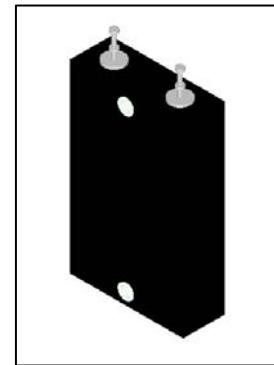


## Transient Voltage Suppressor, Unidirectional

### FEATURES:

- ◆ Equivalent Industry Standard Part Numbers – PHP8.4 to PHP500 & PIP8.4 to PIP500
- ◆ 7,500 and 15,000 Watts Peak Pulse Power Dissipation
- ◆ Available in ranges from 8.4 to 500 Volts
- ◆ Each device is 100% tested
- ◆ Designed for Military (PHP Series) and Commercial (PIP Series)



PHP / PIP is designed for applications requiring “across the line” AC power protection.

These TVS modules are used in applications where extreme voltage transients can permanently damage voltage sensitive systems or components.

### MAXIMUM RATINGS

Rating	Condition	Minimum	Maximum	Units
Peak Pulse Power Dissipation	@ 25°, 1ms	-	7,500 & 15,000	Watts
Average Steady State Power Dissipation	@ 50°C	-	7.5	Watts
$t_{clamping}$	0 Volts to $V_{(BR)}$	-	$< 1 \times 10^{-8}$	Seconds
Operating & Storage Temp.	-	-65	+ 150	°C

Part Number	Average RMS Voltage Volts AC	Reverse Stand-Off Voltage (note 1) $V_{WM}$ Volts DC	Minimum Breakdown Voltage $V_{(BR)}$ @ $I_t$ Volts mA	Maximum Reverse Leakage $I_D$ @ $V_{WM}$ $\mu$ A	Maximum Clamping Voltage $V_c$ @ $I_{PP}$ Volts dc	Maximum Peak Pulse Current $I_{PP}$ Amps	Maximum Peak Pulse Power (I msec) $P_p$ Kilowatts
PHP8.4	8.4	12.0	14 10	250	22	341	7.5
PHP24	24.0	34.0	40 10	250	67	112	7.5
PHP30	30.0	42.5	50 1.0	250	84	90	7.5
PHP60	60.0	85.0	100 1.0	250	167	90	15.0
PHP120	120.0	170.0	200 1.0	250	319	47	15.0
PHP206	208.0	295.0	347 1.0	250	536	28	15.0
PHP250	250.0	354.0	418 1.0	250	652	23	15.0
PHP440	440.0	623.0	735 1.0	250	1138	13.2	15.0
PHP500	500.0	708.0	835 1.0	250	1292	11.6	15.0
PIP8.4	8.4	12.0	14 10	250	22	341	7.5
PIP24	24.0	34.0	40 10	250	67	112	7.5
PIP30	30.0	42.5	50 1.0	250	84	90	7.5
PIP60	60.0	85.0	100 1.0	250	167	90	15.0
PIP120	120.0	170.0	200 1.0	250	319	47	15.0
PIP206	208.0	295.0	347 1.0	250	536	28	15.0
PIP250	250.0	354.0	418 1.0	250	652	23	15.0
PIP440	440.0	623.0	735 1.0	250	1138	13.2	15.0
PIP500	500.0	708.0	835 1.0	250	1292	11.6	15.0

**TECHNICAL DATA**  
**DATA SHEET 564, REV. A**

Special Voltages available from the factory.

**Note 1:** A device is normally selected according to the reverse "Stand Off Voltage" ( $V_{WM}$ ) which should be equal to or greater than the DC or continuous peak operating voltage level.

**MECHANICAL CHARACTERISTICS**

CASE: Molded case.

TERMINAL: Hot solder dipped

POLARITY: Bidirectional

WEIGHT: 50 grams (Appx.)

MOUNTING POSITION: Any

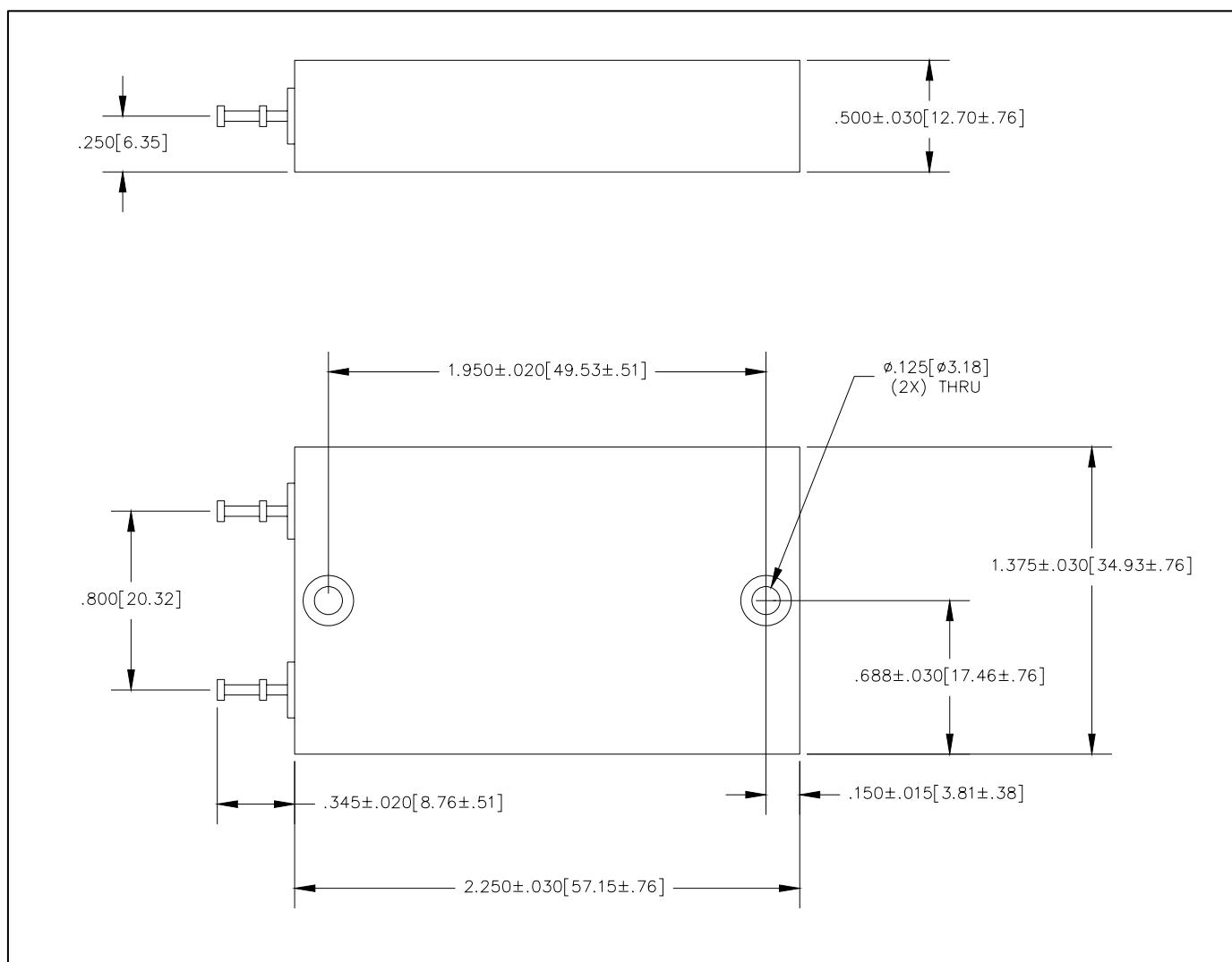
**MILITARY APPLICATIONS**

PHP series sub-assemblies are packaged in a hermetically sealed glass-to-metal package, available with design consistency to MIL-PRF-19500/507

**COMMERCIAL APPLICATIONS**

PIP series sub-assemblies are packaged in a molded epoxy case

**MECHANICAL DIMENSIONS: In Inches / mm**



**TECHNICAL DATA  
DATA SHEET 564, REV. A**

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