Jianghai
CAPACITOR COMPETENCE
since 1958

FILM CAPACITORS · AC FILTER

# CBB **237** AQ SERIES

## FEATURES

- Used in AC filtering
- Excellent Temperature behavior
- Self-healing
- Overpressure disconnector design
- Aluminum case, filled with soft PU resin

## OVERVIEW

CBB **237** AQ single phase Al-case · PU 70°C Page: 74

3-PHASE Δ → CBB **235** AT 3-phase Δ Al-case · PU 70°C Page: 70

3-PHASE Y → CBB **235** AY 3-phase Y Al-case · PU 70°C Page: 70

OIL FILLED ↓ CBB **65** AG single phase Al-case · Oil 70°C Page: 68

## PRODUCT


## APPLICATIONS

- Solar
- Wind energy
- UPS

## CHARACTERISTICS

| ITEM | CHARACTERISTICS |
|---|---|
| Reference Standard | GB/T 17702 (IEC 61071) , IEC60831 |
| Climatic Category | 40/70/56 |
| Operating Temperature Range | -40 ~ +70°C ($\Theta_{hotspot}$ ⩽ 85°C) |
| Storage Temperature Range | -40 ~ +85°C |
| Rated Voltage $U_{RMS}$ | 250 ~ 690 $V_{AC}$ |
| Capacitance Range | 10 ~ 600µF |
| Capacitance Tolerance | ±5% (J), ±10% (K) |
| $U_{TT}$ Voltage between Terminals | 2,15 x $U_N$, 10s (20°C) |
| $U_{TC}$ Voltage between Terminals & Case | ⩾4.000$V_{AC}$, 10s (20°C, 50 Hz) |
| Dielectric Dissipation Factor tan $\partial_0$ | ⩽2 x $10^{-4}$ |
| Insulation Resistance R/°C | ⩾5.000 MΩ · µF (20°C, 100 $V_{DC}$, 1min) |
| Max. Overvoltage | 1,1 * $U_N$ (30% of on-load-duration)<br>1,15 * $U_N$ (30 min/day)<br>1,2 * $U_N$ (5 min/day)<br>1,3 * $U_N$ (1 min/day)<br>1,5 * $U_N$ (30ms every time, 100 ms/day) |
| Max. Torque of terminals | M6: 4Nm \| M8: 6Nm |
| Max. Torque of stud | M12: 10Nm |
| Life Expectancy | 100.000 hours (UR, $\Theta_{hotspot}$ = 70°C) |
| Failure Rate | 100 FIT |

## ENVIRONMENTAL

The products are RoHS, WEEE and REACh compliant.

The detailed version please see seperate "Environmental Certificates" document or www.jianghai-europe.com

## APPROVALS

**UL94-V0:**

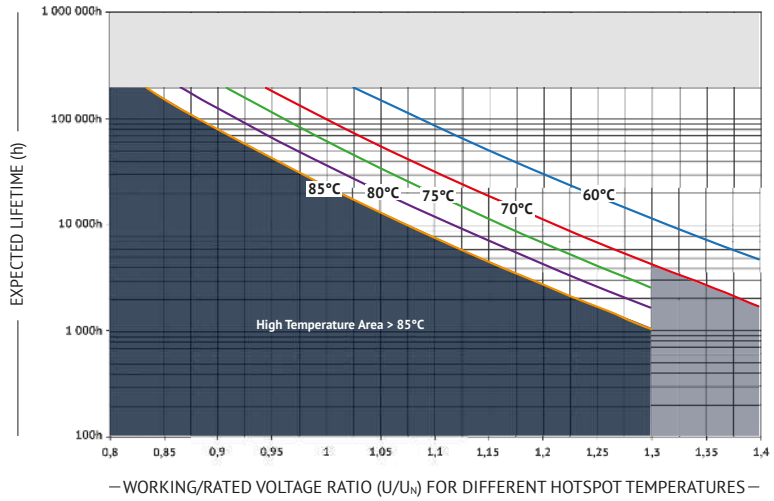
Plastic & Compound Mass

**UL810:**

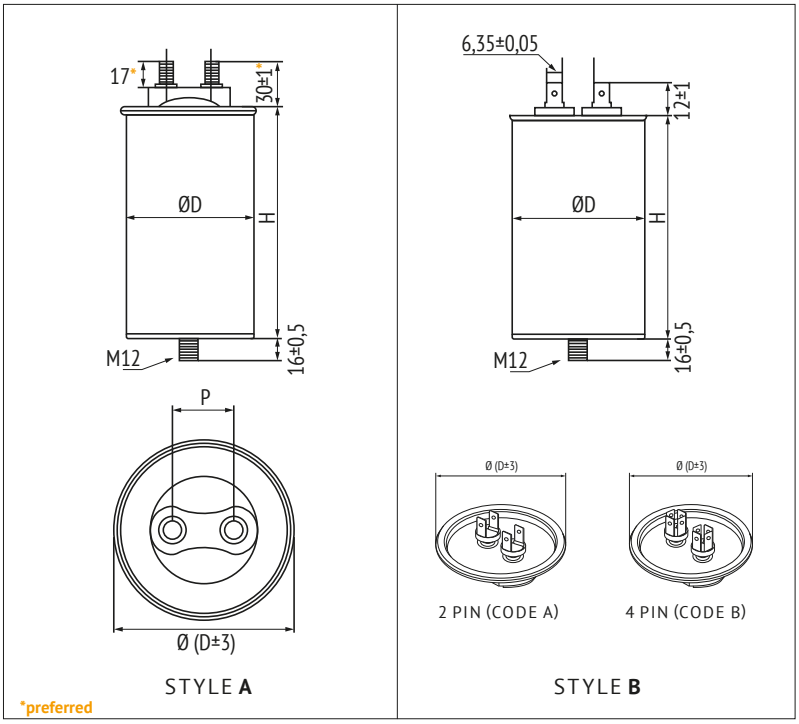
CYWT2.E483921

## LIFETIME

END OF LIFE: 3% REDUCTION OF CAPACITANCE



## DIMENSIONS AND CAN STYLE




**CAUTION**
**The style has impact on the current.**

in mm

## MARKING

| | |
|---|---|
| Jianghai | BRAND |
| CBB 237 | SERIES DESIGNATION |
| 200µF ±10% | CAPACITANCE AND TOLERANCE |
| $U_R$ = 250$V_{AC}$ SH | $U_R$ RATED VOLTAGE |
| $U_{TC}$ = 3000V 50/60 HZ | $U_{TC}$ VOLTAGE BETWEEN TERMINALS AND CASE, FREQUENCY |
| -40~+70°C IEC61071 | TEMPERATURE RANGE, REFERENCE STANDARD |
| Discharge before handling | SAFETY WARNING |
| J37F35 | DATE CODE |

## ORDER CODE

| FC | C | 4F | | AQ | 107 | | K | | L | | 055 | | 3 | | X | | 1 | | A | | E 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capacitor type | Product shape | AC rated voltage code (V) | | Series code | Capacitance Code Examples (µF) | | Capacitance tolerance | | Diameter (mm) | | Height (mm) | | Terminal Style | | Terminal Pitch (mm) | | Stud Bolt Mounting | | Can Style | | For internal use |
| Film Cap. = **FC** | cylindrical = **C** | 250 | **2F** | CBB 237 = **AQ** | 10 | **106** | ±5% | **J** | 50 | **D** | 75 | **075** | Male M6*10 | **0** | 13,5 | **X** | bolt M12x16 | **1** | Style A | **A** | |
| | | 330 | **3D** | | 80 | **806** | ±10% | **K** | 55 | **C** | 100 | **100** | Male M6*20 | **1** | 16 | **Z** | flat, without bracket | **0** | Style B | **B** | |
| | | 450 | **4F** | | 100 | **107** | | | 60 | **F** | 125 | **125** | Male M8*10 | **2** | 18 | **Y** | | | | | |
| | | 480 | **4J** | | 150 | **157** | | | 63,5 | **E** | 200 | **200** | Male M8*16 | **9** | 20 | **W** | | | | | |
| | | 550 | **5F** | | 350 | **357** | | | 65 | **G** | 247 | **247** | Male M8*20 | **3** | 30 | **6** | | | | | |
| | | 600 | **6A** | | 450 | **457** | | | 76 | **H** | | | Male M10*10 | **4** | 32 | **3** | | | | | |
| | | 660 | **6G** | | | | | | 86 | **L** | | | Male M10*16 | **7** | 35 | **V** | | | | | |
| | | 690 | **6K** | | | | | | 96 | **W** | | | Male M10*20 | **5** | 50 | **5** | | | | | |
| | | | | | | | | | 106 | **K** | | | 2 Pin | **A** | | | | | | | |
| | | | | | | | | | | | | | 4 Pin | **B** | | | | | | | |

## RATINGS

| $U_{RMS}/U_N$ ≤70°C (V$_{AC}$) | $C_R$ (µF) | dV/dt (V/µs) | $I_{max}$ 50°C 1kHz (A) | $\hat{I}$ [1] (A) | $R_S$ 20°C 1kHz (mΩ) | $R_{th}$ [2] (K/W) | P ±0,5 (mm) | D ±1,0 (mm) | H ±2,0 (mm) | ORDER CODE "#" to be defined, see ordering code table (preferred) |
|---|---|---|---|---|---|---|---|---|---|---|
| 250/350 2F | 60 | 16,7 | 16 | 999 | 5,2 | 12,6 | 20 | 50 | 100 | FCC2FAQ606#D100#W1BE3 |
| | 80 | 16,7 | 16 | 1332 | 4,3 | 11,2 | 20 | 50 | 100 | FCC2FAQ806#D100#W1BE3 |
| | 100 | 12,6 | 16 | 1260 | 4,8 | 10,0 | 20 | 50 | 125 | FCC2FAQ107#D125#W1BE3 |
| | 120 | 12,6 | 16 | 1512 | 5,4 | 9,0 | 20 | 55 | 125 | FCC2FAQ127#C125#W1BE3 |
| | 150 | 12,6 | 16 | 1890 | 6,8 | 7,7 | 20 | 60 | 125 | FCC2FAQ157#F125#W1BE3 |
| | 150 | 10,8 | 32 | 1620 | 3,4 | 7,1 | 30 | 76 | 125 | FCC2FAQ157#H125#61AE3 |
| | 175 | 12,6 | 16 | 2205 | 4,8 | 10,0 | 20 | 63,5 | 125 | FCC2FAQ177#E125#W1BE3 |
| | 200 | 11,7 | 34 | 2340 | 3,3 | 6,2 | 30 | 76 | 125 | FCC2FAQ207#H125#61AE3 |
| | 230 | 8,6 | 33 | 1978 | 3,8 | 5,7 | 30 | 76 | 150 | FCC2FAQ237#H150#61AE3 |
| | 250 | 8,6 | 37 | 2150 | 3,1 | 5,6 | 30 | 76 | 150 | FCC2FAQ257#H150#61AE3 |
| | 300 | 8,6 | 45 | 2580 | 2,0 | 4,7 | 30 | 86 | 150 | FCC2FAQ307#L150#61AE3 |
| | 330 | 10,4 | 45 | 3432 | 1,8 | 4,6 | 30 | 86 | 150 | FCC2FAQ337#L150#61AE3 |
| | 350 | 10,4 | 59 | 3622 | 1,6 | 4,2 | 30 | 76 | 200 | FCC2FAQ357#H200#61AE3 |
| | 400 | 10,4 | 61 | 4140 | 1,5 | 4,2 | 30 | 86 | 200 | FCC2FAQ407#L200#61AE3 |
| | 500 | 10,8 | 64 | 5400 | 1,5 | 3,7 | 30 | 86 | 200 | FCC2FAQ507#L200#61AE3 |
| | 600 | 8,0 | 64 | 4800 | 1,7 | 3,3 | 30 | 86 | 250 | FCC2FAQ607#L250#61AE3 |
| 330/460 3D | 50 | 16,7 | 16 | 832 | 5,0 | 11,6 | 20 | 50 | 100 | FCC3DAQ506#D100#W1BE3 |
| | 60 | 12,6 | 16 | 756 | 5,6 | 10,5 | 20 | 50 | 125 | FCC3DAQ606#D125#W1BE3 |
| | 100 | 12,6 | 16 | 1260 | 7,9 | 7,8 | 20 | 60 | 125 | FCC3DAQ107#F125#W1BE3 |
| | 100 | 13,1 | 23 | 1305 | 4,7 | 7,8 | 30 | 76 | 125 | FCC3DAQ107#H125#61AE3 |
| | 120 | 7,2 | 24 | 864 | 4,2 | 7,3 | 20 | 63,5 | 125 | FCC3DAQ127#E125#W1BE3 |
| | 150 | 9,0 | 23 | 1350 | 5,4 | 6,4 | 30 | 76 | 150 | FCC3DAQ157#H150#61AE3 |
| | 175 | 8,6 | 25 | 1496 | 4,7 | 6,1 | 30 | 76 | 150 | FCC3DAQ177#H150#61AE3 |
| | 200 | 13,1 | 50 | 2610 | 1,9 | 4,7 | 30 | 76 | 200 | FCC3DAQ207#H200#61AE3 |
| | 200 | 13,1 | 45 | 2610 | 1,8 | 4,6 | 30 | 86 | 150 | FCC3DAQ207#L150#61AE3 |
| | 250 | 8,6 | 54 | 2140 | 1,6 | 4,5 | 30 | 76 | 200 | FCC3DAQ257#H200#61AE3 |
| | 300 | 13,1 | 59 | 3915 | 1,5 | 4,0 | 30 | 86 | 200 | FCC3DAQ307#L200#61AE3 |
| | 350 | 13,1 | 60 | 4570 | 1,5 | 4,0 | 30 | 86 | 200 | FCC3DAQ357#L200#61AE3 |
| | 400 | 8,1 | 59 | 3240 | 1,8 | 3,3 | 30 | 86 | 250 | FCC3DAQ407#L250#61AE3 |
| | 450 | 8,1 | 60 | 3645 | 1,5 | 4,0 | 30 | 86 | 250 | FCC3DAQ457#L250#61AE3 |
| 450/630 4F | 20 | 35,0 | 16 | 700 | 6,0 | 11,1 | 20 | 50 | 75 | FCC4FAQ206#D075#W1BE3 |
| | 30 | 23,3 | 16 | 700 | 5,0 | 11,6 | 20 | 50 | 100 | FCC4FAQ306#D100#W1BE3 |
| | 33 | 21,2 | 16 | 700 | 4,5 | 14,8 | 20 | 50 | 100 | FCC4FAQ336#D100#W1BE3 |
| | 40 | 13,5 | 16 | 540 | 4,0 | 16,6 | 20 | 50 | 100 | FCC4FAQ406#D100#W1BE3 |
| | 50 | 10,8 | 16 | 540 | 7,9 | 7,8 | 20 | 60 | 125 | FCC4FAQ506#F125#W1BE3 |
| | 50 | 17,1 | 25 | 855 | 6,0 | 5,3 | 30 | 76 | 100 | FCC4FAQ506#H100#61AE3 |
| | 70 | 13,0 | 16 | 907 | 6,5 | 10,2 | 20 | 60 | 125 | FCC4FAQ706#F125#W1BE3 |
| | 80 | 11,3 | 16 | 904 | 6,0 | 11,1 | 20 | 60 | 125 | FCC4FAQ806#F125#W1BE3 |
| | 90 | 11,3 | 16 | 1020 | 5,0 | 11,6 | 20 | 63,5 | 125 | FCC4FAQ906#E125#W1BE3 |
| | 100 | 10,8 | 35 | 1080 | 4,7 | 5,0 | 30 | 76 | 150 | FCC4FAQ107#H150#61AE3 |
| | 150 | 13,1 | 40 | 1957 | 3,9 | 4,3 | 30 | 86 | 150 | FCC4FAQ157#L150#61AE3 |
| | 200 | 13,5 | 50 | 2700 | 2,5 | 4,3 | 30 | 86 | 200 | FCC4FAQ207#L200#61AE3 |
| | 250 | 8,1 | 50 | 2025 | 2,0 | 5,3 | 30 | 86 | 200 | FCC4FAQ257#L200#61AE3 |
| | 300 | 8,0 | 50 | 2400 | 1,8 | 5,9 | 30 | 86 | 250 | FCC4FAQ307#L250#61AE3 |
| 480/675 4J | 20 | 37,5 | 16 | 750 | 7,3 | 9,1 | 20 | 50 | 75 | FCC4JAQ206#D075#W1BE3 |
| | 25 | 30,0 | 16 | 750 | 6,2 | 10,7 | 20 | 50 | 100 | FCC4JAQ256#D100#W1BE3 |
| | 30 | 25,0 | 16 | 750 | 7,1 | 9,4 | 20 | 50 | 100 | FCC4JAQ306#D100#W1BE3 |
| | 40 | 21,3 | 16 | 850 | 8,0 | 8,3 | 20 | 60 | 100 | FCC4JAQ406#F100#W1BE3 |
| | 50 | 17,0 | 16 | 850 | 6,5 | 10,2 | 20 | 55 | 125 | FCC4JAQ506#C125#W1BE3 |
| | 50 | 19,0 | 29 | 950 | 3,2 | 7,7 | 30 | 76 | 100 | FCC4JAQ506#H100#61AE3 |
| | 60 | 17,6 | 31 | 1050 | 2,8 | 7,2 | 30 | 76 | 125 | FCC4JAQ606#H125#61AE3 |
| | 70 | 22,5 | 29 | 1575 | 3,8 | 6,6 | 30 | 76 | 125 | FCC4JAQ706#H125#61AE3 |
| | 80 | 15,3 | 31 | 1224 | 3,5 | 6,2 | 30 | 76 | 150 | FCC4JAQ806#H150#61AE3 |
| | 100 | 17,1 | 50 | 1710 | 1,5 | 4,8 | 30 | 76 | 200 | FCC4JAQ107#H200#61AE3 |
| | 150 | 17,1 | 59 | 2565 | 1,2 | 4,2 | 30 | 76 | 200 | FCC4JAQ157#H200#61AE3 |
| | 200 | 13,1 | 64 | 2610 | 1,2 | 3,5 | 30 | 76 | 250 | FCC4JAQ207#H250#61AE3 |
| | 250 | 11,7 | 65 | 2925 | 1,3 | 3,1 | 30 | 86 | 250 | FCC4JAQ257#L250#61AE3 |
| 550/770 5F | 20 | 30,0 | 16 | 600 | 6,9 | 9,6 | 20 | 50 | 100 | FCC5FAQ206#D100#W1BE3 |
| | 30 | 25,0 | 16 | 750 | 6,6 | 10,1 | 20 | 50 | 125 | FCC5FAQ306#D125#W1BE3 |
| | 40 | 18,8 | 16 | 750 | 6,0 | 11,1 | 20 | 60 | 125 | FCC5FAQ406#F125#W1BE3 |
| | 50 | 17,0 | 16 | 850 | 5,5 | 12,1 | 20 | 63,5 | 125 | FCC5FAQ506#E125#W1BE3 |

(1) Maximum permissible peak current, (2) Thermal resistance from hotspot to ambient (free convection)

>>

| $U_{RMS}/U_N$ ≤70°C ($V_{AC}$) | $C_R$ (µF) | dV/dt (V/µs) | $I_{max}$ 50°C 1kHz (A) | $\hat{I}$ (1) (A) | $R_S$ 20°C 1kHz (mΩ) | $R_{th}$ (2) (K/W) | P ±0,5 (mm) | D ±1,0 (mm) | H ±2,0 (mm) | ORDER CODE "#" to be defined, see ordering code table (preferred) |
|---|---|---|---|---|---|---|---|---|---|---|
| 550/770 5F | 70 | 12,9 | 31 | 900 | 3,5 | 6,0 | 30 | 76 | 150 | FCC5FAQ706#H150#61AE3 |
| | 80 | 22,5 | 52 | 1800 | 1,3 | 5,1 | 30 | 76 | 150 | FCC5FAQ806#H150#61AE3 |
| | 100 | 28,2 | 56 | 2820 | 1,1 | 4,8 | 30 | 86 | 150 | FCC5FAQ107#L150#61AE3 |
| | 125 | 22,6 | 50 | 2820 | 2,0 | 5,3 | 30 | 86 | 200 | FCC5FAQ127#L200#61AE3 |
| | 150 | 21,4 | 53 | 3210 | 1,7 | 3,7 | 30 | 86 | 200 | FCC5FAQ157#L200#61AE3 |
| | 200 | 16,1 | 58 | 3220 | 1,4 | 3,4 | 30 | 86 | 250 | FCC5FAQ207#L250#61AE3 |
| | 250 | 14,0 | 63 | 3500 | 1,3 | 3,0 | 30 | 96 | 250 | FCC5FAQ257#W250#61AE3 |
| | 300 | 11,7 | 65 | 3500 | 1,2 | 2,8 | 30 | 106 | 250 | FCC5FAQ307#K250#61AE3 |
| 600/850 6A | 10 | 35,0 | 16 | 350 | 9,5 | 7,0 | 20 | 50 | 75 | FCC6AAQ106#D075#W1BE3 |
| | 20 | 25,0 | 16 | 500 | 11,1 | 6,0 | 20 | 50 | 125 | FCC6AAQ206#D125#W1BE3 |
| | 25 | 20,0 | 16 | 500 | 10,5 | 6,3 | 20 | 50 | 125 | FCC6AAQ256#D125#W1BE3 |
| | 30 | 20,0 | 16 | 600 | 9,5 | 7,0 | 20 | 60 | 125 | FCC6AAQ306#F125#W1BE3 |
| | 35 | 20,0 | 16 | 700 | 9,0 | 7,4 | 20 | 60 | 125 | FCC6AAQ356#F125#W1BE3 |
| | 40 | 17,5 | 16 | 700 | 8,5 | 7,8 | 20 | 63,5 | 125 | FCC6AAQ406#E125#W1BE3 |
| | 45 | 15,6 | 16 | 700 | 8,0 | 8,3 | 20 | 65 | 125 | FCC6AAQ456#G125#W1BE3 |
| | 50 | 17,0 | 41 | 850 | 2,0 | 5,4 | 30 | 76 | 150 | FCC6AAQ506#H150#61AE3 |
| 660/930 6G | 10 | 40,0 | 16 | 400 | 10,5 | 6,3 | 20 | 50 | 125 | FCC6GAQ106#D125#W1BE3 |
| | 12 | 35,0 | 16 | 420 | 10,0 | 6,6 | 20 | 50 | 125 | FCC6GAQ126#D125#W1BE3 |
| | 15 | 28,0 | 16 | 420 | 9,5 | 7,0 | 20 | 50 | 125 | FCC6GAQ156#D125#W1BE3 |
| | 18 | 25,0 | 16 | 450 | 9,0 | 7,4 | 20 | 50 | 125 | FCC6GAQ186#D125#W1BE3 |
| | 20 | 27,5 | 16 | 550 | 8,5 | 7,8 | 20 | 55 | 125 | FCC6GAQ206#C125#W1BE3 |
| | 25 | 22,0 | 16 | 550 | 8,0 | 8,3 | 20 | 60 | 125 | FCC6GAQ256#F125#W1BE3 |
| | 30 | 25,0 | 16 | 750 | 7,5 | 8,9 | 20 | 65 | 125 | FCC6GAQ306#G125#W1BE3 |
| | 35 | 21,4 | 30 | 750 | 5,6 | 3,0 | 30 | 76 | 150 | FCC6GAQ356#H150#61AE3 |
| | 40 | 22,5 | 30 | 900 | 5,2 | 3,2 | 30 | 76 | 150 | FCC6GAQ406#H150#61AE3 |
| | 45 | 20,0 | 40 | 900 | 5,0 | 2,2 | 30 | 86 | 150 | FCC6GAQ456#L150#61AE3 |
| | 50 | 20,0 | 40 | 1000 | 4,7 | 2,5 | 30 | 86 | 150 | FCC6GAQ506#L150#61AE3 |
| 690/980 6K | 10 | 75,0 | 16 | 750 | 9,5 | 7,0 | 20 | 50 | 125 | FCC6KAQ106#D125#W1BE3 |
| | 15 | 50,0 | 16 | 750 | 9,0 | 7,4 | 20 | 50 | 125 | FCC6KAQ156#D125#W1BE3 |
| | 20 | 45,0 | 16 | 900 | 8,5 | 7,8 | 20 | 55 | 125 | FCC6KAQ206#C125#W1BE3 |
| | 30 | 30,0 | 16 | 900 | 8,0 | 8,3 | 20 | 63,5 | 125 | FCC6KAQ306#E125#W1BE3 |
| | 40 | 28,8 | 25 | 1150 | 4,8 | 5,0 | 30 | 76 | 150 | FCC6KAQ406#H150#61AE3 |
| | 50 | 23,0 | 30 | 1150 | 4,3 | 4,0 | 30 | 86 | 150 | FCC6KAQ506#L150#61AE3 |
| | 70 | 18,0 | 30 | 1260 | 3,7 | 4,5 | 30 | 76 | 250 | FCC6KAQ706#H250#61AE3 |
| | 85 | 18,0 | 50 | 1530 | 2,0 | 3,0 | 30 | 86 | 250 | FCC6KAQ856#L250#61AE3 |
| | 100 | 18,0 | 53 | 1800 | 1,8 | 3,4 | 30 | 86 | 250 | FCC6KAQ107#L250#61AE3 |
| | 125 | 12,5 | 50 | 1560 | 1,8 | 3,3 | 30 | 106 | 250 | FCC6KAQ127#K250#61AE3 |
| | 150 | 12,5 | 59 | 1875 | 1,4 | 3,0 | 30 | 106 | 250 | FCC6KAQ157#K250#61AE3 |
| | 170 | 12,5 | 59 | 2125 | 1,2 | 3,5 | 30 | 106 | 250 | FCC6KAQ177#K250#61AE3 |

(1) Maximum permissible peak current, (2) Thermal resistance from hotspot to ambient (free convection)

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