

# ALUMINUM ELECTROLYTIC CAPACITORS

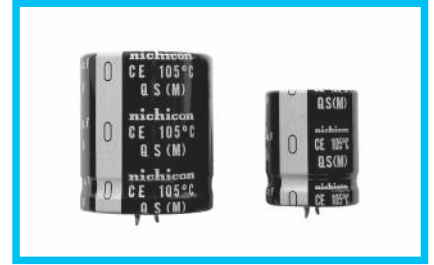
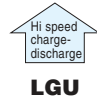
# LQS

Snap-in Terminal type, 105°C High speed charge-discharge.



- Suited for high frequency regenerative voltage for AC servomotor, general inverter.
- Suited for equipment used at voltage fluctuating area.
- Suited for rectifier circuit of voltage doubler
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).

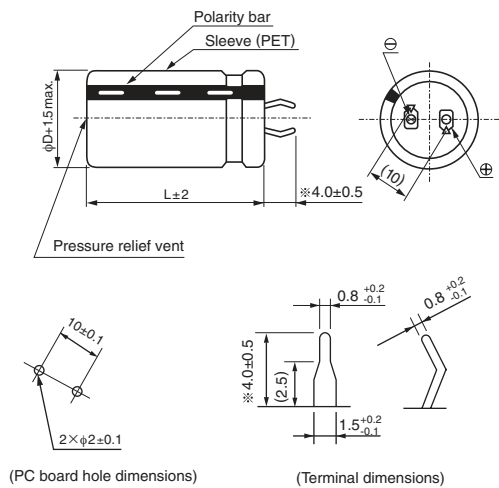
**LQS**



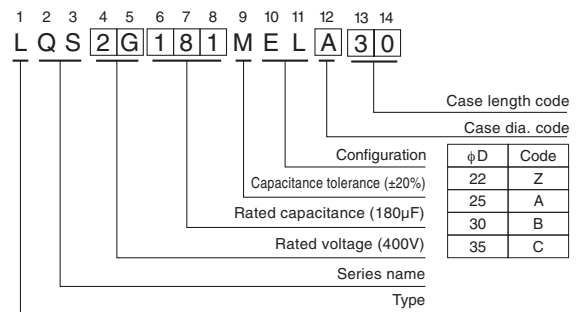
## Specifications

| Item                                   | Performance Characteristics  |      |                     |      |                               |   |
|--|--|------|---------------------|------|-------------------------------|---|
| Category Temperature Range             | - 25 to +105°C   |      |                     |      |                               |   |
| Rated Voltage Range                    | 350 to 450V  |      |                     |      |                               |   |
| Rated Capacitance Range                | 82 to 820μF  |      |                     |      |                               |   |
| Capacitance Tolerance                  | ±20% at 120Hz, 20°C  |      |                     |      |                               |   |
| Leakage Current                        | $I \leq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage [C: Rated Capacitance(μF), V: Voltage (V)])  |      |                     |      |                               |   |
| Tangent of loss angle (tan δ)          | Measurement frequency : 120Hz at 20°C  |      |                     |      |                               |   |
|  | Rated voltage (V)  | 350  | 400                 | 420  | 450                           |   |
|  | tan δ (max.)   | 0.15 | 0.15                | 0.15 | 0.20                          |   |
| Stability at Low Temperature           | Rated voltage (V)  |      | 350 to 450          |      | Measurement frequency : 120Hz |   |
|  | Impedance ratio(max.)  |      | Z(-25°C) / Z(+20°C) |      |                               |   |
|  |  |      | 8                   |      |                               |   |
| Endurance of charge-discharge behavior | After an application of charge-discharge voltage for 50million times (charge-discharge voltage difference(ΔV) = rated voltage × 0.35, cycle 6Hz) capacitors shall meet the characteristics requirement listed at right.            |      |                     |      | Capacitance change            | Within ±20% of the initial capacitance value                    |
|  |  |      |                     |      | tan δ                         | 300% or less than the initial specified value                   |
|  |  |      |                     |      | Leakage current               | Less than or equal to the initial specified value               |
|  |  |      |                     |      | Appearance                    | There shall be found to remarkable abnormality on the capacitor |
| Endurance                              | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 3000 hours at 105°C, the peak voltage shall not exceed the rated voltage.        |      |                     |      | Capacitance change            | Within ±20% of the initial capacitance value                    |
|  |  |      |                     |      | tan δ                         | 200% or less than the initial specified value                   |
|  |  |      |                     |      | Leakage current               | Less than or equal to the initial specified value               |
| Shelf Life                             | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified value for endurance characteristics listed above. |      |                     |      |                               |   |
| Marking                                | Printed with white color letter on black sleeve.   |      |                     |      |                               |   |

## Drawing



## Type numbering system (Example : 400V 180μF)



※ Please contact to us if other configurations are required.

※ Other terminations available upon request.  
Please refer to the Guidelines for Aluminum Electrolytic Capacitors.

Minimum order quantity : 50pcs.

● Dimension table in next page.



## ■ Dimensions

| 350V (2V) |                  |                      |                      |                |
|-----------|------------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L (mm) | Rated ripple (mArms) | Leakage Current (mA) | Code           |
| 120       | 22 × 25          | 750                  | 0.61                 | LQS2V121MELZ25 |
| 150       | 22 × 30          | 820                  | 0.68                 | LQS2V151MELZ30 |
| 180       | 22 × 30          | 900                  | 0.75                 | LQS2V181MELZ30 |
|           | 25 × 25          | 900                  | 0.75                 | LQS2V181MELA25 |
| 220       | 22 × 35          | 1000                 | 0.83                 | LQS2V221MELZ35 |
|           | 25 × 30          | 1000                 | 0.83                 | LQS2V221MELA30 |
| 270       | 22 × 40          | 1100                 | 0.92                 | LQS2V271MELZ40 |
|           | 25 × 35          | 1100                 | 0.92                 | LQS2V271MELA35 |
|           | 30 × 25          | 1100                 | 0.92                 | LQS2V271MELB25 |
| 330       | 22 × 45          | 1200                 | 1.01                 | LQS2V331MELZ45 |
|           | 25 × 40          | 1200                 | 1.01                 | LQS2V331MELA40 |
|           | 30 × 30          | 1200                 | 1.01                 | LQS2V331MELB30 |
| 390       | 25 × 45          | 1300                 | 1.10                 | LQS2V391MELA45 |
|           | 30 × 35          | 1300                 | 1.10                 | LQS2V391MELB35 |
| 470       | 25 × 50          | 1400                 | 1.21                 | LQS2V471MELA50 |
|           | 30 × 40          | 1400                 | 1.21                 | LQS2V471MELB40 |
| 560       | 35 × 30          | 1400                 | 1.21                 | LQS2V471MELC30 |
|           | 30 × 45          | 1500                 | 1.32                 | LQS2V561MELB45 |
| 680       | 35 × 35          | 1500                 | 1.32                 | LQS2V561MELC35 |
|           | 30 × 50          | 1700                 | 1.46                 | LQS2V681MELB50 |
| 820       | 35 × 40          | 1700                 | 1.46                 | LQS2V681MELC40 |
|           | 35 × 45          | 1900                 | 1.60                 | LQS2V821MELC45 |

| 400V (2G) |                  |                      |                      |                |
|-----------|------------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L (mm) | Rated ripple (mArms) | Leakage Current (mA) | Code           |
| 100       | 22 × 25          | 680                  | 0.60                 | LQS2G101MELZ25 |
| 120       | 22 × 30          | 730                  | 0.65                 | LQS2G121MELZ30 |
| 150       | 22 × 35          | 850                  | 0.73                 | LQS2G151MELZ35 |
| 180       | 22 × 35          | 950                  | 0.80                 | LQS2G181MELZ35 |
|           | 25 × 30          | 950                  | 0.80                 | LQS2G181MELA30 |
|           | 30 × 25          | 950                  | 0.80                 | LQS2G181MELB25 |
| 220       | 22 × 45          | 1100                 | 0.88                 | LQS2G221MELZ45 |
|           | 25 × 35          | 1100                 | 0.88                 | LQS2G221MELA35 |
|           | 30 × 25          | 1100                 | 0.88                 | LQS2G221MELB25 |
|           | 22 × 50          | 1220                 | 0.98                 | LQS2G271MELZ50 |
| 270       | 25 × 40          | 1220                 | 0.98                 | LQS2G271MELA40 |
|           | 30 × 30          | 1220                 | 0.98                 | LQS2G271MELB30 |
|           | 35 × 25          | 1220                 | 0.98                 | LQS2G271MELC25 |
| 330       | 25 × 45          | 1440                 | 1.08                 | LQS2G331MELA45 |
|           | 30 × 35          | 1440                 | 1.08                 | LQS2G331MELB35 |
| 390       | 25 × 50          | 1550                 | 1.18                 | LQS2G391MELA50 |
|           | 30 × 40          | 1550                 | 1.18                 | LQS2G391MELB40 |
|           | 35 × 30          | 1550                 | 1.18                 | LQS2G391MELC30 |
| 470       | 30 × 45          | 1680                 | 1.30                 | LQS2G471MELB45 |
|           | 35 × 35          | 1680                 | 1.30                 | LQS2G471MELC35 |
| 560       | 30 × 50          | 1900                 | 1.41                 | LQS2G561MELB50 |
|           | 35 × 40          | 1900                 | 1.41                 | LQS2G561MELC40 |
| 680       | 35 × 45          | 2120                 | 1.56                 | LQS2G681MELC45 |

| 420V (W6) |                  |                      |                      |                |
|-----------|------------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L (mm) | Rated ripple (mArms) | Leakage Current (mA) | Code           |
| 100       | 22 × 25          | 660                  | 0.61                 | LQSW6101MELZ25 |
| 120       | 22 × 30          | 810                  | 0.67                 | LQSW6121MELZ30 |
|           | 25 × 25          | 810                  | 0.67                 | LQSW6121MELA25 |
| 150       | 22 × 35          | 840                  | 0.75                 | LQSW6151MELZ35 |
|           | 25 × 30          | 840                  | 0.75                 | LQSW6151MELA30 |
| 180       | 22 × 40          | 910                  | 0.82                 | LQSW6181MELZ40 |
|           | 25 × 30          | 910                  | 0.82                 | LQSW6181MELA30 |
|           | 30 × 25          | 910                  | 0.82                 | LQSW6181MELB25 |
| 220       | 22 × 45          | 1050                 | 0.91                 | LQSW6221MELZ45 |
|           | 25 × 35          | 1050                 | 0.91                 | LQSW6221MELA35 |
|           | 30 × 30          | 1050                 | 0.91                 | LQSW6221MELB30 |
| 270       | 25 × 40          | 1250                 | 1.01                 | LQSW6271MELA40 |
|           | 30 × 30          | 1250                 | 1.01                 | LQSW6271MELB30 |
|           | 35 × 25          | 1250                 | 1.01                 | LQSW6271MELC25 |
| 330       | 25 × 50          | 1420                 | 1.11                 | LQSW6331MELA50 |
|           | 30 × 35          | 1420                 | 1.11                 | LQSW6331MELB35 |
|           | 35 × 30          | 1420                 | 1.11                 | LQSW6331MELC30 |
| 390       | 30 × 40          | 1610                 | 1.21                 | LQSW6391MELB40 |
|           | 35 × 35          | 1610                 | 1.21                 | LQSW6391MELC35 |
| 470       | 30 × 45          | 1860                 | 1.33                 | LQSW6471MELB45 |
|           | 35 × 40          | 1860                 | 1.33                 | LQSW6471MELC40 |
| 560       | 35 × 45          | 2100                 | 1.45                 | LQSW6561MELC45 |
| 680       | 35 × 50          | 2200                 | 1.60                 | LQSW6681MELC50 |

| 450V (2W) |                  |                      |                      |                |
|-----------|------------------|----------------------|----------------------|----------------|
| Cap. (μF) | Size φD × L (mm) | Rated ripple (mArms) | Leakage Current (mA) | Code           |
| 82        | 22 × 25          | 640                  | 0.57                 | LQS2W820MELZ25 |
| 100       | 22 × 30          | 690                  | 0.63                 | LQS2W101MELZ30 |
|           | 25 × 25          | 690                  | 0.63                 | LQS2W101MELA25 |
| 120       | 22 × 35          | 720                  | 0.69                 | LQS2W121MELZ35 |
|           | 25 × 30          | 720                  | 0.69                 | LQS2W121MELA30 |
| 150       | 22 × 40          | 790                  | 0.77                 | LQS2W151MELZ40 |
|           | 25 × 30          | 790                  | 0.77                 | LQS2W151MELA30 |
|           | 30 × 25          | 790                  | 0.77                 | LQS2W151MELB25 |
| 180       | 22 × 45          | 870                  | 0.85                 | LQS2W181MELZ45 |
|           | 25 × 35          | 870                  | 0.85                 | LQS2W181MELA35 |
|           | 30 × 30          | 870                  | 0.85                 | LQS2W181MELB30 |
| 220       | 25 × 40          | 1050                 | 0.94                 | LQS2W221MELA40 |
|           | 30 × 30          | 1050                 | 0.94                 | LQS2W221MELB30 |
|           | 35 × 25          | 1050                 | 0.94                 | LQS2W221MELC25 |
| 270       | 25 × 50          | 1230                 | 1.04                 | LQS2W271MELA50 |
|           | 30 × 35          | 1230                 | 1.04                 | LQS2W271MELB35 |
|           | 35 × 30          | 1230                 | 1.04                 | LQS2W271MELC30 |
| 330       | 30 × 40          | 1380                 | 1.15                 | LQS2W331MELB40 |
|           | 35 × 35          | 1380                 | 1.15                 | LQS2W331MELC35 |
| 390       | 30 × 50          | 1610                 | 1.25                 | LQS2W391MELB50 |
|           | 35 × 40          | 1610                 | 1.25                 | LQS2W391MELC40 |
| 470       | 35 × 45          | 1780                 | 1.37                 | LQS2W471MELC45 |
| 560       | 35 × 50          | 1990                 | 1.50                 | LQS2W561MELC50 |

Rated ripple current (mArms) at 105°C 120Hz

## ● Frequency coefficient of rated ripple current

| Frequency (Hz) | 50   | 60   | 120  | 300  | 1k   | 10k  | 50k or more |
|----------------|------|------|------|------|------|------|-------------|
| Coefficient    | 0.77 | 0.82 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43        |