.0				Amps
Maximum instantaneous forward voltage at 3.0A — T_J=25°C / T_J=175°C	V_F	1.07 / 0.88				Volts
Maximum DC reverse current at rated DC blocking voltage — T_A=25°C / T_A=165°C	I_R	1.0 / 150.0				µA
Maximum reverse recovery time (NOTE 1)	t_{rr}	25.0				ns
Typical junction capacitance (NOTE 2)	C_J	45.0				pF
Typical thermal resistance (NOTE 3, 4)	$R_{\theta JA}$ / $R_{\theta JL}$	65.0 / 20.0				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175				°C

NOTES:
(1) Reverse recovery test conditions: 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 lead at 0.375" (9.5mm) lead length with both leads attached to heatsinks
(4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length and mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads

RATINGS AND CHARACTERISTIC CURVES BYV27-50 THRU BYV27-200

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

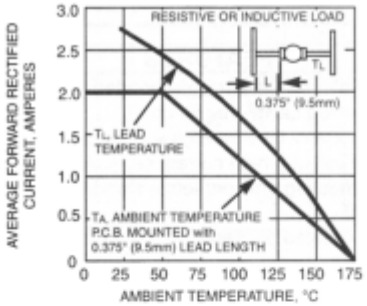


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

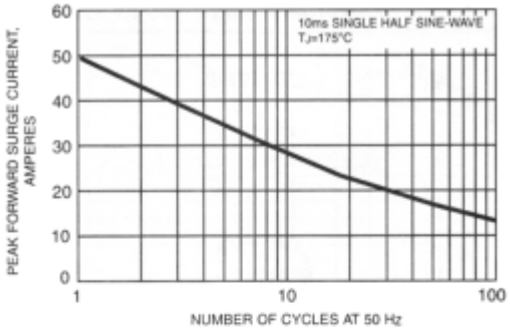


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

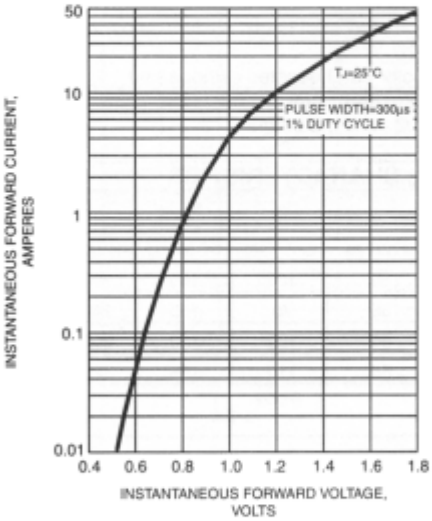


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

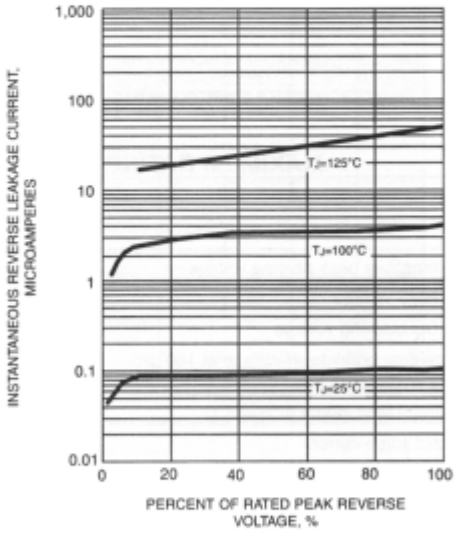
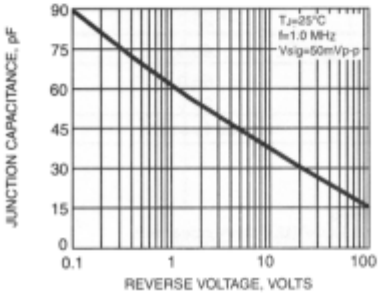



FIG. 5 - TYPICAL JUNCTION CAPACITANCE