

K50-104

ALUMINUM ELECTROLYTIC CAPACITOR

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EVAYA.673541.062 TU



Capacitors are small-sized, polar, of constant capacity, designed to operate in DC and pulsating current circuits of the REA. In insulated housing with radial lead wires.

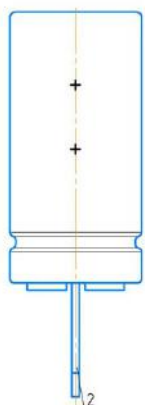
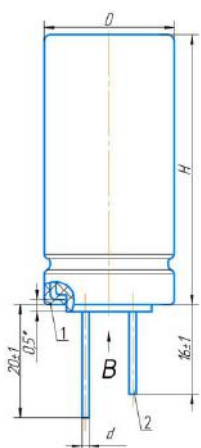
MAIN PARAMETERS

| Name | Value |
|---|------------|
| Rated voltage, V | 16...100 |
| Rated capacitance, μF | 10...2 200 |
| Capacitance tolerance (25°C, 50 Hz), % | ± 20 |
| Maximum operating temperature T_{env} , °C | +105 |
| Minimal operating temperature T_{env} , °C | -40 |

CAPACITOR RATINGS

| U_R , V | 16 | 25 | 35 | 50 | 63 | 100 |
|-----------------------|----|----|----|----|----|-----|
| C_R , μF | | | | | | |
| 10 | | | | | ✓ | |
| 47 | | ✓ | | ✓ | ✓ | |
| 100 | | ✓ | ✓ | ✓ | | |
| 220 | ✓ | ✓ | ✓ | | | |
| 470 | ✓ | ✓ | | | | ✓ |
| 820 | | | | | | ✓ |
| 1 000 | ✓ | | | | | ✓ |
| 2 200 | | | | | ✓ | |

GENERAL VIEW DRAWING



Lid. Version 1

View B



Lid. Version 2

View B



- 1 – Isolation sleeve
- 2 – Positive terminal

CAPACITORS OVERALL DIMENSIONS AND MASS

| U_R, V | $C_R, \mu F$ | $D, mm \pm 0.5$ | H, mm | $A, mm \pm 0.5$ | $d, mm \pm 0.05$ | mass, g |
|----------|--------------|-----------------|-----------------------|-----------------|------------------|---------|
| 16 | 220 | 8 | $11.5^{+1.5}_{-0.55}$ | 3.5 | 0.6 | 1.5 |
| 16 | 470 | 10 | $12.5^{+1.5}_{-0.55}$ | 5 | 0.6 | 2.5 |
| 16 | 1 000 | 10 | $20^{+1.5}_{-0.65}$ | 5 | 0.6 | 3.6 |
| 25 | 47 | 5 | 11 ± 1 | 2 | 0.5 | 1 |
| 25 | 1 00 | 6.3 | 11 ± 1 | 2.5 | 0.5 | 1.3 |
| 25 | 220 | 8 | $11.5^{+1.5}_{-0.55}$ | 3.5 | 0.6 | 1.5 |
| 25 | 470 | 10 | $16^{+1.5}_{-0.65}$ | 5 | 0.6 | 2.8 |
| 35 | 100 | 8 | $11.5^{+1.5}_{-0.55}$ | 3.5 | 0.6 | 1.5 |
| 35 | 220 | 10 | $12.5^{+1.5}_{-0.55}$ | 5 | 0.6 | 2.5 |
| 50 | 47 | 6.3 | 11 ± 1 | 2.5 | 0.5 | 1.3 |
| 50 | 100 | 8 | $11.5^{+1.5}_{-0.55}$ | 3.5 | 0.6 | 1.5 |
| 63 | 10 | 5 | 11 ± 1 | 2 | 0.5 | 1.1 |
| 63 | 47 | 6.3 | $11^{+1.5}_{-0.55}$ | 3.5 | 0.6 | 1.3 |
| 63 | 2 200 | 18 | $31.5^{+2}_{-0.8}$ | 7.5 | 0.8 | 15.1 |
| 100 | 470 | 12.5 | $31.5^{+2}_{-0.8}$ | 5 | 0.6 | 9.3 |
| 100 | 820 | 18 | $35^{+2}_{-0.8}$ | 7.5 | 0.8 | 19 |
| 100 | 1 000 | 18 | $40^{+2}_{-0.8}$ | 7.5 | 0.8 | 20.1 |

CAPACITORS RELIABILITY

| Operating modes and conditions | | | t , hours | λ, 1/hour, max |
|--------------------------------|--------------------|-----------------------------|-----------|--------------------|
| Mode type | electrical mode | environment temperature, °C | | |
| maximum permissible | U _R , V | 105 | 5 000 | 1x10 ⁻⁴ |

Gamma-rated time of capacitor storageability T_{cy} at γ=95%, min 5 years.

CAPACITOR ELECTRIC PARAMETERS VALUE

| U _R , V | C _R , μF T=20°C, F=50Hz | tg δ, % T=20°C, F=120Hz | I _{LEAK} , mA T=20°C | Z, Ohm T=20°C, F=100kHz | I _R , A T=105°C, F=50Hz | I _R , A T=105°C, F=100Hz |
|--------------------|---------------------------------------|----------------------------|----------------------------------|----------------------------|---------------------------------------|--|
| 16 | 220 | 16 | 35.2 | 0.9 | 120 | 150 |
| 16 | 470 | 16 | 75.2 | 0.8 | 176 | 220 |
| 16 | 1000 | 16 | 160 | 0.45 | 467.5 | 550 |
| 25 | 47 | 14 | 11.75 | 1.1 | 90 | 120 |
| 25 | 100 | 14 | 25 | 0.9 | 120 | 150 |
| 25 | 220 | 14 | 55 | 0.8 | 176 | 220 |
| 25 | 470 | 14 | 117.5 | 0.65 | 280 | 350 |
| 35 | 100 | 12 | 35 | 0.8 | 160 | 200 |
| 35 | 220 | 12 | 77 | 0.7 | 240 | 300 |
| 50 | 47 | 10 | 23.5 | 0.9 | 112.5 | 150 |
| 50 | 100 | 10 | 50 | 0.8 | 176 | 220 |
| 63 | 10 | 10 | 6.3 | 1.3 | 82.5 | 110 |
| 63 | 47 | 10 | 29.61 | 0.8 | 150 | 200 |
| 63 | 2200 | 10 | 1386 | 0.15 | 2040 | 2400 |
| 100 | 470 | 8 | 470 | 0.25 | 1280 | 1600 |
| 100 | 820 | 8 | 820 | 0.15 | 1920 | 2400 |
| 100 | 1000 | 8 | 1000 | 0.1 | 2380 | 2800 |

Ripple current effective value

versus temperature and frequency can be found from the formula $I_{RO} = I_R \times K_T \times K_F$, where

I_R– allowable ripple current at 85 °C, 50 Hz (See Table “Capacitor electric parameters”)

K_T - I_R CORRECTION FACTOR VERSUS TEMPERATURE

| T _{env} , °C | 40 | 60 | 70 | 85 | 105 |
|-----------------------|-----|-----|------|------|-----|
| K _T | 2.4 | 2.1 | 1.78 | 1.65 | 1 |

K_F - I_R CORRECTION FACTOR VERSUS FREQUENCY

| C _r , μF | F, Hz | | | | |
|---------------------|---------|------|-------|--------|---------|
| | 50 (60) | 120 | 1 000 | 10 000 | 100 000 |
| | K | | | | |
| 10-47 | 0.75 | 0.8 | 0.85 | 0.9 | 1 |
| 100-820 | 0.8 | 0.85 | 0.9 | 0.95 | 1 |
| 1 000-2 200 | 0.85 | 0.87 | 0.89 | 0.92 | 1 |

CODED SYMBOL FOR CAPACITORS (IDENTIFICATION NUMBER (PARTNUMBER))

CAPACITOR K50-104 – 16V – 220MF (±20)% – I – EVAYA.673541.062TU
(K50-104-E-227M-D8H11Z5-PET3Z5A-062)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|-----|-------|------|-------|----------|---------|----------------------------------|
| Capacitor K50-104 | 16V | 220μF | ±20% | D=8mm | H=11.5mm | PET | K50-104-E-227M-D8H11Z5-PET2A-062 |
| K50-104 | E | 227 | M | D8 | H11Z5 | PET3Z5A | 062 |

1. K50-104 – capacitor K50-104

2. Rated voltage code

| Code | E | G | H5 | J | K | N |
|--------------------|----|----|----|----|----|-----|
| U _r , V | 16 | 25 | 35 | 50 | 63 | 100 |

3. Nominal capacity code

| Code | 106 | 476 | 107 | 227 | 447 | 827 | 108 | 228 |
|---------------------|-----|-----|-----|-----|-----|-----|------|------|
| C _r , μF | 10 | 47 | 100 | 220 | 470 | 820 | 1000 | 2200 |

4. Capacity approval code

| Code | M |
|---------------|-----|
| Admittance, % | ±20 |

5. Condenser diameter code

| | | | | | | |
|---------------------|----|------|----|-----|-------|-----|
| Code | D5 | D6Z3 | D8 | D10 | D12Z5 | D18 |
| Diameter, mm | 5 | 6.3 | 8 | 10 | 12.5 | 18 |

6. Capacitor height code

| | | | | | | | | |
|-------------------|-----|-------|-------|-----|-----|-------|-----|-----|
| Code | H11 | H11Z5 | H12Z5 | H16 | H20 | H31Z5 | H35 | H40 |
| Height, mm | 11 | 11.5 | 12.5 | 16 | 20 | 31.5 | 35 | 40 |

7. Isolation Code

| Code | Decryption |
|----------------|---|
| PET | Isolated, packed in a box for manual assembly of equipment |
| PET2A | Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the capacitor leads 2 mm |
| PET2Z5A | Insulated, packaging for automated installation in paper tapes with a distance between the axes of the capacitor leads 2.5 mm |
| PET3Z5A | Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the capacitor leads 3.5 mm |
| PET5A | Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the capacitor leads 5 mm |
| PET7Z5A | Insulated, packaging for automated assembly in paper tapes with a distance between the axes of the capacitor leads 7.5 mm |

8. Code TU

| Code | TU designation |
|-------------|-----------------------|
| 062 | EVAYA.673541.062 TU |

EXAMPLE OF REFERENCE DESIGNATION FOR ORDERING

CAPACITOR K50-104 – 16V – 220 μ F (\pm 20)% I A EVAYA.673541.062 TU

Letter «I» stand for isolated capacitors;

Letter «A» for capacitors in package designed for automated equipment assembly.