

CKE/ CKH

+105°C General Purpose Aluminum Electrolytic Capacitors



FEATURES

- Lead Free Leads
- In Stock
- Standardized Case Sizes
- Multiple Case Styles

SPECIFICATIONS

| | | | | | | | | | | | | | | | | |
|--|---|--|------|------|------|------|--------------------------------------|------------------|---|------|-----------------|-----|-----|-----|-----|--|
| Capacitance Tolerance | | ±20% at 120Hz, 20°C | | | | | | | | | | | | | | |
| Operating Temperature Range | | -55°C to 105°C (6.3 to 100WVDC) -40°C to +105°C (160 to 400WVDC) -25°C to +105°C (450WVDC) | | | | | | | | | | | | | | |
| Surge Voltage | WVDC | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | |
| | SVDC | 7.9 | 13 | 20 | 32 | 44 | 63 | 79 | 125 | 200 | 250 | 300 | 400 | 450 | 500 | |
| Dissipation Factor 120Hz, 20°C | WVDC | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 350 | 400 | 450 | |
| | tan δ | .24 | .20 | .17 | .15 | .12 | .1 | .1 | .08 | .15 | .15 | .15 | .2 | .2 | .2 | |
| Note: For above D.F. specifications, add .02 for every 1,000 µF above 1,000 µF | | | | | | | | | | | | | | | | |
| Leakage Current | WVDC | 6.3 to 100 WVDC | | | | | | | | | 160 to 450 WVDC | | | | | |
| | Time | 1 minute | | | | | 2 minutes | | | | 2 minutes | | | | | |
| | | .03 CV or 4 µA, whichever is greater | | | | | .01 CV or 3 µA, whichever is greater | | | | 0.03CV + 40µA | | | | | |
| Impedance Ratio (Max.) @120Hz | -25°C/20°C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 6 | 6 | 15 | |
| | -40°C/20°C | 10 | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 10 | 10 | - | |
| Load Life | 2,000 hours at 105°C with rated WVDC | | | | | | | | | | | | | | | |
| | | Capacitance change Dissipation factor Leakage current | | | | | | | ≤ 20% of initial measured value ≤ 20% of initial specified value <100% initial specified value | | | | | | | |
| Shelf Life | 1,000 hours at 105°C with no voltage applied. | | | | | | | | | | | | | | | |
| | | Capacitance change Dissipation factor Leakage current | | | | | | | ≤ 20% of initial measured value ≤ 200% of initial specified value ≤ 100% of initial specified value | | | | | | | |
| Ripple Current Multipliers | | Frequency (Hz) | | | | | | Temperature (°C) | | | | | | | | |
| | Capacitance (µF) | 50 | 120 | 400 | 1K | 10K | 100K | +105 | +85 | ≤60 | | | | | | |
| | C≤10 | 0.8 | 1.0 | 1.3 | 1.45 | 1.65 | 1.7 | 1.0 | 1.4 | 1.75 | | | | | | |
| | 10<C≤100 | 0.8 | 1.0 | 1.23 | 1.36 | 1.48 | 1.53 | 1.0 | 1.4 | 1.75 | | | | | | |
| | 100<C≤1000 | 0.8 | 1.0 | 1.16 | 1.25 | 1.35 | 1.38 | 1.0 | 1.4 | 1.75 | | | | | | |
| C>1000 | 0.8 | 1.0 | 1.11 | 1.17 | 1.25 | 1.28 | 1.0 | 1.4 | 1.75 | | | | | | | |

SPECIAL ORDER OPTIONS

(See pages 33 thru 37)

- Special tolerances: ±10% (K), -10% + 30%
- Epoxy end sealed
- Ammo Pack
- Mylar sleeve
- Cut, Formed, Cut and Formed Leads



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Aluminum Electrolytic

PHYSICAL DIMENSIONS

| WVDC (µF) (V) | 6.3 (7.9) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) | 160 (200) | 200 (250) | 250 (300) | 350 (400) | 400 (450) | 450 (500) |
|---------------|-----------|---------|---------------------------|----------------|---------|------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------|-------------------|-------------------|-----------------------------|
| .1 | | | | | | 5x11 | | | | | | | | |
| .15 | | | | | | 5x11 | | | | | | | | |
| .22 | | | | | | 5x11 | | | | | | | | |
| .33 | | | | | | 5x11 | | | | | | | | |
| .47 | | | | | | 5x11 | | 5x11 | | | 6.3x11 | | | |
| .68 | | | | | | 5x11 | | | | | | | | |
| 1.0 | | | | | | 5x11 | | 5x11 | | | 6.3x11 | 6.3x11 | 8x11.5 | 10x12.5 |
| 1.5 | | | | | | 5x11 | | | | | | | | |
| 2.2 | | | | | | 5x11 | | 5x11 | | | 6.3x11 | 6.3x11 | 8x11.5 | 10x12.5 10x20 8x11.5 |
| 3.3 | | | | | | 5x11 | | 5x11 | | 6.3x11 | 6.3x11 8x11.5 | 8x11.5 | 10x12.5 8x11.5 | 10x13 12.5x20 |
| 4.7 | | | | | | | | 5x11 | 6.3x11 | 6.3x11 | 10x12.5 6.3x11 8x11.5 | 10x12.5 8x11.5 | 10x12.5 10x16 | 10x12.5 10x20 12.5x20 |
| 6.8 | | | | | | 5x11 | 5x11 | 6.3x11 | | | 10x16 | | | |
| 10 | | | | | | 5x11 | 5x11 | 5x11 6.3x11 | 8x11.5 | 10x12.5 8x11.5 | 10x12.5 10x16 | 10x16 10x20 | 10x16 10x20 | 10x21 12.5x20 |
| 15 | | | | | | 5x11 | 6.3x11 | 8x11.5 | 10x16 | | 10x20 | | | |
| 22 | | | | | | 5x11 | 5x11 6.3x11 | 6.3x11 8x11.5 | 10x12.5 10x16 | 10x16 10x20 | 10x20 12.5x20 | 12.5x20 | 12.5x25 | 13x26 16x25 16x31.5 |
| 33 | | | | | | 5x11 | 6.3x11 | 10x12.5 8x11.5 | 10x16 10x20 | 10x20 | 12.5x20 | 12.5x25 | 16x25 16x31.5 | 16x25 18x35.5 |
| 47 | | | | 5x11 | 5x11 | 6.3x11 | 6.3x11 8x11.5 | 10x12.5 10x16 8x11.5 | 10x20 12.5x20 | 12.5x20 | 12.5x20 13x21 12.5x25 | 16x25 16x35.5 | 16x25 16x31.5 | 16x31.5 |
| 68 | | | 5x11 | 6.3x11 | | 8x11.5 | 10x12.5 | 10x16 | | 16x25 | 16x31.5 | | | |
| 100 | | | 5x11 | 5x11 | 6.3x11 | 8x11.5 | 10x12.5 8x11.5 | 10x16 10x20 | 12.5x25 | 16x25 | 16x25 16x31.5 | 18x35.5 18x40 | 18x35.5 | |
| 150 | | 6.3x11 | | 8x11.5 | 10x12.5 | 10x16 | 10x20 | 12.5x20 | | 16x31 | 16x35.5 | | | |
| 220 | | 5x11 | 6.3x11 | 6.3x11 | 8x11.5 | 10x12.5 10x16 | 10x16 10x20 | 12.5x20 12.5x25 16x25 | 16x31.5 16x35.5 | 16x35.5 | 18x35.5 | | | |
| 330 | | 6.3x11 | 6.3x11 | 8x11.5 | 10x12.5 | 10x16 10x20 | 10x20 12.5x20 | 12.5x25 16x25 | 18x35.5 | 18x40 | | | | |
| 470 | | 6.3x11 | 10x12.5 8x11.5 | 10x12.5 | 10x16 | 10x20 12.5x20 | 12.5x20 12.5x25 | 16x25 16x31.5 | | | | | | |
| 680 | 10x12.5 | | 10x16 | | 12.5x20 | 12.5x25 | 16x25 | | | | | | | |
| 1000 | 8x11.5 | 10x12.5 | 10x12.5 10x16 10x20 | 10x16 10x20 | 12.5x20 | 12.5x25 16x25 | 16x25 16x31.5 | 18x35.5 18x40 | | | | | | |

Convert to inches, divide by 25.4.

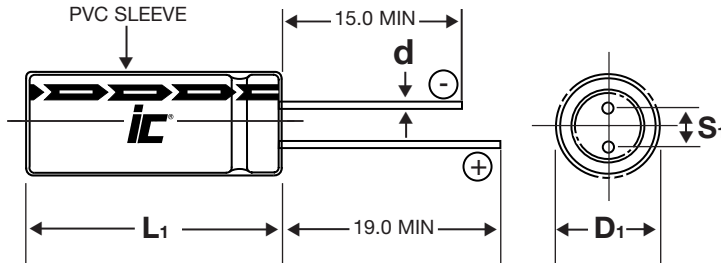
DxL(mm)

PHYSICAL DIMENSIONS

| WVDC (SV) / (μF) | 6.3 (7.9) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) | 160 (200) | 200 (250) | 250 (300) | 350 (400) | 400 (450) | 450 (500) |
|------------------|--------------------|--------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1500 | 10x20 | → | 12.5x20 | 12.5x25 | 16x25 | 18x31.5 | | | | | | | | |
| 2200 | 10x16 | 10x16 10x20 | 10x21 12.5x20 12.5x25 | 12.5x25 16x25 | 16x25 16x31.5 | 16x31.5 16x35.5 18x35.5 | 18x35.5 | | | | | | | |
| 3300 | 10x20 | 12.5x20 | 12.5x25 16x25 | 16x25 16x31.5 | 16x31.5 16x35.5 18x35.5 | 18x35.5 | | | | | | | | |
| 4700 | 12.5x20 | 12.5x25 16x25 | 16x25 16x31.5 | 16x25 16x31.5 18x31.5 | 16x35.5 18x35.5 | | | | | | | | | |
| 6800 | 12.5x25 | 16x25 | 16x25 16x31.5 | 16x35.5 18x35.5 | 18x40 | | | | | | | | | |
| 10000 | 16x25 16x31.5 | 16x31.5 18x35.5 | 16x35.5 18x31.5 | 18x40 | | | | | | | | | | |
| 15000 | 16x31.5 16x35.5 | 16x35.5 18x35.5 | 18x40 | | | | | | | | | | | |
| 22000 | 18x35.5 18x40 | 18x40 | | | | | | | | | | | | |

Convert to inches, divide by 25.4.

DxL(mm)



NOTE: Case Vent is standard on all diameter ≥8.0mm

LEAD INFORMATION V.S. CASE DIAMETER

| | 5.0 | 6.3 | 8.0 | 10.0 | 12.5 | 16.0 | 18.0 |
|---|-----|-----|-----|------|------|------|------|
| D | 5.0 | 6.3 | 8.0 | 10.0 | 12.5 | 16.0 | 18.0 |
| S | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| B | 0.5 | 0.5 | 0.5 | 0.5 | 0.8 | 0.5 | 0.5 |

L₁=L + 1.5 mm Max.

D₁=D+B Max.

S₁=S±0.5 mm

STANDARD PART LISTING

PLEASE NOTE: The CKE and CKH Series have been merged. CHECK PART NUMBERS CAREFULLY.

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 0.1 | 50 | 104CKH050M | 1657.8640 | 5 | 5x11 |
| 0.15 | 50 | 154CKH050M | 1105.2427 | 5 | 5x11 |
| 0.22 | 50 | 224CKH050M | 753.5745 | 7 | 5x11 |
| 0.33 | 50 | 334CKH050M | 502.3830 | 8 | 5x11 |
| 0.47 | 50 | 474CKH050M | 352.7370 | 10 | 5x11 |
| 0.47 | 100 | 474CKH100M | 282.1896 | 10 | 5x11 |
| 0.47 | 250 | 474CKH250M | 529.1055 | 11 | 6.3x11 |
| 0.68 | 50 | 684CKH050M | 243.8035 | 10 | 5x11 |
| 1 | 50 | 105CKH050M | 165.7864 | 13 | 5x11 |
| 1 | 100 | 105CKE100M | 132.6291 | 16 | 5x11 |
| 1 | 250 | 105CKE250M | 248.6796 | 16 | 6.3x11 |
| 1 | 350 | 105CKE350M | 331.5728 | 16 | 6.3x11 |
| 1 | 400 | 105CKE400M | 331.5728 | 16 | 8x11.5 |
| 1 | 450 | 105CKE450M | 331.5728 | 17 | 10x12.5 |
| 1.5 | 50 | 155CKH050M | 110.5243 | 15 | 5x11 |
| 2.2 | 50 | 225CKH050M | 75.3575 | 20 | 5x11 |
| 2.2 | 100 | 225CKE100M | 60.2860 | 24 | 5x11 |
| 2.2 | 250 | 225CKH250M | 113.0362 | 24 | 6.3x11 |
| 2.2 | 350 | 225CKE350M | 150.7149 | 21 | 6.3x11 |
| 2.2 | 400 | 225CKE400M | 150.7149 | 26 | 8x11.5 |
| 2.2 | 450 | 225CKE450M | 150.7149 | 31 | 10x12.5 |
| 2.2 | 450 | 225CKH450M | 150.7149 | 31 | 10x20 |
| 2.2 | 450 | 225CKE450MJM | 150.7149 | 20 | 8x11.5 |
| 3.3 | 50 | 335CKE050M | 50.2383 | 27 | 5x11 |
| 3.3 | 100 | 335CKE100M | 40.1906 | 30 | 5x11 |
| 3.3 | 200 | 335CKE200M | 75.3575 | 26 | 6.3x11 |
| 3.3 | 250 | 335CKE250MGM | 75.3575 | 28 | 6.3x11 |
| 3.3 | 250 | 335CKE250M | 75.3575 | 33 | 8x11.5 |
| 3.3 | 350 | 335CKE350MJM | 100.4766 | 30 | 8x11.5 |
| 3.3 | 400 | 335CKE400M | 100.4766 | 32 | 10x12.5 |
| 3.3 | 400 | 335CKE400MJM | 100.4766 | 34 | 8x11.5 |
| 3.3 | 450 | 335CKE450MLM | 100.4766 | 28 | 10x12.5 |
| 3.3 | 450 | 335CKE450MLM | 100.4766 | 28 | 10x13 |
| 3.3 | 450 | 335CKE450M | 100.4766 | 41 | 12.5x20 |
| 4.7 | 100 | 475CKE100M | 28.2190 | 35 | 5x11 |
| 4.7 | 160 | 475CKE160M | 52.9106 | 29 | 6.3x11 |
| 4.7 | 200 | 475CKE200M | 52.9106 | 35 | 6.3x11 |
| 4.7 | 250 | 475CKH250M | 52.9106 | 36 | 10x12.5 |
| 4.7 | 250 | 475CKE250MGM | 52.9106 | 35 | 6.3x11 |
| 4.7 | 250 | 475CKE250M | 52.9106 | 39 | 8x11.5 |
| 4.7 | 350 | 475CKE350M | 70.5474 | 37 | 10x12.5 |
| 4.7 | 350 | 475CKE350MJM | 70.5474 | 39 | 8x11.5 |
| 4.7 | 400 | 475CKE400MLN | 70.5474 | 42 | 10x12.5 |
| 4.7 | 400 | 475CKE400M | 70.5474 | 42 | 10x16 |
| 4.7 | 450 | 475CKE450MLN | 70.5474 | 32 | 10x12.5 |

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 4.7 | 450 | 475CKE450M | 70.5474 | 43 | 10x20 |
| 4.7 | 450 | 475CKH450M | 70.5474 | 49 | 12.5x20 |
| 6.8 | 50 | 685CKH050M | 24.3804 | 40 | 5x11 |
| 6.8 | 63 | 685CKH063M | 24.3804 | 42 | 5x11 |
| 6.8 | 100 | 685CKH100M | 19.5043 | 52 | 6.3x11 |
| 6.8 | 250 | 685CKH250M | 36.5705 | 65 | 10x16 |
| 10 | 50 | 106CKH050M | 16.5786 | 46 | 5x11 |
| 10 | 63 | 106CKE063M | 16.5786 | 46 | 5x11 |
| 10 | 100 | 106CKE100MEM | 13.2629 | 50 | 5x11 |
| 10 | 100 | 106CKH100M | 13.2629 | 55 | 6.3x11 |
| 10 | 160 | 106CKE160M | 24.8680 | 49 | 8x11.5 |
| 10 | 200 | 106CKE200M | 24.8680 | 60 | 10x12.5 |
| 10 | 200 | 106CKE200MJM | 24.8680 | 57 | 8x11.5 |
| 10 | 250 | 106CKE250MLN | 24.8680 | 71 | 10x12.5 |
| 10 | 250 | 106CKH250M | 24.8680 | 70 | 10x16 |
| 10 | 350 | 106CKE350MLQ | 33.1573 | 64 | 10x16 |
| 10 | 350 | 106CKE350M | 33.1573 | 65 | 10x20 |
| 10 | 400 | 106CKE400MLQ | 33.1573 | 64 | 10x16 |
| 10 | 400 | 106CKE400M | 33.1573 | 73 | 10x20 |
| 10 | 450 | 106CKE450MLU | 33.1573 | 27 | 10x21 |
| 10 | 450 | 106CKE450M | 33.1573 | 65 | 12.5x20 |
| 15 | 50 | 156CKH050M | 11.0524 | 58 | 5x11 |
| 15 | 63 | 156CKH063M | 11.0524 | 65 | 6.3x11 |
| 15 | 100 | 156CKH100M | 8.8419 | 80 | 8x11.5 |
| 15 | 160 | 156CKH160M | 16.5786 | 80 | 10x16 |
| 15 | 250 | 156CKH250M | 16.5786 | 90 | 10x20 |
| 22 | 50 | 226CKH050M | 7.5357 | 68 | 5x11 |
| 22 | 63 | 226CKE063M | 7.5357 | 70 | 5x11 |
| 22 | 63 | 226CKH063M | 7.5357 | 70 | 6.3x11 |
| 22 | 100 | 226CKE100M | 6.0286 | 85 | 6.3x11 |
| 22 | 100 | 226CKH100M | 6.0286 | 96 | 8x11.5 |
| 22 | 160 | 226CKE160MLN | 11.3036 | 92 | 10x12.5 |
| 22 | 160 | 226CKE160M | 11.3036 | 85 | 10x16 |
| 22 | 200 | 226CKE200MLQ | 11.3036 | 105 | 10x16 |
| 22 | 200 | 226CKH200M | 11.3036 | 95 | 10x20 |
| 22 | 250 | 226CKE250MLU | 11.3036 | 105 | 10x20 |
| 22 | 250 | 226CKE250M | 11.3036 | 130 | 12.5x20 |
| 22 | 350 | 226CKE350MNU | 15.0715 | 105 | 12.5x20 |
| 22 | 400 | 226CKE400M | 15.0715 | 120 | 12.5x25 |
| 22 | 450 | 226CKE450MNV | 15.0715 | 100 | 13x26 |
| 22 | 450 | 226CKE450M | 15.0715 | 130 | 16x25 |
| 22 | 450 | 226CKH450M | 15.0715 | 130 | 16x31.5 |
| 33 | 50 | 336CKE050M | 5.0238 | 85 | 5x11 |
| 33 | 63 | 336CKE063M | 5.0238 | 95 | 6.3x11 |
| 33 | 100 | 336CKH100M | 4.0191 | 140 | 10x12.5 |

STANDARD PART LISTING

PLEASE NOTE: The CKE and CKH Series have been merged. CHECK PART NUMBERS CAREFULLY.

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 33 | 100 | 336CKE100M | 4.0191 | 120 | 8x11.5 |
| 33 | 160 | 336CKE160MLQ | 7.5357 | 125 | 10x16 |
| 33 | 160 | 336CKE160M | 7.5357 | 120 | 10x20 |
| 33 | 200 | 336CKE200MLU | 7.5357 | 140 | 10x20 |
| 33 | 250 | 336CKE250M | 7.5357 | 150 | 12.5x20 |
| 33 | 350 | 336CKE350MNV | 10.0477 | 170 | 12.5x25 |
| 33 | 400 | 336CKE400M | 10.0477 | 160 | 16x25 |
| 33 | 400 | 336CKH400M | 10.0477 | 160 | 16x31.5 |
| 33 | 450 | 336CKE450MQV | 10.0477 | 33 | 16x25 |
| 33 | 450 | 336CKE450M | 10.0477 | 170 | 18x35.5 |
| 47 | 25 | 476CKH025M | 5.2911 | 80 | 5x11 |
| 47 | 35 | 476CKE035M | 4.2328 | 90 | 5x11 |
| 47 | 50 | 476CKE050M | 3.5274 | 110 | 6.3x11 |
| 47 | 63 | 476CKE063M | 3.5274 | 110 | 6.3x11 |
| 47 | 63 | 476CKH063M | 3.5274 | 135 | 8x11.5 |
| 47 | 100 | 476CKE100M | 2.8219 | 160 | 10x12.5 |
| 47 | 100 | 476CKH100M | 2.8219 | 180 | 10x16 |
| 47 | 100 | 476CKE100MJM | 2.8219 | 140 | 8x11.5 |
| 47 | 160 | 476CKE160MLU | 5.2911 | 150 | 10x20 |
| 47 | 160 | 476CKE160M | 5.2911 | 160 | 12.5x20 |
| 47 | 200 | 476CKE200M | 5.2911 | 170 | 12.5x20 |
| 47 | 250 | 476CKE250MNU | 5.2911 | 190 | 12.5x20 |
| 47 | 250 | 476CKE250M | 5.2911 | 200 | 12.5x25 |
| 47 | 250 | 476CKE250MNU | 5.2911 | 190 | 13x21 |
| 47 | 350 | 476CKE350M | 7.0547 | 190 | 16x25 |
| 47 | 350 | 476CKH350M | 7.0547 | 190 | 16x35.5 |
| 47 | 400 | 476CKE400MQV | 7.0547 | 200 | 16x25 |
| 47 | 400 | 476CKE400M | 7.0547 | 210 | 16x31.5 |
| 47 | 450 | 476CKE450MQW | 7.0547 | 155 | 16x31.5 |
| 68 | 16 | 686CKH016M | 4.1447 | 95 | 5x11 |
| 68 | 25 | 686CKH025M | 3.6571 | 105 | 6.3x11 |
| 68 | 50 | 686CKH050M | 2.4380 | 165 | 8x11.5 |
| 68 | 63 | 686CKH063M | 2.4380 | 190 | 10x12.5 |
| 68 | 100 | 686CKH100M | 1.9504 | 255 | 10x16 |
| 68 | 200 | 686CKH200M | 3.6571 | 235 | 16x25 |
| 68 | 250 | 686CKH250M | 3.6571 | 255 | 16x31.5 |
| 100 | 16 | 107CKE016M | 2.8184 | 110 | 5x11 |
| 100 | 25 | 107CKE025MEM | 2.4868 | 125 | 5x11 |
| 100 | 35 | 107CKE035M | 1.9894 | 150 | 6.3x11 |
| 100 | 50 | 107CKH050M | 1.6579 | 180 | 8x11.5 |
| 100 | 63 | 107CKH063M | 1.6579 | 210 | 10x12.5 |
| 100 | 63 | 107CKE063MJM | 1.6579 | 200 | 8x11.5 |
| 100 | 100 | 107CKE100MLQ | 1.3263 | 240 | 10x16 |
| 100 | 100 | 107CKE100M | 1.3263 | 290 | 10x20 |
| 100 | 160 | 107CKE160M | 2.4868 | 250 | 12.5x25 |

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 100 | 200 | 107CKE200M | 2.4868 | 260 | 16x25 |
| 100 | 250 | 107CKE250MQV | 2.4868 | 310 | 16x25 |
| 100 | 250 | 107CKE250M | 2.4868 | 320 | 16x31.5 |
| 100 | 350 | 107CKE350MRY | 3.3157 | 370 | 18x35.5 |
| 100 | 350 | 107CKE350M | 3.3157 | 330 | 18x40 |
| 100 | 400 | 107CKE400M | 3.3157 | 310 | 18x35.5 |
| 150 | 10 | 157CKH010M | 2.2105 | 125 | 6.3x11 |
| 150 | 25 | 157CKH025M | 1.6579 | 180 | 8x11.5 |
| 150 | 35 | 157CKH035M | 1.3263 | 230 | 10x12.5 |
| 150 | 50 | 157CKH050M | 1.1052 | 260 | 10x16 |
| 150 | 63 | 157CKH063M | 1.1052 | 315 | 10x20 |
| 150 | 100 | 157CKH100M | 0.8842 | 410 | 12.5x20 |
| 150 | 160 | 157CKH160M | 1.6579 | 330 | 16x31.5 |
| 150 | 200 | 157CKH200M | 1.6579 | 350 | 16x35.5 |
| 220 | 10 | 227CKE010M | 1.5071 | 150 | 5x11 |
| 220 | 16 | 227CKE016M | 1.2811 | 190 | 6.3x11 |
| 220 | 25 | 227CKE025MGM | 1.1304 | 200 | 6.3x11 |
| 220 | 35 | 227CKE035M | 0.9043 | 260 | 8x11.5 |
| 220 | 50 | 227CKE050M | 0.7536 | 310 | 10x12.5 |
| 220 | 50 | 227CKH050M | 0.7536 | 345 | 10x16 |
| 220 | 63 | 227CKE063M | 0.7536 | 340 | 10x16 |
| 220 | 63 | 227CKH063M | 0.7536 | 400 | 10x20 |
| 220 | 100 | 227CKE100MNU | 0.6029 | 390 | 12.5x20 |
| 220 | 100 | 227CKE100M | 0.6029 | 510 | 12.5x25 |
| 220 | 100 | 227CKH100M | 0.6029 | 570 | 16x25 |
| 220 | 160 | 227CKE160MQW | 1.1304 | 410 | 16x31.5 |
| 220 | 160 | 227CKE160M | 1.1304 | 420 | 16x35.5 |
| 220 | 200 | 227CKE200M | 1.1304 | 500 | 16x35.5 |
| 220 | 250 | 227CKE250M | 1.1304 | 485 | 18x35.5 |
| 330 | 10 | 337CKE010M | 1.0048 | 210 | 6.3x11 |
| 330 | 16 | 337CKE016MGM | 0.8541 | 225 | 6.3x11 |
| 330 | 25 | 337CKE025M | 0.7536 | 280 | 8x11.5 |
| 330 | 35 | 337CKE035M | 0.6029 | 350 | 10x12.5 |
| 330 | 50 | 337CKE050M | 0.5024 | 410 | 10x16 |
| 330 | 50 | 337CKH050M | 0.5024 | 460 | 10x20 |
| 330 | 63 | 337CKE063M | 0.5024 | 470 | 10x20 |
| 330 | 63 | 337CKH063M | 0.5024 | 540 | 12.5x20 |
| 330 | 100 | 337CKE100M | 0.4019 | 620 | 12.5x25 |
| 330 | 100 | 337CKH100M | 0.4019 | 700 | 16x25 |
| 330 | 160 | 337CKE160M | 0.7536 | 550 | 18x35.5 |
| 330 | 200 | 337CKE200M | 0.7536 | 675 | 18x40 |
| 470 | 10 | 477CKE010M | 0.7055 | 260 | 6.3x11 |
| 470 | 16 | 477CKH016M | 0.5997 | 370 | 10x12.5 |
| 470 | 16 | 477CKE016M | 0.5997 | 320 | 8x11.5 |
| 470 | 25 | 477CKE025M | 0.5291 | 370 | 10x12.5 |

STANDARD PART LISTING

PLEASE NOTE: The CKE and CKH Series have been merged. CHECK PART NUMBERS CAREFULLY.

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 470 | 35 | 477CKE035M | 0.4233 | 450 | 10x16 |
| 470 | 50 | 477CKE050M | 0.3527 | 560 | 10x20 |
| 470 | 50 | 477CKH050M | 0.3527 | 610 | 12.5x20 |
| 470 | 63 | 477CKE063M | 0.3527 | 610 | 12.5x20 |
| 470 | 63 | 477CKH063M | 0.3527 | 700 | 12.5x25 |
| 470 | 100 | 477CKE100M | 0.2822 | 720 | 16x25 |
| 470 | 100 | 477CKH100M | 0.2822 | 880 | 16x31.5 |
| 680 | 6.3 | 687CKH6R3M | 0.5851 | 375 | 10x12.5 |
| 680 | 16 | 687CKH016M | 0.4145 | 490 | 10x16 |
| 680 | 35 | 687CKH035M | 0.2926 | 695 | 12.5x20 |
| 680 | 50 | 687CKH050M | 0.2438 | 825 | 12.5x25 |
| 680 | 63 | 687CKH063M | 0.2438 | 925 | 16x25 |
| 1000 | 6.3 | 108CKE6R3M | 0.3979 | 390 | 8x11.5 |
| 1000 | 10 | 108CKE010M | 0.3316 | 470 | 10x12.5 |
| 1000 | 16 | 108CKE016MLN | 0.2818 | 500 | 10x12.5 |
| 1000 | 16 | 108CKE016M | 0.2818 | 550 | 10x16 |
| 1000 | 16 | 108CKH016M | 0.2818 | 640 | 10x20 |
| 1000 | 25 | 108CKE025MLQ | 0.2487 | 610 | 10x16 |
| 1000 | 25 | 108CKE025M | 0.2487 | 660 | 10x20 |
| 1000 | 35 | 108CKH035M | 0.1989 | 820 | 12.5x20 |
| 1000 | 50 | 108CKE050M | 0.1658 | 970 | 12.5x25 |
| 1000 | 50 | 108CKH050M | 0.1658 | 1100 | 16x25 |
| 1000 | 63 | 108CKE063M | 0.1658 | 940 | 16x25 |
| 1000 | 63 | 108CKH063M | 0.1658 | 1210 | 16x31.5 |
| 1000 | 100 | 108CKE100MRY | 0.1326 | 1000 | 18x35.5 |
| 1000 | 100 | 108CKE100M | 0.1326 | 1410 | 18x40 |
| 1500 | 6.3 | 158CKH6R3M | 0.2874 | 585 | 10x20 |
| 1500 | 16 | 158CKH016M | 0.2100 | 800 | 12.5x20 |
| 1500 | 25 | 158CKH025M | 0.1879 | 905 | 12.5x25 |
| 1500 | 35 | 158CKH035M | 0.1547 | 1140 | 16x25 |
| 1500 | 50 | 158CKH050M | 0.1326 | 1250 | 18x31.5 |
| 2200 | 6.3 | 228CKE6R3M | 0.2110 | 660 | 10x16 |
| 2200 | 10 | 228CKE010MLQ | 0.1809 | 705 | 10x16 |
| 2200 | 10 | 228CKE010M | 0.1809 | 810 | 10x20 |
| 2200 | 16 | 228CKE016MLU | 0.1583 | 710 | 10x21 |
| 2200 | 16 | 228CKE016M | 0.1583 | 950 | 12.5x20 |
| 2200 | 16 | 228CKH016M | 0.1583 | 1000 | 12.5x25 |
| 2200 | 25 | 228CKE025M | 0.1432 | 1100 | 12.5x25 |
| 2200 | 25 | 228CKH025M | 0.1432 | 1170 | 16x25 |
| 2200 | 35 | 228CKE035M | 0.1206 | 1180 | 16x25 |
| 2200 | 35 | 228CKH035M | 0.1206 | 1340 | 16x31.5 |
| 2200 | 50 | 228CKE050MQW | 0.1055 | 1410 | 16x31.5 |
| 2200 | 50 | 228CKE050M | 0.1055 | 1470 | 16x35.5 |
| 2200 | 50 | 228CKH050M | 0.1055 | 1530 | 18x35.5 |

| Capacitance (µF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+105°C | Dimensions DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|---------------------|
| 2200 | 63 | 228CKE063M | 0.1055 | 1650 | 18x35.5 |
| 3300 | 6.3 | 338CKE6R3M | 0.1507 | 880 | 10x20 |
| 3300 | 10 | 338CKE010M | 0.1306 | 1040 | 12.5x20 |
| 3300 | 16 | 338CKH016M | 0.1155 | 1220 | 12.5x25 |
| 3300 | 16 | 338CKH016M | 0.1155 | 1300 | 16x25 |
| 3300 | 25 | 338CKE025M | 0.1055 | 1240 | 16x25 |
| 3300 | 25 | 338CKH025M | 0.1055 | 1460 | 16x31.5 |
| 3300 | 35 | 338CKE035MQW | 0.0904 | 1500 | 16x31.5 |
| 3300 | 35 | 338CKE035M | 0.0904 | 1560 | 16x35.5 |
| 3300 | 35 | 338CKH035M | 0.0904 | 1650 | 18x35.5 |
| 3300 | 50 | 338CKE050M | 0.0804 | 1780 | 18x35.5 |
| 4700 | 6.3 | 478CKE6R3M | 0.0847 | 1090 | 12.5x20 |
| 4700 | 10 | 478CKE010M | 0.0847 | 1280 | 12.5x25 |
| 4700 | 10 | 478CKH010M | 0.0988 | 1410 | 16x25 |
| 4700 | 16 | 478CKE016M | 0.0741 | 1310 | 16x25 |
| 4700 | 16 | 478CKH016M | 0.0882 | 1600 | 16x31.5 |
| 4700 | 25 | 478CKE025MQV | 0.0811 | 1570 | 16x25 |
| 4700 | 25 | 478CKE025M | 0.0811 | 1530 | 16x31.5 |
| 4700 | 25 | 478CKH025M | 0.0811 | 1780 | 18x31.5 |
| 4700 | 35 | 478CKE035MQY | 0.0705 | 1780 | 16x35.5 |
| 4700 | 35 | 478CKE035M | 0.0705 | 1830 | 18x35.5 |
| 6800 | 6.3 | 688CKE6R3M | 0.0585 | 1350 | 12.5x25 |
| 6800 | 10 | 688CKE010M | 0.0488 | 1390 | 16x25 |
| 6800 | 16 | 688CKE016MQV | 0.0707 | 1600 | 16x25 |
| 6800 | 16 | 688CKE016M | 0.0707 | 1630 | 16x31.5 |
| 6800 | 25 | 688CKE025MQY | 0.0658 | 1850 | 16x35.5 |
| 6800 | 25 | 688CKE025M | 0.0658 | 1880 | 18x35.5 |
| 6800 | 35 | 688CKE035M | 0.0585 | 2000 | 18x40 |
| 10000 | 6.3 | 109CKE6R3M | 0.0398 | 1450 | 16x25 |
| 10000 | 6.3 | 109CKH6R3M | 0.0696 | 1790 | 16x31.5 |
| 10000 | 10 | 109CKE010MLQ | 0.0630 | 1820 | 16x31.5 |
| 10000 | 10 | 109CKE010M | 0.0630 | 1760 | 16x35.5 |
| 10000 | 10 | 109CKH010M | 0.0630 | 1965 | 18x35.5 |
| 10000 | 16 | 109CKE016MQY | 0.0580 | 1930 | 16x35.5 |
| 10000 | 16 | 109CKE016M | 0.0580 | 1960 | 18x31.5 |
| 10000 | 25 | 109CKE025M | 0.0547 | 2000 | 18x40 |
| 15000 | 6.3 | 159CKE6R3MQW | 0.0575 | 1820 | 16x31.5 |
| 15000 | 6.3 | 159CKE6R3M | 0.0575 | 1850 | 16x35.5 |
| 15000 | 10 | 159CKE010MQY | 0.0531 | 2050 | 16x35.5 |
| 15000 | 10 | 159CKE010M | 0.0531 | 2050 | 18x35.5 |
| 15000 | 16 | 159CKE016M | 0.0497 | 2210 | 18x40 |
| 22000 | 6.3 | 229CKE6R3MRY | 0.0497 | 2280 | 18x35.5 |
| 22000 | 6.3 | 229CKE6R3M | 0.0497 | 2300 | 18x40 |
| 22000 | 10 | 229CKE010M | 0.0467 | 2420 | 18x40 |