

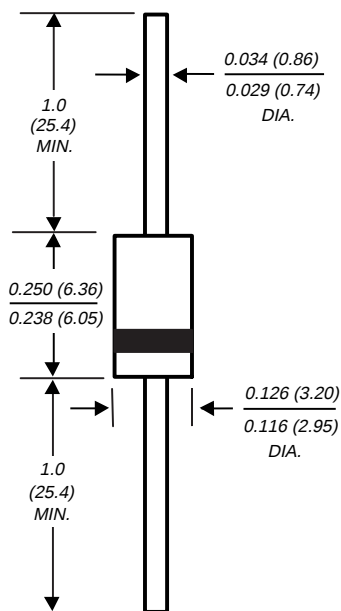
Soft Recovery Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200 V

Forward Current 2.0 A



DO-204AC (DO-15)



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-204AC molded plastic body over passivated chip

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 & Thermal 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	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	V
Minimum reverse breakdown voltage at 100µA	V _{BR}	55	110	165	220	V
Maximum average forward rectified current 0.375" (9.5mm) lead lengths at T _L = 85°C	I _{F(AV)}	2.0				A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load (JEDEC Method) at T _J = 150°C	I _{FSM}	50				A
Typical thermal resistance (NOTE 1)	R _{θJA}	45				°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150°C				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	SBYV27-50	SBYV27-100	SBYV27-150	SBYV27-200	Units
Maximum instantaneous forward voltage at 3.0A (NOTE 2)	V _F	1.07 0.88				V
Maximum DC reverse current at rated DC blocking voltage	I _R	5.0 200				µA
Maximum reverse recovery time at I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	t _{rr}	15				ns
Typical junction capacitance at 4.0V, 1MHz	C _J	15				pF

NOTES:

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length

(2) Pulse test: 300µs pulse width, duty cycle ≤ 2%

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES

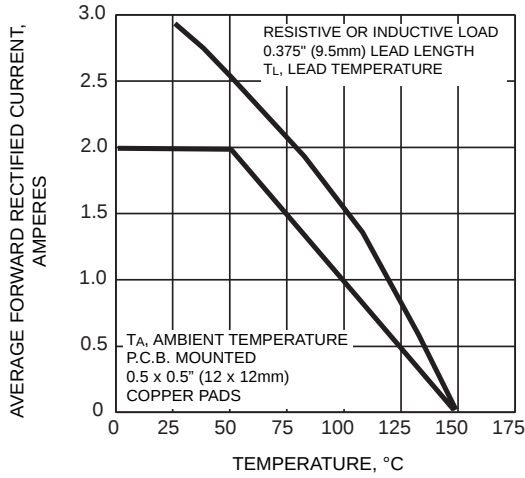


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

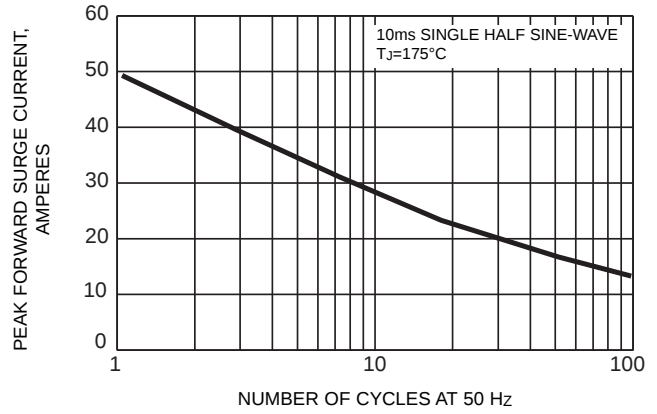


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

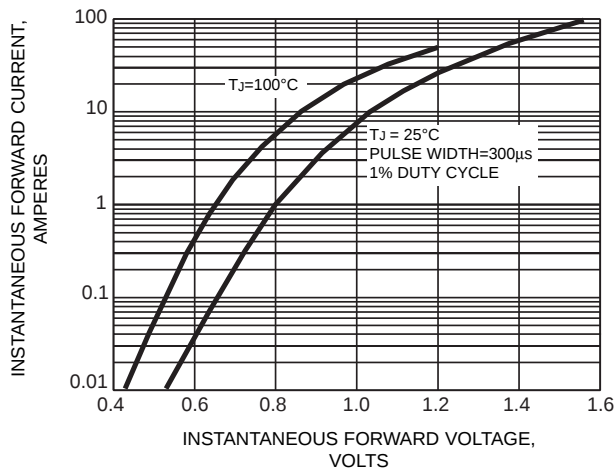


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

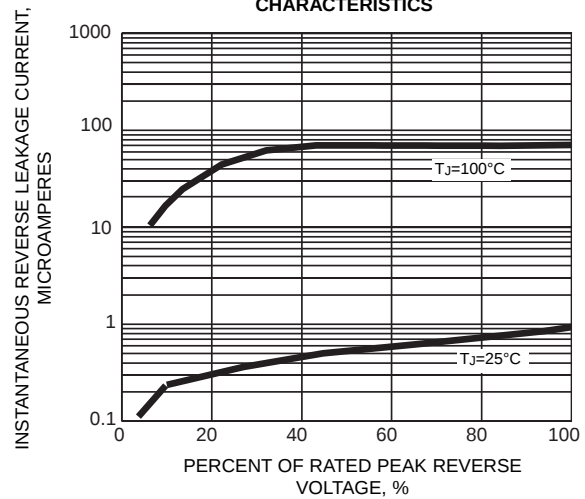


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

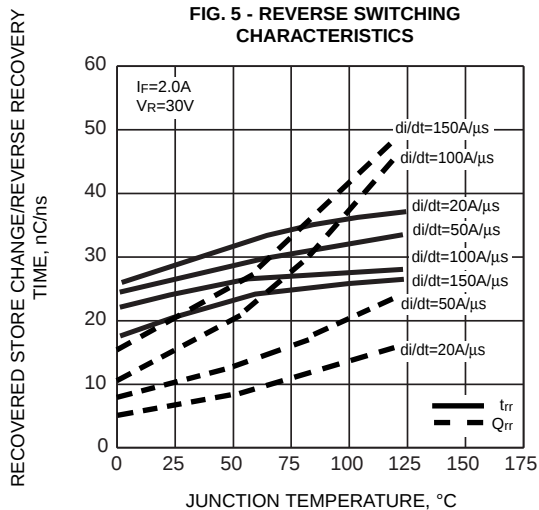


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

