



C69

干式交流滤波电容器 AC filter capacitor (Dry-type)

■ 外形图 Outline Drawing



| D | P ± 1.0 | H1(Max) | MA | L ± 1.0 |
|----|---------|---------|-----|---------|
| 50 | 22.5 | 25 | M8 | 10 |
| 55 | 22.5 | 25 | M10 | 12 |
| 76 | 34 | 35 | M12 | 16 |
| 86 | 34 | 35 | M12 | 16 |

■ 特点

- 适用于电力电子设备、UPS电源中的交流滤波电路，能承受较高的纹波电流及峰值电流、电压
- 具有优良的自愈特性
- 高稳定性，可靠性
- 干式设计，安装方式更灵活

■ Features

- The capacitors particularly suit for AC filter circuit in power electric equipment and UPS power unit. They have ability to withstand high r.m.s current and high peak voltage
- Self-healing property
- Excellent stable performance and reliability
- Dry type design, installation is more flexible

■ 技术要求 Specifications

| | |
|---|-----------------------------------|
| 引用标准 Reference standards | GB/T 17702 (IEC 61071) |
| 额定均方根电压 Rated RMS Voltage (U_{rms}) | 300Vac, 500Vac |
| 额定频率 Rated frequency (f_N) | 50/60Hz |
| 电容偏差值 Capacitance tolerance | ± 5%, ± 10%, -5% ~ +10% |
| 冲击电流 Inrush current (\hat{I}_s) | 100In |
| 极间耐压 Test voltage between Terminals (U_{T-T}) | 2.15 U_{rms} 或 1.5 U_N , 10s |
| 极壳耐压 Test voltage between terminals to case (U_{T-C}) | 3 000Vac,10s |
| 介质损耗角正切 Dielectric dissipation factor ($\tan \delta_d$) | 2×10^{-4} (50Hz, 20°C) |

| | |
|--|--|
| 气候类别 Climatic category | 40/70/56 |
| 可运行温度范围 Operating temperature(θ_{hs}) | -40°C ~ 85°C |
| 贮存温度范围 Storage Temperature | -40°C ~ 85°C |
| 防护等级 Degree of protection | IP00 |
| 预期寿命 Expected lifetime | $ \Delta C/CI \leq 5\%$ after 60 000h @ U_{rms} , $\theta_{hs} \leq 70^\circ\text{C}$ |
| 安装位置 Mounting position | 任意方向 Any position |
| 冷却方式 Cooling | 自然空气或强制制冷 Naturally air-cooled or force cooled |
| 最大电极扭矩 Max Torque of terminals | M6: 3N·m; M8: 5N·m; M10: 8N·m |
| 最大安装扭矩 Max. Torque of installation | M8: 5N·m; M10: 7N·m; M12: 10N·m |
| 最高海拔 Max Altitude | 2 000m |

产品编码说明 Part number system

■ 18位产品代码如下:

The 18 digits part number is formed as follow:

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| C | 6 | 9 | | | | | | | | | | | | | | | |

| | | | |
|-------|--|--------------|--|
| 第1~3位 | 型号代码 | Digit 1 to 3 | Series code |
| 第4~5位 | 额定均方根电压 Q1=300V H2=500V | Digit 4 to 5 | Rated RMS Voltage Q1=300V H2=500V |
| 第6~8位 | 标称容量 举例: 107=10 × 10 ⁷ pF= 100μF | Digit 6 to 8 | Rated capacitance value For example: 107=10 × 10 ⁷ pF= 100μF |
| 第9位 | 容量等级 J= ± 5%,K= ± 10%,6=-5%~+10% | Digit 9 | Capacitance tolerance J= ± 5%,K= ± 10%,6=-5%~+10% |
| 第10位 | 产品外形尺寸代码 | Digit 10 | Dimension code |

| D | H | Code | D | H | Code | D | H | Code |
|----|-----|------|----|-----|------|----|-----|------|
| 76 | 235 | 1 | 76 | 185 | 4 | 55 | 135 | 7 |
| 86 | 235 | 2 | 50 | 100 | 5 | 76 | 130 | 8 |
| 76 | 140 | 3 | 55 | 100 | 6 | 50 | 85 | 9 |

| | | | |
|---------|---------|----------------|----------------|
| 第11位 | 内部特征码 | Digit 11 | Internal use |
| 第12~15位 | 引出端形式代码 | Digit 12 to 15 | Terminals code |

| 第 12 位 Digit 12 | | 第 13 位 Digit 13 | | 第 14 位 Digit 14 | | 第 15 位 Digit 15 | |
|-----------------|------------------------|-----------------|-----------------------------|-----------------|-----------------------------|-----------------|---|
| Code | 引出端形式 Terminal form | Code | 安装形式 Fixed style | Code | 引线长度 Length of lead wire | Code | 是否有放电电阻 With or without discharge resistor |
| 2 | 螺栓式 M10 Bolt M10 | 7 | 下部螺栓 M12 Bottom-bolt M12 | 0 | 标准形式 Standard form | 0 | 无放电电阻 Without resistor |
| K | 螺栓式 M8 Bolt M8 | | 下部螺栓 M10 Bottom-bolt M10 | | | | |
| J | 螺栓式 M6 Bolt M6 | | 下部螺栓 M8 Bottom-bolt M8 | | | | |

| | | | |
|---------|-------|----------------|--------------|
| 第16~18位 | 内部特征码 | Digit 16 to 18 | Internal use |
|---------|-------|----------------|--------------|



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■ 技术参数 Technical data

| U _N = 420Vac U _{rms} = 300Vac | | | | | | | | | | |
|---|-----------------|-----------------|-----|------------------------|----------------------------|-------------------------|------------------------|------------------------|-----------|--------------------|
| C _N (μF) | D ± 1.0 (mm) | H ± 3.0 (mm) | MB | R _s (mΩ) | R _{thhc} (K/W) | I _{max} (A) | I _h (kA) | I _s (kA) | M (kg) | Part number |
| 20 | 50 | 85 | M6 | 22.0 | 14.2 | 8 | 0.1 | 0.2 | 0.2 | C69Q1206-90J500+++ |
| 40 | 50 | 100 | M6 | 17.3 | 10.4 | 11 | 0.2 | 0.4 | 0.2 | C69Q1406-50J500+++ |
| 50 | 55 | 100 | M6 | 13.8 | 9.6 | 11 | 0.2 | 0.5 | 0.3 | C69Q1506-60J600+++ |
| 60 | 55 | 135 | M6 | 24.8 | 8.3 | 11 | 0.3 | 0.6 | 0.3 | C69Q1606-70J600+++ |
| 100 | 76 | 140 | M10 | 9.7 | 6.2 | 14 | 1.0 | 3 | 0.9 | C69Q1107-322700+++ |
| 200 | 76 | 140 | M6 | 4.8 | 6.3 | 28 | 2.0 | 6 | 0.9 | C69Q1207-30J700+++ |
| 200 | 76 | 140 | M10 | 4.8 | 6.3 | 28 | 2.0 | 6 | 0.9 | C69Q1207-322700+++ |
| 200 | 76 | 235 | M10 | 4.9 | 3.7 | 42 | 6.0 | 18 | 1.4 | C69Q1207-102700+++ |

| U _N = 700Vac U _{rms} = 500Vac | | | | | | | | | | |
|---|-----------------|-----------------|-----|------------------------|----------------------------|-------------------------|------------------------|------------------------|-----------|--------------------|
| C _N (μF) | D ± 1.0 (mm) | H ± 3.0 (mm) | MB | R _s (mΩ) | R _{thhc} (K/W) | I _{max} (A) | I _h (kA) | I _s (kA) | M (kg) | Part number |
| 10 | 50 | 85 | M6 | 16.0 | 14.0 | 9 | 0.2 | 0.5 | 0.2 | C69H2106-90J500+++ |
| 20 | 50 | 100 | M6 | 13.0 | 10.2 | 12 | 0.3 | 0.7 | 0.2 | C69H2206-50J500+++ |
| 30 | 55 | 135 | M6 | 16.0 | 7.4 | 13 | 0.5 | 0.7 | 0.4 | C69H2306-70J600+++ |
| 50 | 76 | 130 | M10 | 9.6 | 6.7 | 18 | 0.8 | 1.2 | 0.8 | C69H2506-802700+++ |
| 80 | 76 | 185 | M10 | 3.4 | 4.5 | 37 | 1.3 | 3.8 | 1.1 | C69H2806-402700+++ |
| 100 | 76 | 235 | M10 | 9.5 | 3.7 | 35 | 4.0 | 12 | 1.4 | C69H2107-102700+++ |
| 133 | 86 | 235 | M10 | 7.2 | 3.4 | 47 | 5.3 | 15.9 | 1.8 | C69H2A00-202700+++ |
| 150 | 86 | 235 | M10 | 6.4 | 3.2 | 53 | 6.0 | 18 | 1.7 | C69H2157-202700+++ |

备注：1. “-”表示容量偏差。 “-” =capacitance tolerance code, J= ± 5%, K= ± 10%.

2. “+++”表示内部特征码。 “+++” = Internal use.

3. 上表中所列的尺寸为本产品系列中的常用壳号尺寸，其它规格尺寸也可生产。引出端尺寸参照国家标准。

Sizes above are normally used dimension, other dimension can be produced in pursuance of customer's request.

Sizes of terminals please refer to corresponding national standard.

4. “R_{thhc}”是指自然冷却条件下，电容器热点到壳的热阻。

“R_{thhc}” =R_{thhc} between hotspot and case on natural cooling condition.

■ 使用温度 temperature

温度对于聚丙烯膜式电容器来讲是影响损耗的一大因素，这会影响到产品的使用寿命。

Temperature is one of the main stress factors for polypropylene type capacitors, means it has a major influences on the life cycle of the capacitor.

■ 谐波 Harmonics

谐波是由于一些非线性电器运行时造成的，这些载荷诸如现代电力电子中的转换器、电气传动、焊接机、备用电源等。纹波由一系列频率为50Hz或60Hz倍数的正弦电流和电压组成。

Harmonics result from the operation of electrical loads with non-linear voltage-current characteristics.

They are caused by loads operated with modern power electronic, such as converters, electrical drives, welding machines and stand-by power supplies. Harmonics are sinusoidal voltages and currents with frequencies that are multiples of a 50Hz or 60Hz power supply frequency.

■ 安全注意事项 Safety

电容器外壳保持良好和可靠接地。

Maintain good and effective earthing for enclosures of capacitors.

拆装电容器时要确保电容器已放电干净

Handle capacitor to ensure capacitor has discharge clean

遵循良好的工程规范

Follow good engineering practices

■ 过流/短路保护 Over current/short circuit protection

必须使用限流熔断器或塑壳断路器来进行短路保护。短路保护的元件以及连接电缆需能长时间承受1.5倍电容器额定电流。

HRC-fuse or MCCB for short circuit protection have to be used. Short circuit protection equipment and connection cable should be selected so that the 1.5 times rated current of the capacitor can be managed permanently.

限流熔断器额定电流值应为正常电容电流的1.6~1.8倍

HRC-fuse rating has to be 1.6 to 1.8 times nominal capacitor current

使用热磁继电器为过载保护

Use thermal magnetic overcurrent relays for overload protection

■ 维护 Maintenance

检查连接线与端子螺丝是否打紧

Check tightness of Connections/terminals periodically

定期清理引出端子避免因灰尘或其他可导电的垃圾引起短路

Clean the terminals periodically to avoid dust or other conductive garbage can cause a short-circuit

检查短路保护保险丝

Check short circuit protection fuses

每半年使用电流钳表或其他在线测电流的工具测量电容器电流

Every half a year use current clamp table or other on-line measuring tools of current measurement capacitor current