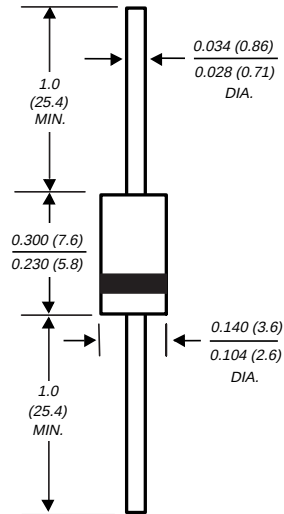


SBYV27-50 THRU SBYV27-200

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 T _J =25°C T _J =150°C	V _F	1.07 0.88				Volts
Maximum DC reverse current at rated DC blocking voltage T _A =25°C T _A =100°C	I _R	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

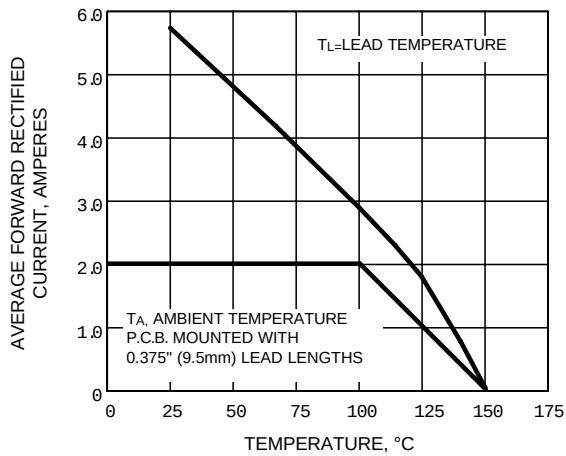


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK PEAK FORWARD SURGE CURRENT

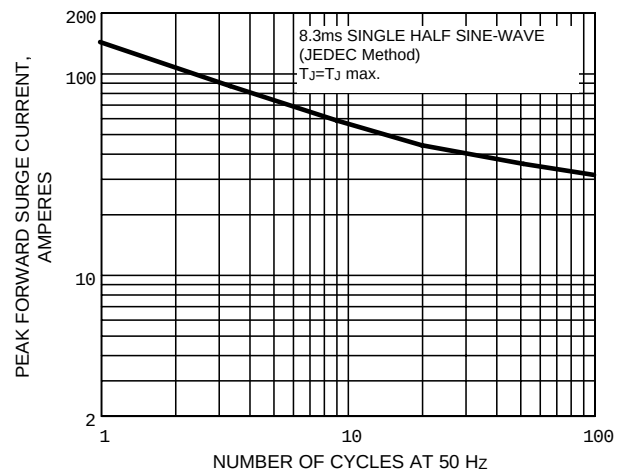


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

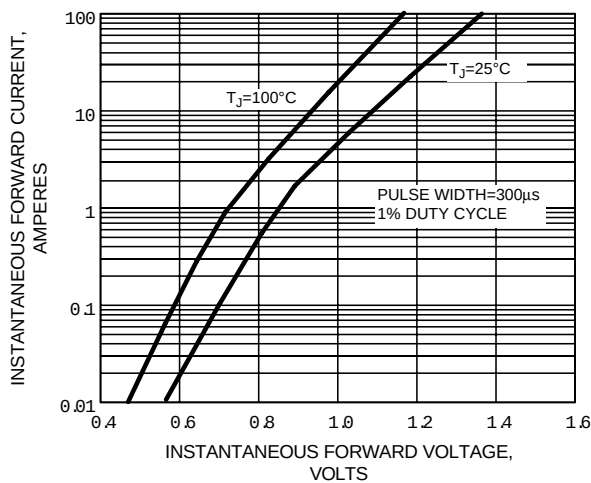


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

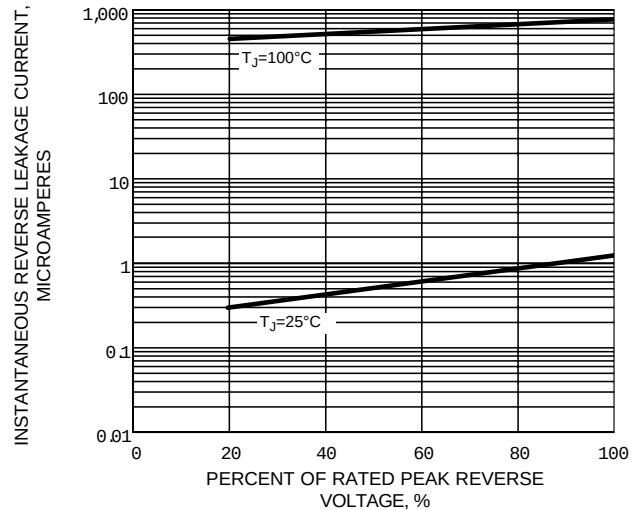


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

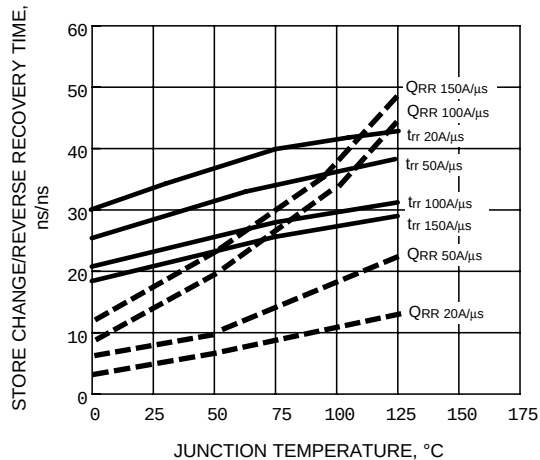


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

