

Applications

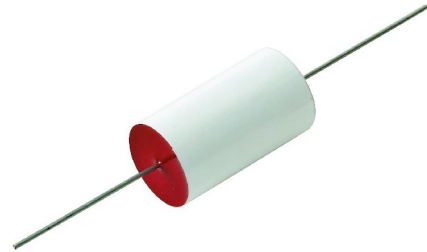
- AC or DC voltages
- Professional Applications
- Tuned circuits, filters, timers
- Integrators, S/ H
- Coupling / decoupling, Audio
- Instrumentation
- Signalling

Main Characteristics

- Dry plastic film technology
- Nominal Voltage: 63 VDC to 400 VDC
- Climatic Category: 55/125/56
- Tolerances $\pm 20\%$, $\pm 10\%$, $\pm 5\%$, $\pm 2\%$, $\pm 1\%$

Design

- Metallized polycarbonate film
- Polyester wrap
- Tinned copper wire axial leads
- Epoxy resin end-seal (UL-V0)



CKM 311

1.0 Rated Values and Operation Data

| | | | | | | | |
|----|--|-------------------------------|--|------|-----|-----|-----|
| DC | Nominal Voltage U_{R1} [VDC] | $\leq 85^\circ\text{C}$ | | 63 | 160 | 250 | 400 |
| | Category Voltage U_c [VDC] | $\leq 125^\circ\text{C}$ | | 31.5 | 80 | 125 | 200 |
| | Test Voltage U_T [VDC] | 1 minute / 23°C | | 100 | 260 | 400 | 640 |
| AC | Nominal Voltage $U_{N-50/60}$ Hz [VAC] | $\leq 85^\circ\text{C}$ | | 40 | 100 | 160 | 200 |
| | | | | | | | |

2.0 Capacitance Range

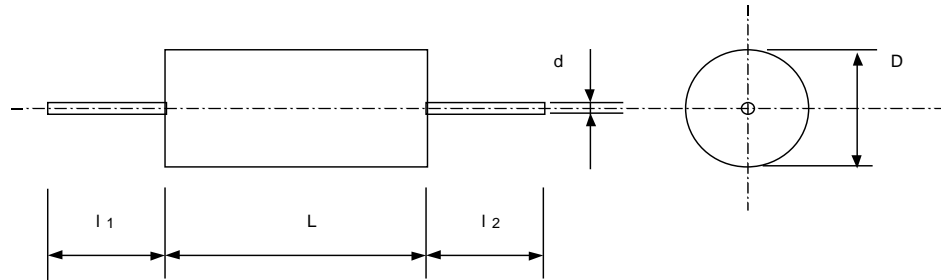
| Cn => | 10 nF | | → | 2.2 μF | | 6.8 μF | 15 μF | 22 μF | 33 μF |
|---------|-------|--|---|--------|--|--------|-------|-------|-------|
| 63 VDC | | | | | | | | | |
| 100 VDC | | | | | | | | | |
| 160 VDC | | | | | | | | | |
| 250 VDC | | | | | | | | | |
| 400 VDC | | | | | | | | | |

3.0 Characteristics

| | | | Min | Typ | Max |
|-----------------------------------|---------------------------|-----------|---------------------------|-----------|-----------------------|
| Dissipation factor | tg δ | ≤ 1 μF | | 9 ... 12 | 30 x 10 ⁻⁴ |
| | | > 1 μF | | 15 ... 25 | 50 x 10 ⁻⁴ |
| Insulation resistance 1min à 23°C | R _i [MOhms] | ≤ 0.33 μF | ≤ 100 V: 10V | 15000 | 30000 |
| | | | > 100 V: 100 V | 30000 | 60000 |
| Time Constant 1min at 23°C | R _i C [s] | > 0.33 μF | ≤ 100 V: 10V | 5000 | 10000 |
| | | | > 100 V: 100 V | 10000 | 20000 |
| Temperature coefficient | α _c [ppm] | | - 30 ... +80°C | + 40 | + 70 |
| Long term Stability | ΔC / C [%] | | 2 years, ≤ 50% RH, ≤ 40°C | | -0.5 ... +1 |

5.0 Dimensions, shapes:

The capacitors are axial.



l_1, l_2
min 30 mm

The capacitors are delivered in bulk.

On special request we can deliver tape-mounted

CKM 311 63 VDC

| B4F6 | Type | Cn | Dimension | | |
|-------------|---------------|------------|--------------------|--------|-------------------------|
| Pos. | | [μ F] | \varnothing [mm] | L [mm] | \varnothing lead [mm] |
| 1 | CKM 311 6-122 | 0.022 | 6 | 14.5 | 0.6 |
| 2 | CKM 311 6-127 | 0.027 | 6 | 14.5 | 0.6 |
| 3 | CKM 311 6-133 | 0.033 | 6 | 14.5 | 0.6 |
| 4 | CKM 311 6-139 | 0.039 | 6.5 | 14.5 | 0.6 |
| 5 | CKM 311 6-147 | 0.047 | 6.5 | 14.5 | 0.6 |
| 6 | CKM 311 6-156 | 0.056 | 6.5 | 14.5 | 0.6 |
| 7 | CKM 311 6-168 | 0.068 | 6.5 | 14.5 | 0.6 |
| 8 | CKM 311 6-182 | 0.082 | 6.5 | 14.5 | 0.6 |
| 8 | CKM 311 6-010 | 0.10 | 6.5 | 14.5 | 0.6 |
| 9 | CKM 311 6-012 | 0.12 | 7 | 20 | 0.8 |
| 10 | CKM 311 6-015 | 0.15 | 7 | 20 | 0.8 |
| 11 | CKM 311 6-018 | 0.18 | 8 | 20 | 0.8 |
| 12 | CKM 311 6-022 | 0.22 | 8 | 20 | 0.8 |
| 13 | CKM 311 6-027 | 0.27 | 8.5 | 20 | 0.8 |
| 14 | CKM 311 6-033 | 0.33 | 8.5 | 20 | 0.8 |
| 15 | CKM 311 6-039 | 0.39 | 9 | 20 | 0.8 |
| 16 | CKM 311 6-047 | 0.47 | 9.5 | 20 | 0.8 |
| 17 | CKM 311 6-056 | 0.56 | 10 | 20 | 0.8 |
| 18 | CKM 311 6-068 | 0.68 | 10.5 | 20 | 0.8 |
| 19 | CKM 311 6-082 | 0.82 | 11.5 | 20 | 0.8 |
| 20 | CKM 311 6-1.0 | 1.0 | 12 | 20 | 0.8 |
| 21 | CKM 311 6-1.2 | 1.2 | 10.5 | 33 | 1.0 |
| 22 | CKM 311 6-1.5 | 1.5 | 10.5 | 33 | 1.0 |
| 23 | CKM 311 6-1.8 | 1.8 | 11 | 33 | 1.0 |
| 24 | CKM 311 6-2.2 | 2.2 | 11.5 | 33 | 1.0 |
| 25 | CKM 311 6-2.7 | 2.7 | 12.6 | 33 | 1.0 |
| 26 | CKM 311 6-3.3 | 3.3 | 13.8 | 33 | 1.0 |
| 27 | CKM 311 6-3.9 | 3.9 | 15 | 33 | 1.0 |
| 28 | CKM 311 6-4.7 | 4.7 | 16.2 | 33 | 1.0 |
| 29 | CKM 311 6-5.6 | 5.6 | 17.4 | 33 | 1.0 |
| 30 | CKM 311 6-6.8 | 6.8 | 19.2 | 33 | 1.0 |
| 31 | CKM 311 6-8.2 | 8.2 | 20.4 | 33 | 1.0 |
| 32 | CKM 311 6-10 | 10 | 22.8 | 33 | 1.0 |

CKM 311 160VDC

| B4F6 | Type | Cn | Dimension | | |
|-------------|----------------|------------|--------------------|--------|-------------------------|
| Pos. | | [μ F] | \varnothing [mm] | L [mm] | \varnothing lead [mm] |
| 1 | CKM 311 16-115 | 0.015 | 6.5 | 14.5 | 0.6 |
| 2 | CKM 311 16-118 | 0.018 | 6.5 | 14.5 | 0.6 |
| 3 | CKM 311 16-122 | 0.022 | 6.5 | 14.5 | 0.6 |
| 4 | CKM 311 16-127 | 0.027 | 6.5 | 14.5 | 0.6 |
| 5 | CKM 311 16-133 | 0.033 | 6.5 | 14.5 | 0.6 |
| 6 | CKM 311 16-139 | 0.039 | 7 | 14.5 | 0.6 |
| 7 | CKM 311 16-147 | 0.047 | 7 | 14.5 | 0.6 |
| 8 | CKM 311 16-156 | 0.056 | 7.5 | 20 | 0.8 |
| 9 | CKM 311 16-168 | 0.068 | 7.5 | 20 | 0.8 |
| 10 | CKM 311 16-182 | 0.082 | 7.5 | 20 | 0.8 |
| 11 | CKM 311 16-010 | 0.10 | 7.5 | 20 | 0.8 |
| 12 | CKM 311 16-012 | 0.12 | 8 | 20 | 0.8 |
| 13 | CKM 311 16-015 | 0.15 | 8.5 | 20 | 0.8 |
| 14 | CKM 311 16-018 | 0.18 | 9.5 | 20 | 0.8 |
| 15 | CKM 311 16-022 | 0.22 | 10 | 20 | 0.8 |
| 16 | CKM 311 16-027 | 0.27 | 10.5 | 20 | 0.8 |
| 17 | CKM 311 16-033 | 0.33 | 11 | 20 | 0.8 |
| 18 | CKM 311 16-039 | 0.39 | 12 | 20 | 0.8 |
| 19 | CKM 311 16-047 | 0.47 | 12.6 | 20 | 0.8 |
| 20 | CKM 311 16-056 | 0.56 | 10 | 33 | 1.0 |
| 21 | CKM 311 16-068 | 0.68 | 11 | 33 | 1.0 |
| 22 | CKM 311 16-082 | 0.82 | 11 | 33 | 1.0 |
| 23 | CKM 311 16-1.0 | 1.0 | 12.6 | 33 | 1.0 |
| 24 | CKM 311 16-1.2 | 1.2 | 13.2 | 33 | 1.0 |
| 25 | CKM 311 16-1.5 | 1.5 | 14.4 | 33 | 1.0 |
| 26 | CKM 311 16-1.8 | 1.8 | 15.6 | 33 | 1.0 |
| 27 | CKM 311 16-2.2 | 2.2 | 16.8 | 33 | 1.0 |
| 28 | CKM 311 16-2.7 | 2.7 | 18.6 | 33 | 1.0 |
| 29 | CKM 311 16-3.3 | 3.3 | 20.4 | 33 | 1.0 |
| 30 | CKM 311 16-3.9 | 3.9 | 22.2 | 33 | 1.0 |
| 31 | CKM 311 16-4.7 | 4.7 | 24 | 33 | 1.0 |

CKM 311 250VDC

| B4F6 | Type | Cn | Dimension | | |
|-------------|----------------|------------|--------------------|--------|-------------------------|
| Pos. | | [μ F] | \varnothing [mm] | L [mm] | \varnothing lead [mm] |
| 1 | CKM 311 25-233 | 0.0033 | 6 | 12 | 0.6 |
| 2 | CKM 311 25-239 | 0.0039 | 6 | 12 | 0.6 |
| 3 | CKM 311 25-247 | 0.0047 | 6 | 12 | 0.6 |
| 4 | CKM 311 25-256 | 0.0056 | 6 | 12 | 0.6 |
| 5 | CKM 311 25-268 | 0.0068 | 6 | 12 | 0.6 |
| 6 | CKM 311 25-282 | 0.0082 | 6 | 12 | 0.6 |
| 7 | CKM 311 25-110 | 0.010 | 6 | 14.5 | 0.6 |
| 8 | CKM 311 25-112 | 0.012 | 6.5 | 14.5 | 0.6 |
| 9 | CKM 311 25-115 | 0.015 | 6.5 | 14.5 | 0.6 |
| 10 | CKM 311 25-118 | 0.018 | 7 | 14.5 | 0.6 |
| 11 | CKM 311 25-122 | 0.022 | 7 | 14.5 | 0.6 |
| 12 | CKM 311 25-127 | 0.027 | 7.5 | 20 | 0.8 |
| 13 | CKM 311 25-133 | 0.033 | 7.5 | 20 | 0.8 |
| 14 | CKM 311 25-139 | 0.039 | 7.5 | 20 | 0.8 |
| 15 | CKM 311 25-147 | 0.047 | 7.5 | 20 | 0.8 |
| 16 | CKM 311 25-156 | 0.056 | 8 | 20 | 0.8 |
| 17 | CKM 311 25-168 | 0.068 | 8.5 | 20 | 0.8 |
| 18 | CKM 311 25-182 | 0.082 | 9.5 | 20 | 0.8 |
| 19 | CKM 311 25-010 | 0.10 | 9.5 | 20 | 0.8 |
| 20 | CKM 311 25-012 | 0.12 | 10.5 | 20 | 0.8 |
| 21 | CKM 311 25-015 | 0.15 | 11 | 20 | 0.8 |
| 22 | CKM 311 25-018 | 0.18 | 12 | 20 | 0.8 |
| 23 | CKM 311 25-022 | 0.22 | 12.6 | 20 | 0.8 |
| 24 | CKM 311 25-027 | 0.27 | 10.5 | 33 | 1.0 |
| 25 | CKM 311 25-033 | 0.33 | 11 | 33 | 1.0 |
| 26 | CKM 311 25-039 | 0.39 | 12 | 33 | 1.0 |
| 27 | CKM 311 25-047 | 0.47 | 12.6 | 33 | 1.0 |
| 28 | CKM 311 25-056 | 0.56 | 13.8 | 33 | 1.0 |
| 29 | CKM 311 25-068 | 0.68 | 15 | 33 | 1.0 |
| 30 | CKM 311 25-082 | 0.82 | 15.6 | 33 | 1.0 |
| 31 | CKM 311 25-1.0 | 1.0 | 16.8 | 33 | 1.0 |
| 32 | CKM 311 25-1.2 | 1.2 | 18.6 | 33 | 1.0 |
| 33 | CKM 311 25-1.5 | 1.5 | 20.4 | 33 | 1.0 |
| 34 | CKM 311 25-1.8 | 1.8 | 22.8 | 33 | 1.0 |
| 35 | CKM 311 25-2.2 | 2.2 | 24 | 33 | 1.0 |

CKM 311 400VDC

| B4F6 | Type | Cn | Dimension | | |
|-------------|----------------|------------|--------------------|--------|-------------------------|
| Pos. | | [μ F] | \varnothing [mm] | L [mm] | \varnothing lead [mm] |
| 1 | CKM 311 40-210 | 0.0010 | 6 | 12 | 0.6 |
| 2 | CKM 311 40-212 | 0.0012 | 6 | 12 | 0.6 |
| 3 | CKM 311 40-215 | 0.0015 | 6 | 12 | 0.6 |
| 4 | CKM 311 40-218 | 0.0018 | 6 | 12 | 0.6 |
| 5 | CKM 311 40-222 | 0.0022 | 6 | 12 | 0.6 |
| 6 | CKM 311 40-227 | 0.0027 | 6 | 12 | 0.6 |
| 7 | CKM 311 40-233 | 0.0033 | 6 | 12 | 0.6 |
| 8 | CKM 311 40-239 | 0.0039 | 6 | 14.5 | 0.6 |
| 9 | CKM 311 40-247 | 0.0047 | 6 | 14.5 | 0.6 |
| 10 | CKM 311 40-256 | 0.0056 | 6.5 | 14.5 | 0.6 |
| 11 | CKM 311 40-268 | 0.0068 | 6.5 | 14.5 | 0.6 |
| 12 | CKM 311 40-282 | 0.0082 | 7 | 14.5 | 0.6 |
| 13 | CKM 311 40-110 | 0.010 | 7 | 14.5 | 0.6 |
| 14 | CKM 311 40-112 | 0.012 | 7.5 | 20 | 0.8 |
| 15 | CKM 311 40-115 | 0.015 | 7.5 | 20 | 0.8 |
| 16 | CKM 311 40-118 | 0.018 | 7.5 | 20 | 0.8 |
| 17 | CKM 311 40-122 | 0.022 | 7.5 | 20 | 0.8 |
| 18 | CKM 311 40-127 | 0.027 | 8 | 20 | 0.8 |
| 19 | CKM 311 40-133 | 0.033 | 8.5 | 20 | 0.8 |
| 20 | CKM 311 40-139 | 0.039 | 9 | 20 | 0.8 |
| 21 | CKM 311 40-147 | 0.047 | 9 | 20 | 0.8 |
| 22 | CKM 311 40-156 | 0.056 | 9.5 | 20 | 0.8 |
| 23 | CKM 311 40-168 | 0.068 | 10 | 20 | 0.8 |
| 24 | CKM 311 40-182 | 0.082 | 10.5 | 20 | 0.8 |
| 25 | CKM 311 40-010 | 0.10 | 11.5 | 20 | 0.8 |
| 26 | CKM 311 40-012 | 0.12 | 9.5 | 33 | 1.0 |
| 27 | CKM 311 40-015 | 0.15 | 10 | 33 | 1.0 |
| 28 | CKM 311 40-018 | 0.18 | 10.5 | 33 | 1.0 |
| 29 | CKM 311 40-022 | 0.22 | 11 | 33 | 1.0 |
| 30 | CKM 311 40-027 | 0.27 | 12 | 33 | 1.0 |
| 31 | CKM 311 40-033 | 0.33 | 13.2 | 33 | 1.0 |
| 32 | CKM 311 40-039 | 0.39 | 13.8 | 33 | 1.0 |
| 33 | CKM 311 40-047 | 0.47 | 15.6 | 33 | 1.0 |
| 34 | CKM 311 40-056 | 0.56 | 16.2 | 33 | 1.0 |
| 35 | CKM 311 40-068 | 0.68 | 18 | 33 | 1.0 |
| 363 | CKM 311 40-082 | 0.82 | 19.2 | 33 | 1.0 |
| 37 | CKM 311 40-1.0 | 1.0 | 22.2 | 33 | 1.0 |