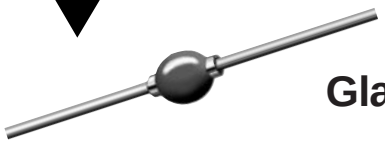
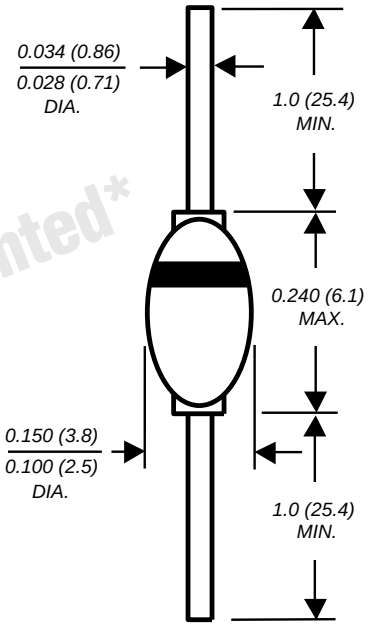
Glass Passivated Ultrafast Rectifier



DO-204AP



Dimensions in inches and (millimeters)

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

Reverse Voltage 50 to 200 V
Forward Current 2.0 A

Features

- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Ultrafast 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
- Specified reverse surge 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 & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	BYV27-50	BYV27-100	BYV27-150	BYV27-200	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
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L=85°C	$I_{F(AV)}$	2.0				A
Peak forward surge current 10ms single half sine-wave superimposed on rated load at T_J=175°C	I_{FSM}	50				A
Typical thermal resistance (1) (2)	$R_{\Theta JA}$ $R_{\Theta JL}$	65 20				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Minimum reverse breakdown voltage at 100 µA		V_{BR}	55	110	165	220	V
Maximum instantaneous forward voltage at 3.0A	T_J=25°C T_J=175°C	V_F	1.07 0.88				V
Maximum DC reverse current at rated DC blocking voltage	T_A=25°C T_A=165°C	I_R	1.0 150				µA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A		t_{rr}	25				ns
Typical junction capacitance at 4.0V, 1MHz		C_J	45				pF

Notes:
(1) Thermal resistance from junction to lead at 0.375" (9.5mm) lead length with both leads attached to heatsink
(2) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Maximum Forward Current Derating Curves

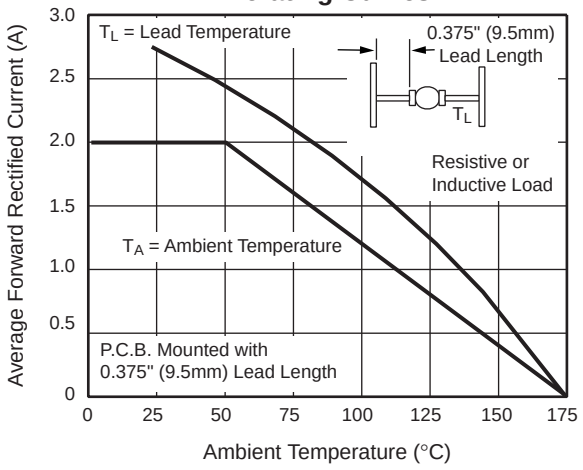


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

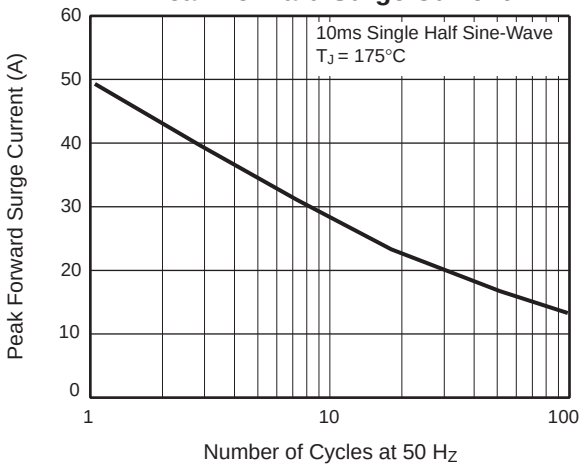


Fig. 3 – Typical Instantaneous Forward Characteristics

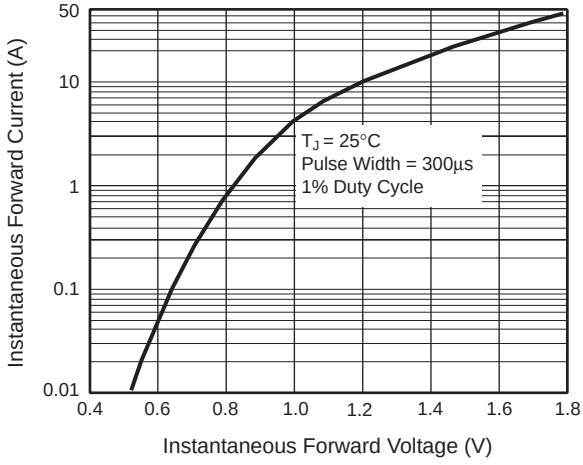


Fig. 4 – Typical Reverse Leakage Characteristics

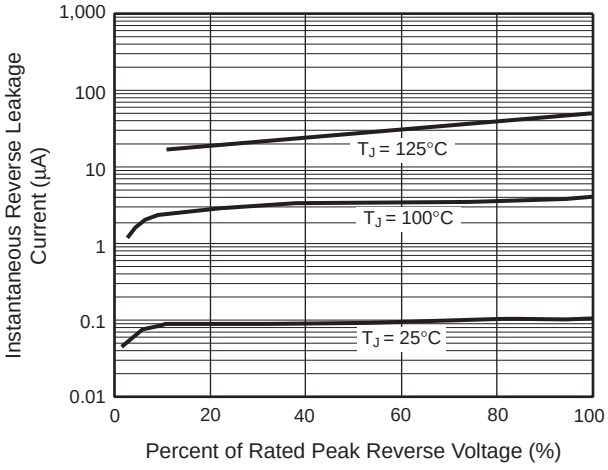


Fig. 5 – Typical Junction Capacitance