



## Hivolt Capacitors Limited

Maydown Industrial Estate, Derry  
N. Ireland BT47 6UQ

### TPM



The TPM range of capacitors are manufactured using a mixed dielectric material that consists of polyester/polypropylene film and capacitor tissue. They are impregnated and filled with a mineral oil. The container is a Synthetic Resin Bonded Paper tube sealed at both ends with resin assuring hermetic sealing. The capacitors are terminated with M5 x 12mm studs or tinned copper wire.

**Note:** The impregnant used is a non toxic highly purified and inhibited mineral oil.

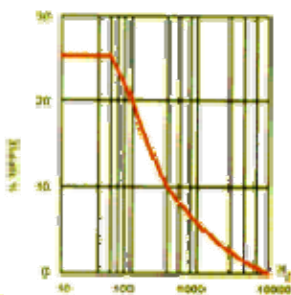
**Applications:** The TPM range is specifically designed for high voltage power supplies, general purpose bypass, coupling, filter applications, electrostatic air cleaners, X-ray power supplies and traction.

**Capacitance Range:** 0.0005 $\mu$ F - 2 $\mu$ F. The tolerance is +/-10%. Other tolerances are available on request. Nominal values measured at 1kHz.

**Temperature Range:** -55°C to 85°C. The nominal voltage rating is applicable from -55°C to 85°C.

**Temperature Coefficient:** Capacitance will increase by 2% per 100°C temperature rise.

**Voltage Range:** 1kV - 100kVDC.



**Fig 1.**

**Ripple:** The sum of the peak ripple voltage and the DC voltage should not exceed the rated voltage. Refer to graph fig 1 for permissible peak-to-peak ripple voltage as a percentage of rated voltage for various frequencies.

**Test Voltage: V Test**

For DC rating <20kV:

V Test = 2.0 x Rated Voltage for 1 minute.

For DC rating >20kV:

V Test = 1.5 x Rated Voltage for 1 minute.

**Fig 2.**

**Power Factor:** Variable; function of temperature and frequency see fig 2.



<b>2000</b>	TPM20-103	0.01	48	17	<b>3000</b>	TPM30-502	0.005*	42	17
	TPM20-503	0.05	60	17		TPM30-203	0.02	48	20
	TPM20-104	0.1	60	22		TPM30-104	0.1	55	30
	TPM20-254	0.25	60	30		TPM30-504	0.5	75	42
	TPM20-504	0.5	75	35		TPM30-105	1.0	110	42
<b>4000</b>	TPM40-102	0.001*	42	17	<b>5000</b>	TPM50-102	0.001*	42	17
	TPM40-103	0.01	42	20		TPM50-502	0.005*	42	20
	TPM40-503	0.05	60	22		TPM50-103	0.01	48	20
	TPM40-104	0.1	60	30		TPM50-503	0.05	60	25
	TPM40-504	0.5	95	42		TPM50-254	0.25	95	35
<b>6000</b>	TPM60-102	0.001*	55	17	<b>8000</b>	TPM80-502	0.005*	65	20
	TPM60-502	0.005*	65	17		TPM80-103	0.01	80	20
	TPM60-203	0.02	80	20		TPM80-503	0.05	105	35
	TPM60-104	0.1	100	35		TPM80-104	0.1	105	42
	TPM60-254	0.25	135	42		TPM80-254	0.25	170	42
<b>10000</b>	TPM100-102	0.001*	65	17	<b>12000</b>	TPM120-202	0.002*	95	20
	TPM100-103	0.01	80	22		TPM120-103	0.01	115	30
	TPM100-503	0.05	105	35		TPM120-203	0.02	115	35
	TPM100-104	0.1	170	35		TPM120-503	0.05	180	35
	TPM100-254	0.25	205	42		TPM120-104	0.1	180	42
<b>15000</b>	TPM150-102	0.001*	95	17	<b>20000</b>	TPM200-102	0.001*	115	22
	TPM150-502	0.005*	110	20		TPM200-103	0.01	145	30
	TPM150-103	0.01	110	30		TPM200-203	0.02	195	30
	TPM150-503	0.05	150	42		TPM200-503	0.05	245	42
	TPM150-104	0.1	245	42		TPM200-104	0.1	320	42
<b>25000</b>	TPM250-501	0.0005*	145	17	<b>30000</b>	TPM300-501	0.0005*	170	17
	TPM250-102	0.001	145	20		TPM300-202	0.002	170	25
	TPM250-502	0.005	175	30		TPM300-103	0.01	205	35
	TPM250-103	0.01	175	35		TPM300-203	0.02	280	35
	TPM250-503	0.05	300	42		TPM300-303	0.03	280	42
<b>40000</b>	TPM400-102	0.001*	210	20	<b>50000</b>	TPM500-501	0.0005*	275	22
	TPM400-202	0.002	275	20		TPM500-202	0.002	340	22
	TPM400-103	0.01	275	42		TPM500-103	0.01	340	42

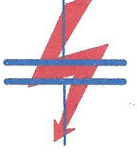
DIMENSIONS IN MILLIMETRES +/- 1mm

Add suffix W to Part No. to indicate wire terminations. Capacitance tolerance of 20% is standard with those marked\*.

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## Handling and Storage of capacitors



### TPM types

- Capacitors should be stored in a dry, non-salty environment. Do not store at high temperature or high humidity.
  
- The working temperature range of our capacitors is  $-55^{\circ}\text{C}$  -  $+85^{\circ}\text{C}$ .  
If it is planned to store capacitors beyond these limits consult Hivolt Capacitors.
  
- SRBP tubing cased capacitors should be handled with care to avoid;
  - Damaging the tube which may harm the internal components. Such damage could result in failure when in operation or cause an oil leak.
  
- In storage keep capacitors packed in the original packaging material wherever possible
  
- Capacitors should not be lifted by the terminals to avoid;
  - Shock to the body if the capacitor is not fully discharged.
  
- Capacitor terminals should be shorted out when the capacitor is not in use.

TPM capacitors are hermetically sealed and if stored under the above conditions a shelf-life of at least ten years is possible.