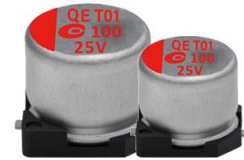


# AVQE Series AEC-Q200

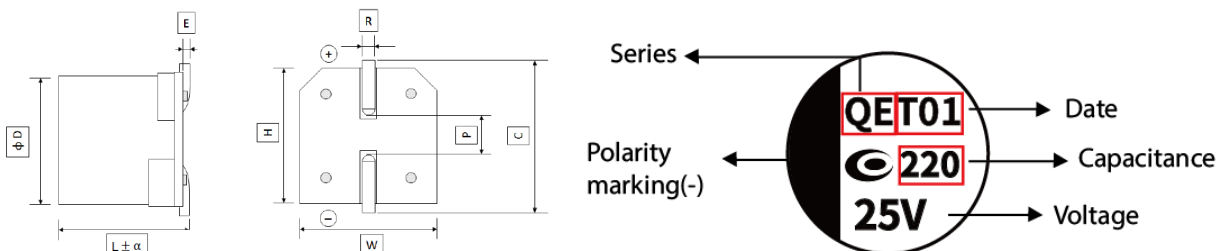
- Standard SMD type
- Rated Voltage: 25~63Vdc
- Endurance 4000hrs at 135°C
- High reliability and high voltage are realized by hybrid electrolyte
- For high temperature and high reliability applications
- RoHS Compliant
- AEC-Q200 compliant



## Specification

|                            |                                                                                                                                                            |                                       |                   |      |      |     |      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------|------|------|-----|------|
| Category Temperature Range | -55~+135°C                                                                                                                                                 | Rated Voltage Range                   | 25 to 63Vdc       |      |      |     |      |
| Rated Capacitance Range    | 10 to 1000 (μF)                                                                                                                                            | Capacitance Tolerance                 | ±20% (M)          |      |      |     |      |
| Surge Voltage              | Rated voltage X 1.25                                                                                                                                       | Dissipation Factor<br>(at 20°C 120Hz) | Rated Voltage (V) | 25   | 35   | 50  | 63   |
|                            |                                                                                                                                                            |                                       | tan δ(max)        | 0.14 | 0.12 | 0.1 | 0.08 |
| Leakage Current            | Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)                                                                                 |                                       |                   |      |      |     |      |
| Endurance                  | 135°C, 4000hrs, rated voltage applied                                                                                                                      |                                       |                   |      |      |     |      |
|                            | Appearance                                                                                                                                                 | No significant damage                 |                   |      |      |     |      |
|                            | Capacitance Change                                                                                                                                         | ≤ ±30% of the initial value           |                   |      |      |     |      |
|                            | DF(tanδ)                                                                                                                                                   | ≤ 200% of the initial specified value |                   |      |      |     |      |
|                            | ESR                                                                                                                                                        | ≤ 200% of the initial specified value |                   |      |      |     |      |
|                            | Leakage current                                                                                                                                            | ≤ The initial specified value         |                   |      |      |     |      |
| Damp Heat (Steady State)   | 85°C, 85 to 90% RH, 2000hrs, rated voltage applied                                                                                                         |                                       |                   |      |      |     |      |
|                            | Appearance                                                                                                                                                 | No significant damage                 |                   |      |      |     |      |
|                            | Capacitance Change                                                                                                                                         | ≤ ±20% of the initial value           |                   |      |      |     |      |
|                            | DF(tanδ)                                                                                                                                                   | ≤ 200% of the initial specified value |                   |      |      |     |      |
|                            | ESR                                                                                                                                                        | ≤ 200% of the initial specified value |                   |      |      |     |      |
|                            | Leakage current                                                                                                                                            | ≤ The initial specified value         |                   |      |      |     |      |
| Surge Voltage              | 1,000 cycles and each one includes charge with surge voltage specified at 135°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min. |                                       |                   |      |      |     |      |
|                            | Appearance                                                                                                                                                 | No significant damage                 |                   |      |      |     |      |
|                            | Capacitance Change                                                                                                                                         | ≤ ±20% of the initial value           |                   |      |      |     |      |
|                            | DF(tanδ)                                                                                                                                                   | ≤ 150% of the initial specified value |                   |      |      |     |      |
|                            | ESR                                                                                                                                                        | ≤ 150% of the initial specified value |                   |      |      |     |      |
|                            | Leakage current                                                                                                                                            | ≤ The initial specified value         |                   |      |      |     |      |

## Dimensions and Marking



| Size code | φD±0.5max<br>(mm) | L<br>(mm) | α<br>(mm) | E<br>(mm) | W±0.2<br>(mm) | H±0.2<br>(mm) | C±0.2<br>(mm) | R<br>(mm) | P±0.3<br>(mm) |
|-----------|-------------------|-----------|-----------|-----------|---------------|---------------|---------------|-----------|---------------|
| 0606      | 6.3               | 6         | ±0.2      | 0.00~0.30 | 6.6           | 6.6           | 7.3           | 0.5~0.8   | 2.1           |
| 0608      | 6.3               | 7.5       | ±0.5      | 0.00~0.30 | 6.3           | 6.6           | 7.3           | 0.5~0.8   | 2.1           |
| 0810      | 8.0               | 10.2      | ±0.3      | 0.00~0.30 | 8.3           | 8.3           | 9.0           | 0.8~1.1   | 2.9           |

Ask factory for the current technical specifications before purchase and/or use

Should a safety concern arise regarding this product, please be sure to contact us immediately.

CAT AVQE 2025 V1

AP-CON HYBRID ALUMINUM ELECTROLYTIC CAPACITOR



|      |      |      |      |           |      |      |      |         |     |
|------|------|------|------|-----------|------|------|------|---------|-----|
| 1010 | 10.0 | 10.2 | ±0.3 | 0.00~0.30 | 10.3 | 10.3 | 11.0 | 0.8~1.1 | 4.6 |
| 1012 | 10.0 | 12.5 | ±0.2 | 0.00~0.30 | 10.3 | 10.3 | 11.0 | 0.8~1.1 | 4.6 |
| 1016 | 10.0 | 16.5 | ±0.3 | 0.00~0.30 | 10.3 | 10.3 | 11.0 | 0.8~1.1 | 4.6 |

AVQE Series AEC-Q200

Standard Ratings

| WV/Vdc<br>(SV) | Cap<br>(μF) | Size<br>Code | Leakage<br>Current<br>(μA) | tanδ | ESR<br>(mΩmax/20°C, 100k<br>to300kHz) | Rated Ripple Current<br>(mArms/ 135°C<br>/100kHz) | Part No.        |
|----------------|-------------|--------------|----------------------------|------|---------------------------------------|---------------------------------------------------|-----------------|
| 25<br>(31.3)   | 56          | 0606         | 14                         | 0.14 | 50                                    | 900                                               | 250AVQE560M0606 |
|                | 100         | 0608         | 25                         | 0.14 | 30                                    | 1,400                                             | 250AVQE101M0608 |
|                | 150         | 0810         | 37.5                       | 0.14 | 22                                    | 1,800                                             | 250AVQE151M0810 |
|                | 220         | 0810         | 55                         | 0.14 | 22                                    | 1,800                                             | 250AVQE221M0810 |
|                | 270         | 1010         | 67.5                       | 0.14 | 20                                    | 2,200                                             | 250AVQE271M1010 |
|                | 330         | 1010         | 82.5                       | 0.14 | 20                                    | 2,200                                             | 250AVQE331M1010 |
|                | 470         | 1012         | 117.5                      | 0.14 | 16                                    | 2,500                                             | 250AVQE471M1012 |
|                | 560         | 1010         | 140                        | 0.14 | 20                                    | 2,200                                             | 250AVQE561M1010 |
|                | 560         | 1016         | 140                        | 0.14 | 15                                    | 2,900                                             | 250AVQE561M1016 |
|                | 680         | 1012         | 170                        | 0.14 | 16                                    | 2,500                                             | 250AVQE681M1012 |
|                | 820         | 1016         | 205                        | 0.14 | 11                                    | 4,000                                             | 250AVQE821M1016 |
|                | 1000        | 1016         | 250                        | 0.14 | 11                                    | 4,000                                             | 250AVQE102M1016 |
| 35<br>(43.8)   | 47          | 0606         | 16.5                       | 0.12 | 60                                    | 900                                               | 350AVQE470M0606 |
|                | 68          | 0608         | 23.8                       | 0.12 | 35                                    | 1,400                                             | 350AVQE680M0608 |
|                | 100         | 0810         | 35                         | 0.12 | 22                                    | 1,800                                             | 350AVQE101M0810 |
|                | 150         | 0810         | 52.5                       | 0.12 | 22                                    | 1,800                                             | 350AVQE151M0810 |
|                | 150         | 1010         | 52.5                       | 0.12 | 20                                    | 2,200                                             | 350AVQE151M1010 |
|                | 220         | 1010         | 77                         | 0.12 | 20                                    | 2,200                                             | 350AVQE221M1010 |
|                | 270         | 1010         | 94.5                       | 0.12 | 20                                    | 2,200                                             | 350AVQE271M1010 |
|                | 330         | 1012         | 115.5                      | 0.12 | 16                                    | 2,500                                             | 350AVQE331M1012 |
|                | 470         | 1016         | 164.5                      | 0.12 | 15                                    | 2,900                                             | 350AVQE471M1016 |
| 50<br>(62.5)   | 22          | 0606         | 11                         | 0.1  | 80                                    | 750                                               | 500AVQE220M0606 |
|                | 33          | 0608         | 16.5                       | 0.1  | 40                                    | 1,100                                             | 500AVQE330M0608 |
|                | 47          | 0810         | 23.5                       | 0.1  | 24                                    | 1,500                                             | 500AVQE470M0810 |
|                | 68          | 0810         | 34                         | 0.1  | 24                                    | 1,500                                             | 500AVQE680M0810 |
|                | 100         | 1010         | 50                         | 0.1  | 22                                    | 1,800                                             | 500AVQE101M1010 |
|                | 120         | 1010         | 60                         | 0.1  | 22                                    | 1,800                                             | 500AVQE121M1010 |
|                | 150         | 1012         | 75                         | 0.1  | 18                                    | 2,000                                             | 500AVQE151M1012 |
|                | 180         | 1012         | 90                         | 0.1  | 16                                    | 2,500                                             | 500AVQE181M1012 |
|                | 220         | 1016         | 110                        | 0.1  | 13                                    | 3,800                                             | 500AVQE221M1016 |
|                | 270         | 1016         | 135                        | 0.1  | 13                                    | 3,800                                             | 500AVQE271M1016 |
| 63<br>(78.8)   | 10          | 0606         | 6.3                        | 0.08 | 120                                   | 700                                               | 630AVQE100M0606 |
|                | 22          | 0608         | 13.9                       | 0.08 | 80                                    | 900                                               | 630AVQE220M0608 |
|                | 33          | 0810         | 20.8                       | 0.08 | 24                                    | 1,500                                             | 630AVQE330M0810 |
|                | 47          | 0810         | 29.6                       | 0.08 | 24                                    | 1500                                              | 630AVQE470M0810 |
|                | 56          | 1010         | 35.3                       | 0.08 | 22                                    | 1,800                                             | 630AVQE560M1010 |
|                | 68          | 1010         | 42.8                       | 0.08 | 22                                    | 1800                                              | 630AVQE680M1010 |
|                | 82          | 1010         | 51.7                       | 0.08 | 22                                    | 1800                                              | 630AVQE820M1010 |

AP-CON HYBRID ALUMINUM ELECTROLYTIC CAPACITOR



|     |      |       |      |    |       |                 |
|-----|------|-------|------|----|-------|-----------------|
| 100 | 1012 | 63    | 0.08 | 18 | 2,200 | 630AVQE101M1012 |
| 120 | 1012 | 75.6  | 0.08 | 18 | 2200  | 630AVQE121M1012 |
| 150 | 1016 | 94.5  | 0.08 | 16 | 2,500 | 630AVQE151M1016 |
| 180 | 1016 | 113.4 | 0.08 | 16 | 2500  | 630AVQE181M1016 |