

## Snubber FKP Capacitors for High Pulse Applications with Metal Foil Electrodes, Schoopage Contacts and Self-Healing Internal Series Connection

### Special Features

- High pulse duty
- Self-healing
- Particularly reliable contact-configurations: 4-lead versions and screwable plate connections
- Internal series connection
- Very low dissipation factor
- Negative capacitance change versus temperature
- According to RoHS 2002/95/EC

### Typical Applications

- For high pulse and high frequency applications requiring extremely reliable contacts e.g.
- IGBT-applications

### Construction

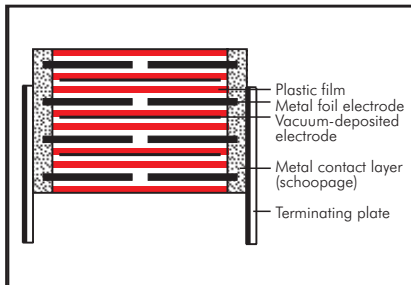
#### Dielectric:

Polypropylene (PP) film

#### Capacitor electrodes:

Aluminium foil and single-sided metallized plastic film

#### Internal construction:



#### Encapsulation:

Solvent-resistant, flame-retardent plastic case with epoxy resin seal, UL 94 V-0

#### Terminations:

Tinned wire or plates.

#### Marking:

Colour: Red. Marking: Black.  
Epoxy resin seal: Red

### Electrical Data

#### Capacitance range:

0.01  $\mu$ F to 2.2  $\mu$ F

#### Rated voltages:

630 VDC, 1000 VDC, 1600 VDC, 2000 VDC, 3000 VDC, 4000 VDC

#### Capacitance tolerances:

$\pm 20\%$ ,  $\pm 10\%$ ,  $\pm 5\%$  (other tolerances are available subject to special enquiry)

#### Operating temperature range:

$-55^\circ\text{C}$  to  $+100^\circ\text{C}$

#### Climatic test category:

55/100/56 in accordance with IEC

#### Insulation resistance at $+20^\circ\text{C}$ :

$C \leq 0.33 \mu\text{F}$ :  $\geq 1 \times 10^5 \text{ M}\Omega$

(mean value:  $5 \times 10^5 \text{ M}\Omega$ )

$C > 0.33 \mu\text{F}$ :  $\geq 30\,000 \text{ sec (M}\Omega \times \mu\text{F)}$

(mean value: 100\,000 sec)

Measuring voltage: 100 V/1 min.

#### Dissipation factors at $+20^\circ\text{C}$ : $\tan \delta$

| at f    | $C \leq 0.1 \mu\text{F}$ | $0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$ | $C > 1.0 \mu\text{F}$   |
|---------|--------------------------|--------------------------------------------|-------------------------|
| 1 kHz   | $\leq 3 \times 10^{-4}$  | $\leq 3 \times 10^{-4}$                    | $\leq 3 \times 10^{-4}$ |
| 10 kHz  | $\leq 4 \times 10^{-4}$  | $\leq 6 \times 10^{-4}$                    | –                       |
| 100 kHz | $\leq 10 \times 10^{-4}$ | –                                          | –                       |

#### Maximum pulse rise time:

| Capacitance $\mu\text{F}$ | max. pulse rise time V/ $\mu\text{sec}$ at $T_A < 40^\circ\text{C}$ |          |          |          |          |          |
|---------------------------|---------------------------------------------------------------------|----------|----------|----------|----------|----------|
|                           | 630 VDC                                                             | 1000 VDC | 1600 VDC | 2000 VDC | 3000 VDC | 4000 VDC |
| 0.01 ... 0.022            | –                                                                   | 11000    | 11000    | 11000    | 11000    | 11000    |
| 0.033 ... 0.068           | 9000                                                                | 9000     | 9000     | 9000     | 9000     | 9000     |
| 0.1 ... 0.22              | 9000                                                                | 9000     | 9000     | 9000     | 9000     | 9000     |
| 0.33 ... 0.68             | 5000                                                                | 5000     | 5000     | 5000     | 5000     | 5000     |
| 1.0 ... 2.2               | 1600                                                                | 2000     | –        | –        | –        | –        |

for pulses equal to the rated voltage

### Mounting Recommendation

Excessive mechanical strain, e.g. pressure or shock onto the capacitor body, is to be avoided during mounting and usage of the capacitors. When fixing the plates the screw torque is to be limited to max. 5 Nm.

### Packing

Transportation-safe packing in cardboard boxes.

For further details and graphs please refer to Technical Information.