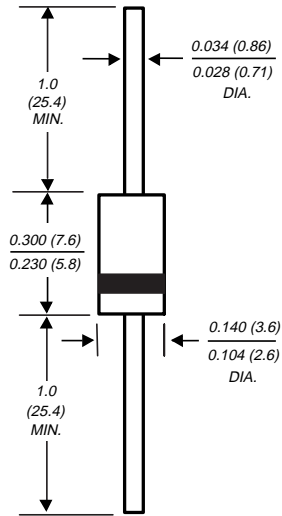


SBYV27-50 THRU SBYV27-200

SOFT, ULTRAFAST RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 2.0 Amperes

DO-204AC



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Reduced EMI over conventional BYV27
- ◆ Nitride oxide passivated junction
- ◆ Excellent high temperature switching
- ◆ Superfast recovery times
- ◆ Low forward voltage, high current capability
- ◆ Gold dope, soft
- ◆ High surge current capability
- ◆ High temperature soldering guaranteed: 265°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AC molded plastic over a passivated junction
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.015 ounce, 0.4 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	SBYV27-50	SBYV27-100	SBYV27-150	SBYV27-200	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 100µA	V _{BR}	55	110	165	220	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead lengths at T _L =85°C	I _(AV)	2.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	80.0				Amps
Maximum instantaneous forward voltage at 3.0A	V _F	T _J =25°C T _J =150°C		1.07 0.88		Volts
Maximum DC reverse current at rated DC blocking voltage	I _R	T _A =25°C T _A =100°C		5.0 200.0		µA
Maximum reverse recovery time (NOTE 1)	t _{rr}	15.0				ns
Typical junction capacitance (NOTE 2)	C _J	20.0				pF
Typical thermal resistance (NOTE 3)	R _{θJC}	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 lengths with both leads attached to heatsinks

RATINGS AND CHARACTERISTIC CURVES SBYV27-50 THRU SBYV27-200

FIG. 1 - FORWARD CURRENT DERATING CURVE

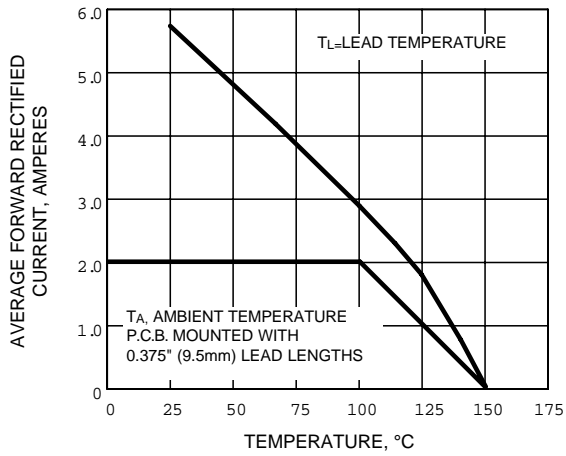


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK PEAK FORWARD SURGE CURRENT

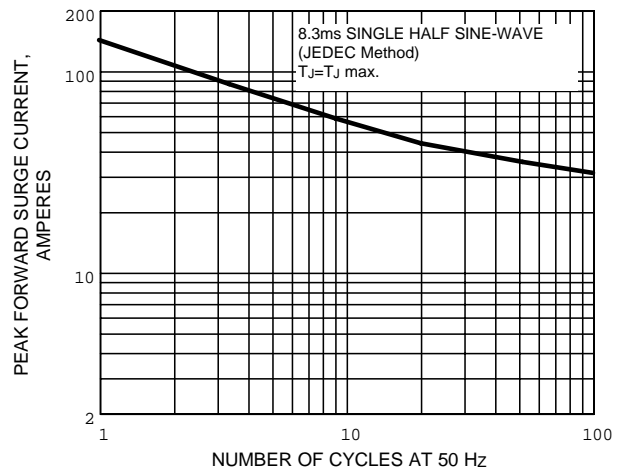


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

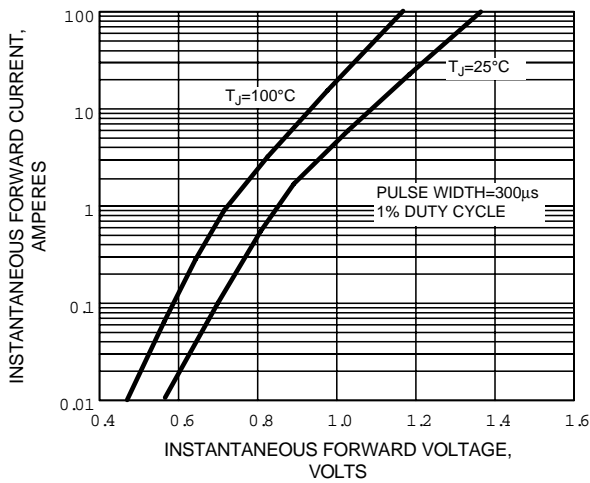


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

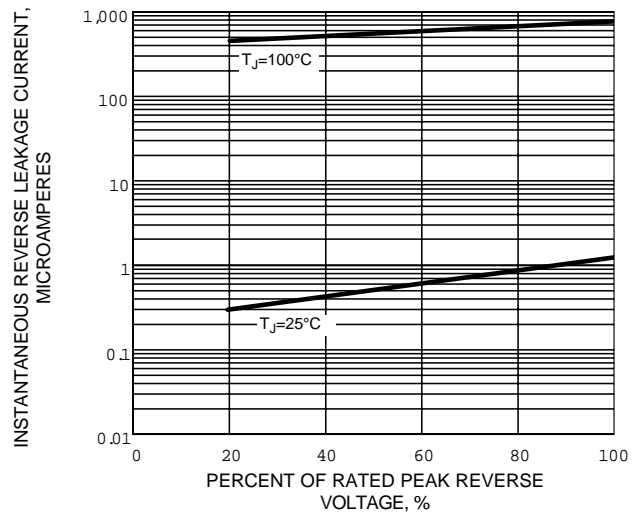


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

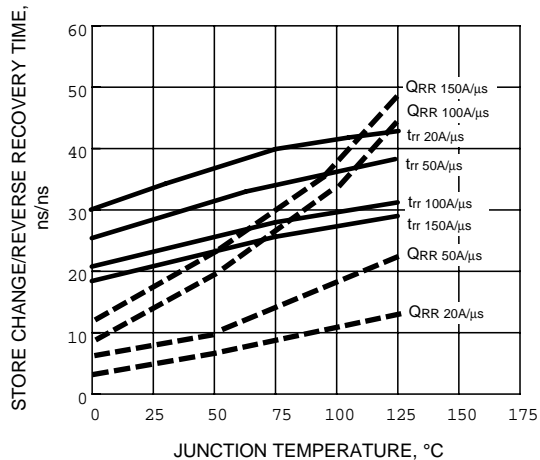


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

