

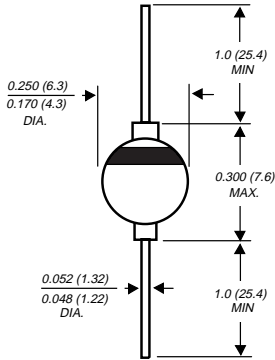
# BY228 SERIES

## CLAMPER / DAMPER GLASS PASSIVATED RECTIFIER

Reverse Voltage - 1500 Volts Forward Current - 2.5 Amperes

**PATENTED\***

### Case Style G3



Dimensions in inches and (millimeters)

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

### FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ Glass passivated cavity-free junction
- ♦ 2.5 ampere operation at  $T_A=50^\circ\text{C}$  with no thermal runaway
- ♦ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ♦ Hermetically sealed package
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375''$  (9.5mm) lead length, 5 lbs. (2.3kg) tension



### MECHANICAL DATA

**Case:** Solid glass body

**Terminals:** Solder plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.1 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

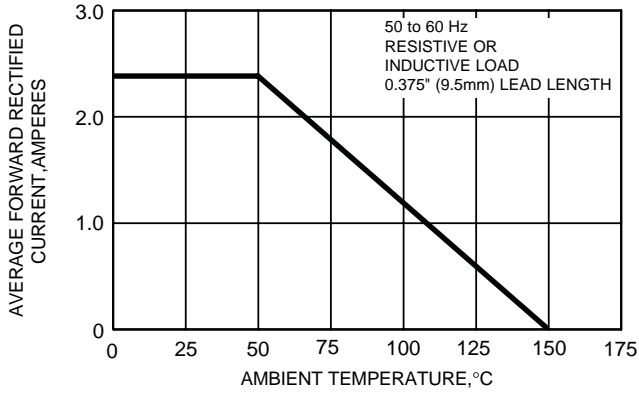
	SYMBOLS	BY228	UNITS
Maximum non repetitive peak reverse voltage	$V_{RSM}$	1650	Volts
Maximum repetitive peak reverse voltage	$V_{RRM}$	1500	Volts
Maximum RMS voltage	$V_{RMS}$	1050	Volts
Maximum DC blocking voltage	$V_{DC}$	1500	Volts
Maximum average forward rectified current $0.375''$ (9.5mm) lead length at $T_A=50^\circ\text{C}$	$I_{(AV)}$	2.5	Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load	$I_{FSM}$	50.0	Amps
Maximum instantaneous forward voltage at 2.5A	$V_F$	1.6	Volts
Working peak forward current at $T_A=75^\circ\text{C}$	$I_{FWM}$	5.0	Amps
Peak repetitive forward surge current at $T_A=75^\circ\text{C}$	$I_{FRM}$	10.0	Amps
Maximum peak reverse current at rated peak reverse voltage $T_A=25^\circ\text{C}$ $T_J=140^\circ\text{C}$	$I_R$	5.0 200	$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	20.0	$\mu\text{s}$
Maximum forward recovery time (NOTE 2)	$t_{fr}$	1.0	$\mu\text{s}$
Typical junction capacitance (NOTE 2)	$C_J$	40.0	pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$	20.0	$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +200	$^\circ\text{C}$

#### NOTES:

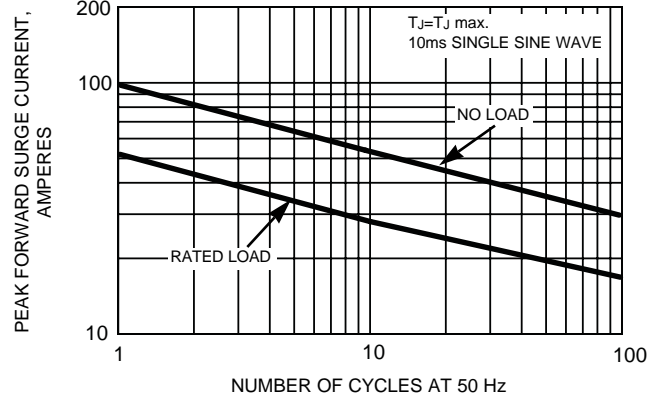
- (1) Measured with  $I_F=1.0\text{A}$ ,  $I_R=50\text{mA}$ ,  $di/dt=50\text{mA}/\mu\text{s}$
- (2) Measured with  $I_F=5.0\text{A}$  with  $t_r=0.1\mu\text{s}$
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Thermal resistance from junction to ambient at  $0.375''$  (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES BY228 SERIES

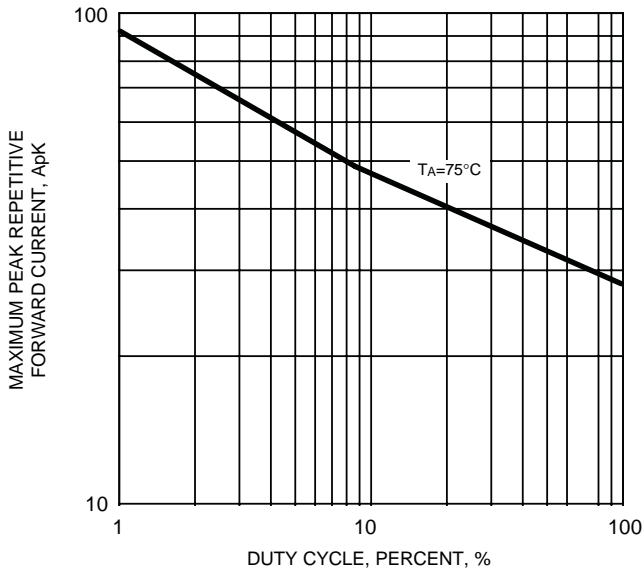
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



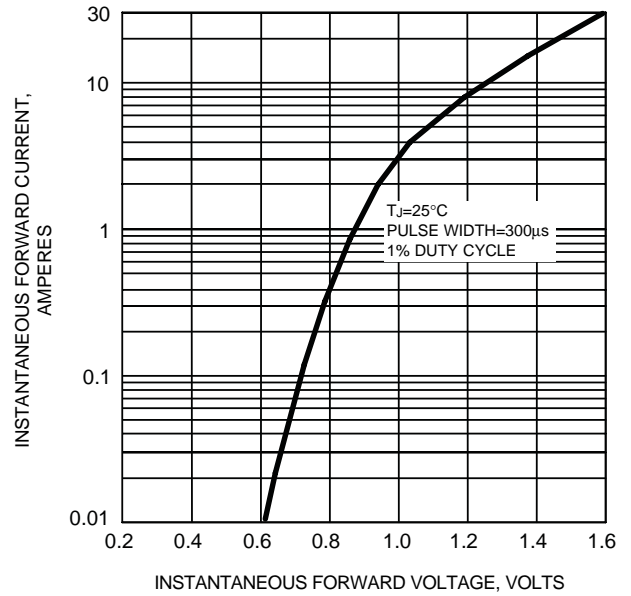
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



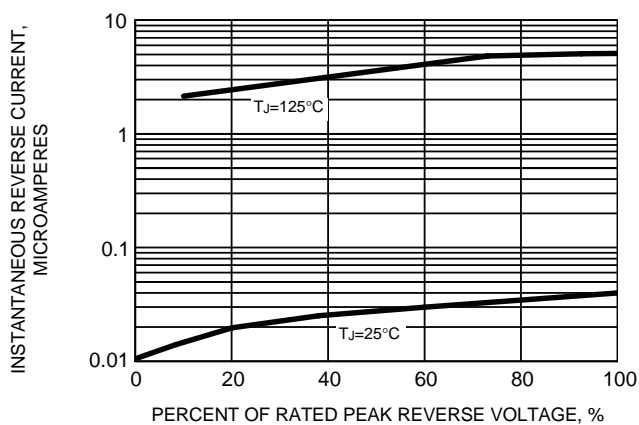
**FIG. 3 - MAXIMUM PEAK REPETITIVE FORWARD SURGE CURRENT**



**FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 5 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**

