

GLASS PASSIVATED FAST RECOVERY RECTIFIERS

BY296-BY299

Vishay General Semiconductor

FEATURES

- Fast switching
- Low leakage
- Low forward voltage drop
- High current capability
- High current surge
- High reliability

MECHANICAL DATA

Case: Molded plastic

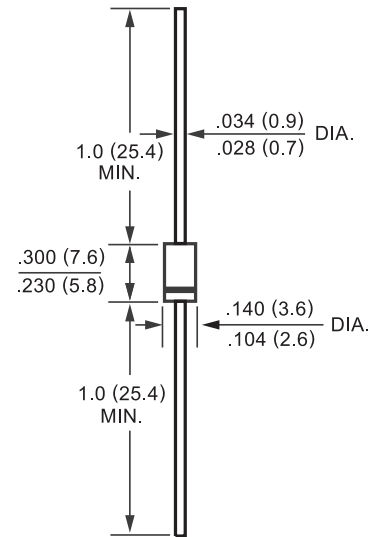
Epoxy: UL 94V-0 rate flame retardant

Lead: MIL-STD-202E, Method 208 guaranteed

Mounting position: Any

Weight: 0.38 gram

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	SYMBOL	BY296	BY297	BY298	BY299	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	200	400	800	Volts
Maximum RMS Voltage	V_{RMS}	70	140	280	560	Volts
Maximum DC Blocking Voltage	V_{DC}	100	200	400	800	Volts
Maximum Average Forward Rectified Current at $T_A = 75^\circ\text{C}$	I_O	2.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	70				Amps
Maximum Instantaneous Forward Voltage at 2.0A DC	V_F	1.3				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	I_R	5.0				μAmps
Maximum Full Load Reverse Current Full Cycle Average. .375*(9.5mm) lead length at $T_L = 55^\circ\text{C}$		100				μAmps
Maximum Reverse Recovery Time (Note 1)	t_{rr}	150			500	nSec
Typical Junction Capacitance (Note 2)	C_J	40				pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 150				$^\circ\text{C}$

NOTES : 1. Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $IRR = 0.25A$

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

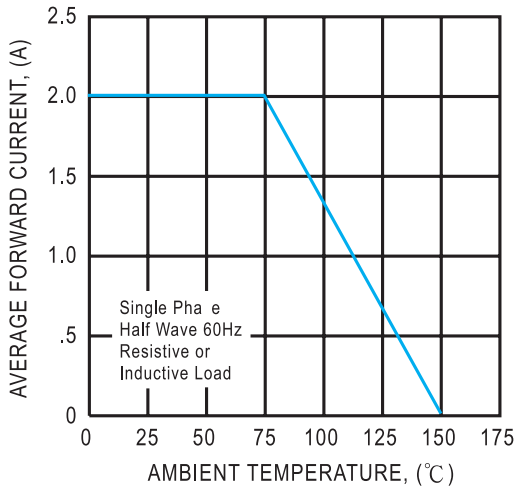


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

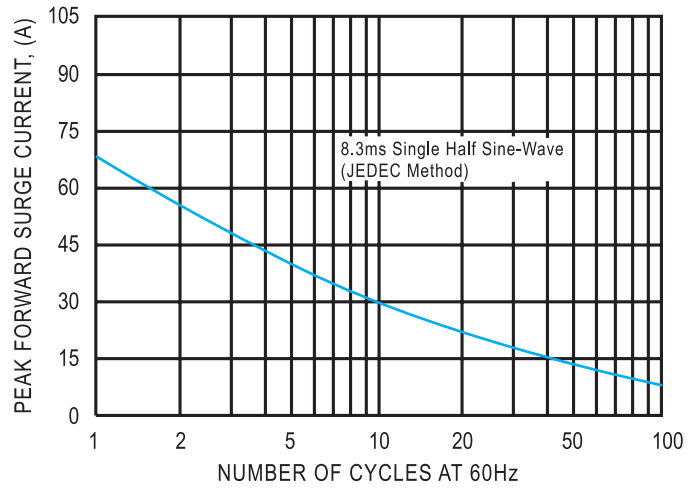


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

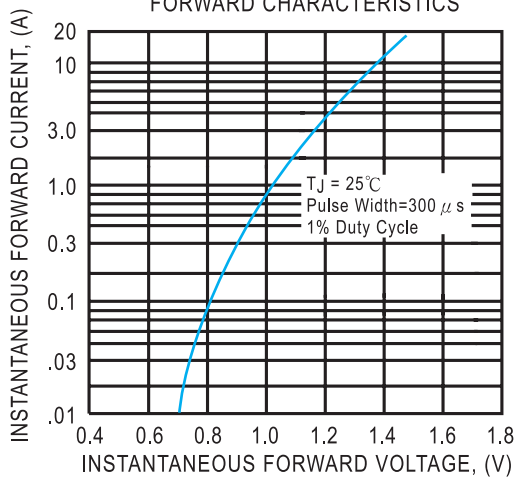


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

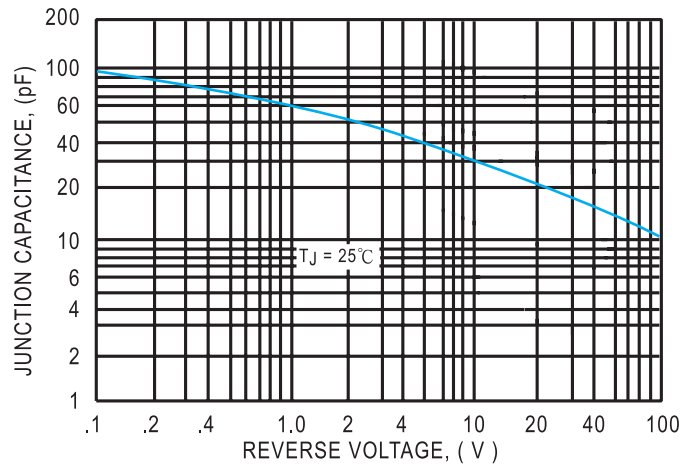
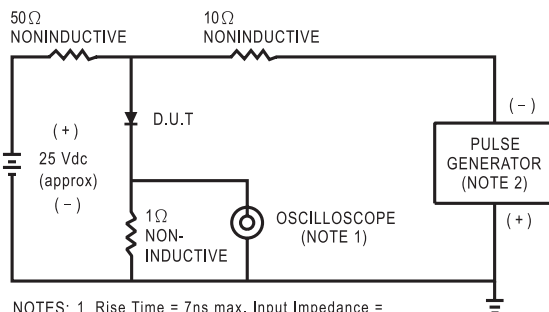


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

