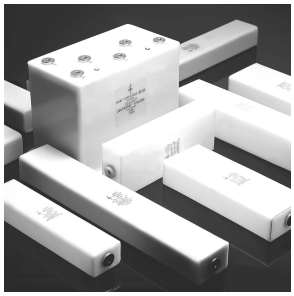
High Voltage DC Capacitors



TYPE EPR

The EPR 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 robust rectangular polypropylene case. The internal construction is designed to prevent movement when the capacitor is subjected to mechanical shock or vibration. An inert welding process ensures hermetic sealing. Standard terminations are M10 threaded inserts which eliminates the necessity for large voltage terminals. The case has an extremely low affinity for moisture and is resistant to virtually all electrical environments. Brackets can be welded on as required.

Note

- The impregnant used is a non toxic highly purifiedand inhibited mineral oil.

APPLICATIONS

The EPR range is designed specifically for DC

applications such as filters:

- By-pass
- Coupling
- Rapid discharge
- Pulse forming networks
- Radar
- Laser
- X-ray equipment

TEMPERATURE RANGE

Temperature range is - 40 °C to + 85 °C. Derating is required for operation at higher temperatures.

TEMPERATURE COEFFICIENT

Capacitance will increase by 2 % per 100 °C temperature rise.

CAPACITANCE RANGE

0.002 µF to 2 µF. The tolerance is ± 10 %. Other tolerance are available on request. Normal values measured at 1 kHz.

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.

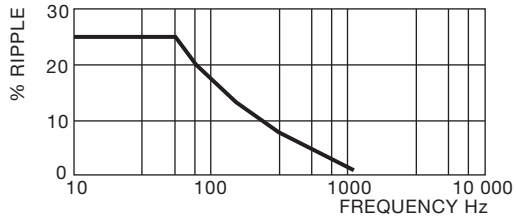


Fig. 1

POWER FACTOR

The power factor is variable, and is a function of temperature and frequency see fig. 2. Nominal value < 0.5 % at 20 °C

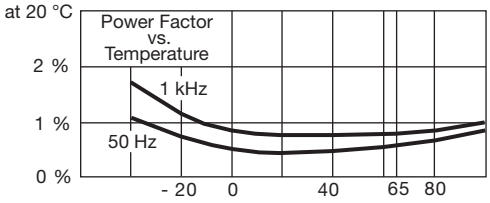


Fig. 2

DIELECTRIC RESISTANCE

(Parallel resistance) is indicated by the graph of insulance (MΩ x µF) vs temperature fig. 3. The insulance (MΩ x µF) is nominally 10 000 s at + 20 °C. (Measurements taken after 1 minute with an applied voltage of 500 V)

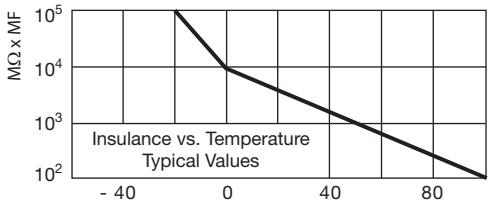


Fig. 3

LIFE EXPECTANCY

EPR type capacitors are designed for a life exceptancy of 50 000 h at 65 °C. To achieve the same life expectancy at 85 °C derate to 60 % of rated voltage fig. 4.

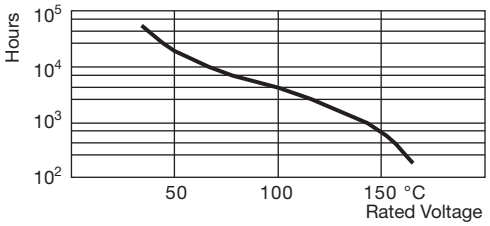


Fig. 4

VOLTAGE RANGE

1000 V_{DC} to 300 000 V_{DC}

TEST VOLTAGE

Terminal/terminal (Vt/t)

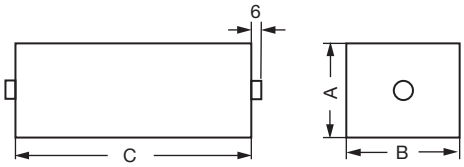
For DC rating < 20 kV

Vt/t = 2.0 x rated voltage 60 s

For DC rating > 20 kV

Vt/t = 1.5 x rated voltage 60 s

DIMENSIONS in millimeters



TYPE DESCRIPTION				
PART NUMBER	CAP. µF	A	B	C
15 kV_{DC}				
EPR150-104	0.1	75	75	142
30 kV_{DC}				
EPR300-504	0.5	130	220	185
50 kV_{DC}				
EPR500-103	0.01	70	90	245
EPR500-504	0.5	175	235	280
75 kV_{DC}				
EPR750-503	0.05	80	110	365
EPR750-104	0.1	115	130	365
EPR750-254	0.25	175	190	365
100 kV_{DC}				
EPR1000-253	0.025	80	90	420
EPR1000-403	0.04	120	200	285
EPR1000-104	0.1	125	175	445
200 kV_{DC}				
EPR2000-502	0.005	90	90	385
300 kV_{DC}				
EPR3000-252	0.0025	70	95	555

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