



Upon request different lead length can be provided up to a minimum of 2.5mm.

### GENERAL TECHNICAL DATA

- Dielectric:** polypropylene film.
- Plates:** tin foil.
- Winding:** non-inductive type.
- Leads:** tinned wire, low thermal conductivity.
- Protection:** plastic case, epoxy resin filled. Box material is solvent resistant and flame retardant according to UL94 V0.
- Marking:** series (1.02), capacitance, tolerance, D.C. rated voltage, manufacturing date code.
- Climatic category:** 55/085/56 IEC 60068-1
- Related documents:** IEC 60384-13; DIN 41380 T4;

Rated Capacitance	63Vdc			
	B max	H max	L max	p ±0.3
22 to 8000 pF	5.0	11.0	6.3	5.08

All dimensions are in mm.

### ELECTRICAL CHARACTERISTICS

- Rated voltage ( $V_R$ ):** 63 Vdc
- Category voltage ( $V_C$ ):** up to +85°C  $V_C = V_R$
- All dimensions are in mm.
- Capacitance values:** E192 series (IEC 63 Norm).
- Capacitance tolerances:** ±0.625% (P); ±1% (F); ±1.25% (A); ±2% (G); ±2.5% (H); with a min. ±1 pF (Z)
- Total self inductance:** max 1 nH per 1 mm lead and capacitor length.
- Temperature coefficient:**  $-(150 \pm 70)$  ppm/°C
- Dissipation factor (DF):**  $\text{tg}\delta$  at +25°C ±5°C  $\leq 3 \times 10^{-4}$  at 1kHz
- Insulation resistance:**
  - Test condition**
  - Temperature: +25°C ±5°C
  - Voltage charge time: 1 min
  - Voltage charge: 10Vdc
  - Performance**
  - $\geq 20 \times 10^4$  MΩ
- Test voltage between terminations:**  $2.5 \times V_R$  applied for 2 sec, at +25°C ±5°C

### TEST METHOD AND PERFORMANCE

#### Damp heat, steady state:

- Test conditions**
- Temperature: +40°C ±2°C
- Relative humidity (RH): 93%
- Test duration: 56 days

- Performance**
- Capacitance change  $|\Delta C/C|$ :  $\leq 0.4\%$
- Insulation resistance:  $\geq 5 \times 10^4$  MΩ

#### Endurance:

- Test conditions**
- Temperature: +85°C ±2°C
- Test duration: 2000 h
- Voltage applied:  $1.5 \times V_R$

- Performance**
- Capacitance change  $|\Delta C/C|$ :  $\leq 0.5\%$
- The typical capacitance variation after 8000 hours is ±0.6%

#### Resistance to soldering heat:

- Test conditions**
- Solder bath temperature: +260°C ±5°C
- Dipping time (with heat screen):  $5 \pm 1$  s

- Performance**
- Capacitance change  $|\Delta C/C|$ :  $\leq 0.2\%$

#### Thermal shock:

- Test conditions**
- Temperature: -40°C ... +85°C
- Cycles: nr. 5

- Performance**
- Capacitance change  $|\Delta C/C|$ :
  - $\leq (0.3\% + 0.4 \text{ pF})$  for  $C \leq 1000 \text{ pF}$
  - $\leq 0.2\%$  for  $C > 1000 \text{ pF}$

#### Long term stability:

- Test conditions**
- Temperature: +40°C ±2°C
- Relative humidity (RH): 70% max
- Test duration: 2 years

- Performance**
- Capacitance change  $|\Delta C/C|$ :  $\leq (0.2\% + 0.2 \text{ pF})$

#### RELIABILITY:

ZR
Z = 30 FIT
R = $10^5$ hours

1 FIT =  $1 \times 10^{-9}$  failures/comp. × h.