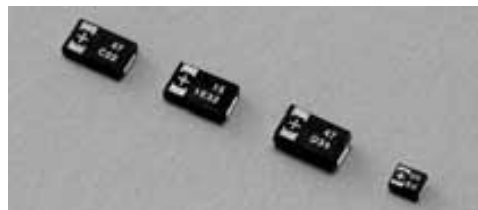


## TQC series

### High Voltage Products

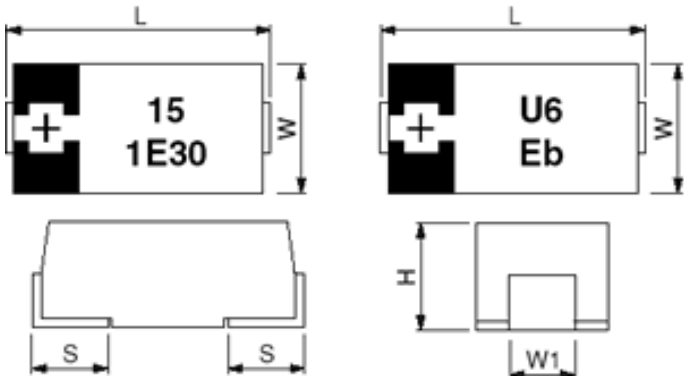
TQC series is perfect for high voltage, low ESR and low profile applications. It is the most suitable for pass-con of the motor driver by 12V, the input of the DCDC converter.



### Specifications

|  |        |         |  |
|--|--------|---------|--|
| Operating Temperature range (°C)   |        |         | -55 to +105                                  |
| Rated capacitance range (120Hz/20°C)(μF)   |        |         | 5.6 to 68                                    |
| Capacitance tolerance (120Hz/20°C)   |        |         | M:±20%                                       |
| Rated voltage (V.DC)   |        |         | 16 to 25                                     |
| Dissipation Factor (D.F.)(120Hz/20°C)(%)   |        |         | ≦10.0  |
| Leakage current (Rated voltage applied, after 5 minutes)(μA)   |        |         | ≦0.1CV *B2size: ≦0.3CV                       |
| Equivalent series resistance<br>ESR(mΩ max.),(100kHz/20°C)   |        |         | Please see the attached characteristics list |
| Temperature characteristics of Impedance ratio<br>(100kHz/+20°C)   | -55°C  | Z/Z20°C | 1.0 to 2.0                                   |
|  | +105°C | Z/Z20°C | 0.6 to 1.0                                   |
| Endurance<br>105°C,2000h•25TQC15M(category voltage applied),<br>20TQC22M,16TQC33M,16TQC47M(rated voltage applied)<br>105<br>°C,1000h•25TQC5R6M,25TQC33M,25TQC22MV,25TQC15MV<br>(category voltage applied),<br>20TQC8R2M,20TQC47M,16TQC10M,16TQC68M(rated voltage<br>applied) | ΔC/C   |         | Within±20% of the initial value              |
|  | D.F.   |         | ≦1.5 times the initial limit                 |
|  | L.C.   |         | ≦The initial limit                           |
| Damp heat (Steady state)<br>(60°C,90 to 95%RH,500h,No voltage applied)   | ΔC/C   |         | Within+40%, -20% of the initial value        |
|  | D.F.   |         | ≦1.5 times the initial limit                 |
|  | L.C.   |         | ≦3 times the initial limit                   |
| Surge<br>(15to30°C,1000 times,1kΩ discharge resistance,surge voltage<br>applied)   | ΔC/C   |         | Within±5% of the initial value               |
|  | D.F.   |         | ≦The initial limit                           |
|  | L.C.   |         | ≦3 times the initial limit                   |

### Dimensions (unit: mm)(D2,D3L size)(B2 size)



| size code | L<br>(±0.2) | W<br>(±0.2) | H<br>(±0.1) | S<br>(±0.2) | W1<br>(±0.1) |
|-----------|-------------|-------------|-------------|-------------|--------------|
| B2        | 3.5         | 2.8         | 1.9         | 0.8         | 2.2          |
| D2        | 7.3         | 4.3         | 1.9         | 1.3         | 2.4          |
| D3L       | 7.3         | 4.3         | 2.8         | 1.3         | 2.4          |

### Size List

| μF/RV(SV) | 16<br>(20) | 20<br>(23) | 25<br>(29) |
|-----------|------------|------------|------------|
| 5.6       |            |            | B2         |
| 8.2       |            | B2         |            |
| 10        | B2         |            |            |
| 15        |            |            | D2         |
| 22        |            | D2         | D2         |
| 33        | D2         |            | D3L        |
| 47        | D2         | D3L        |            |
| 68        | D3L        |            |            |

### Characteristics list

| Size code | SANYO Part number | Rated Voltage (V) | Rated Temperature (°C) | Category Voltage (V) | Category Temperature (°C) | Rated Capacitance (μF) | D.F. (% max.) | L.C. (μA) max./5min. | E.S.R (mΩ max.) 100kHz/20°C | Maximum allowable ripple current (mA rms) 100kHz*1 |
|-----------|-------------------|-------------------|------------------------|----------------------|---------------------------|------------------------|---------------|----------------------|-----------------------------|--|
| B2        | 25TQC5R6M         | 25*2              | 85                     | 20                   | 105                       | 5.6                    | 10.0          | 42.0                 | 100                         | 800  |
|           | 20TQC8R2M         | 20                | 105                    | -                    | -                         | 8.2                    | 10.0          | 49.2                 | 100                         | 800  |
|           | 16TQC10M          | 16                | 105                    | -                    | -                         | 10                     | 10.0          | 48.0                 | 100                         | 800  |
| D2        | 25TQC22MV*3       | 25*2              | 85                     | 20                   | 105                       | 22                     | 10.0          | 55.0                 | 45                          | 1500   |
|           | 25TQC15M          | 25*2              | 85                     | 20                   | 105                       | 15                     | 10.0          | 38.0                 | 90                          | 1000   |
|           | 25TQC15MV*3       | 25*2              | 85                     | 20                   | 105                       | 15                     | 10.0          | 38.0                 | 45                          | 1500   |
|           | 20TQC22M          | 20                | 105                    | -                    | -                         | 22                     | 10.0          | 44.0                 | 80                          | 1300   |
|           | 16TQC33M          | 16                | 105                    | -                    | -                         | 33                     | 10.0          | 52.8                 | 70                          | 1400   |
|           | TQC47M            | 16                | 105                    | -                    | -                         | 47                     | 10.0          | 75.2                 | 70                          | 1400   |
| D3L       | 25TQC33M          | 25*2              | 85                     | 20                   | 105                       | 33                     | 10.0          | 82.5                 | 50                          | 1500   |
|           | 20TQC47M          | 20                | 105                    | -                    | -                         | 47                     | 10.0          | 94.0                 | 45                          | 1550   |
|           | 16TQC68M          | 16                | 105                    | -                    | -                         | 68                     | 10.0          | 108.8                | 40                          | 1600   |

\*1:100k to 500kHz,105°C

\*2:Please reduce 0.25V per 1°C from over 85°C for 25V products

\*3:Under development