

### DESCRIPTION

The PIP & PHP series of transient voltage suppression modules are designed to protect military and commercial electronic equipment from overvoltages caused by lightning, power interrupt, inductive load switching, AC line fluctuations, and NEMP. These modules find applications in both commercial and military environments, including telecommunications, shipboard and aircraft, power distribution, computers, and power supplies. For military applications, the PHP module sub-assemblies are metallurgically bonded and packaged in a hermetically sealed package. TVS modules are most often used in applications where discrete TVS diodes do not have high enough surge handling capability to suppress large power surges.

### SCREENING:

100% Screening is available per MIL-S-19500/516. For ordering use the following suffix:

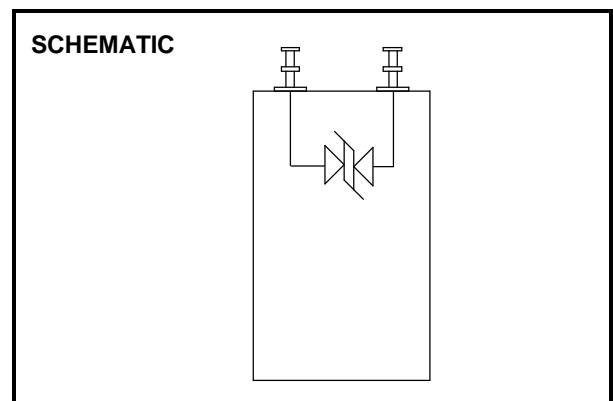
- H1 - Submodule screening
- H2 - Submodule & module screening
- H3 - Submodule & module screening + Group B & C

### FEATURES:

- 7500 & 15000 watts Peak Pulse Power (tp = 10 x 1000µs)
- **PIP** series designed for industrial applications.
- **PHP** series designed for aerospace applications.
- Bidirectional
- Custom voltages available from factory.

### MECHANICAL CHARACTERISTICS:

- Molded Case
- Readily solderable terminals
- Marking : Logo, part number, and date code



### MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Peak Pulse Power (tp = 10 x 1000µs)	Ppk	7500 & 15000	Watts
Operating Temperature	Tj	-65 to +150	°C
Storage Temperature	Tstg	-65 to +150	°C

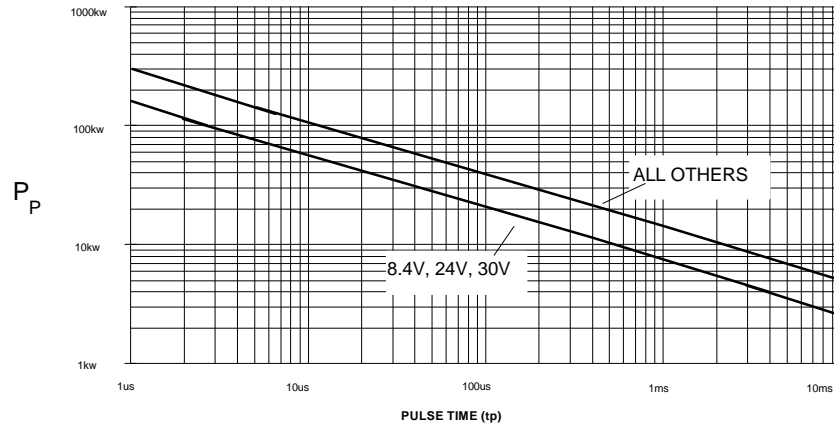
### ELECTRICAL CHARACTERISTICS @ 25°C

PART NUMBER (COMMERCIAL)	AVERAGE RMS VOLTAGE VOLTS AC (V)	REVERSE STAND-OFF VOLTAGE VRWM (V)	REVERSE LEAKAGE CURRENT IR (µA)	MINIMUM BREAKDOWN VOLTAGE VBR @ Ir (V)	TEST CURRENT Ir (mA)	MAXIMUM CLAMPING VOLTAGE Vc @ Ipp (V)	PEAK PULSE CURRENT Ipp tp = 10/1000µs (A)	MAXIMUM PEAK PULSE POWER tp = 10/1000µs (kw)
PIP 8.4	8.4	12.0	250	14	10	22	341	7.5
PIP 24	24.0	34.0	250	40	10	67	112	7.5
PIP 30	30.0	42.5	250	50	1	84	90	7.5
PIP 60	60.0	85.0	250	100	1	167	90	15.0
PIP 120	120.0	170.0	250	200	1	319	47	15.0
PIP 208	208.0	295.0	250	347	1	536	28	15.0
PIP 250	250.0	354.0	250	418	1	652	23	15.0
PIP 440	440.0	623.0	250	735	1	1138	13.2	15.0
PIP 500	500.0	708.0	250	835	1	1292	11.6	15.0
PHP 8.4	8.4	12.0	250	14	10	22	341	7.5
PHP 24	24.0	34.0	250	40	10	67	112	7.5
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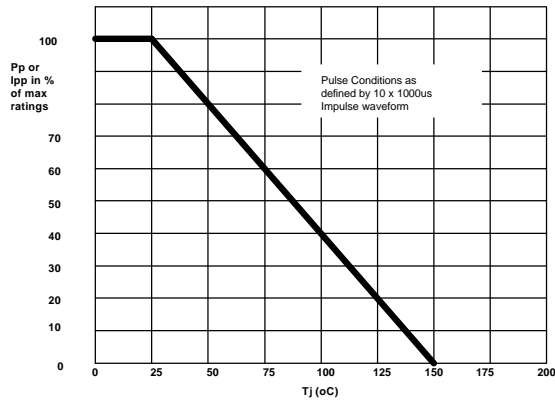
**MILITARY APPLICATIONS** : PHP series sub-assemblies are packaged in a hermetically sealed case.

**COMMERCIAL APPLICATIONS** : PIP series sub-assemblies are packaged in a molded epoxy case.

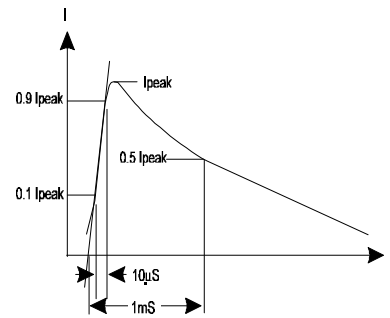
### PEAK PULSE POWER vs. PULSE TIME



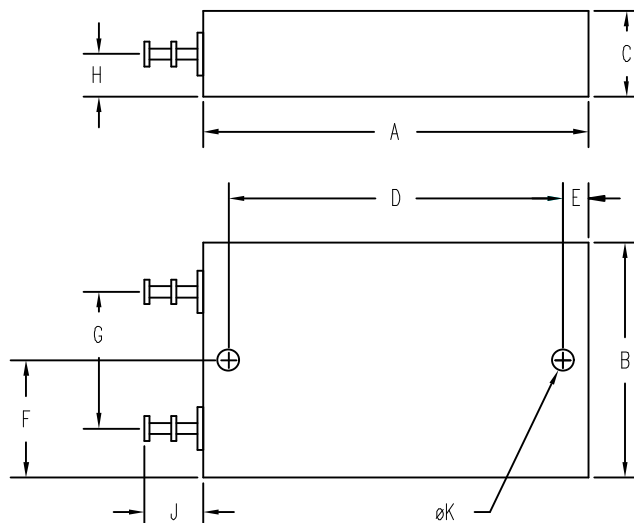
### PULSE DERATING CURVE



### 10x1000μs IMPULSE WAVEFORM



### MECHANICAL OUTLINE



DIM N	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	2.22	2.28	56.3	58.0	
B	1.35	1.40	34.2	35.6	
C	.47	.53	11.9	13.5	
D	1.93	1.97	49.0	50.1	
E	.135	.165	3.4	4.2	
F	.66	.72	16.7	18.3	
G	.77	.83	19.5	21.1	
H	.22	.28	5.5	7.2	
J	.325	.365	8.2	9.3	
K	.120	.130	3.0	3.3	DIA.