

ALUMINUM ELECTROLYTIC CAPACITORS

LQR

Screw Terminal Type,
85°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).

LQR

Hi speed charge-discharge
LNX

Specifications

| Item | Performance Characteristics | |
|--|---|---|
| Category Temperature Range | - 25 to +85°C | |
| Rated Voltage Range | 350 to 450V | |
| Rated Capacitance Range | 680 to 15000μF | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | |
| Leakage Current | After 5 minutes' application of rated voltage, leakage current is not more than $3\sqrt{CV}$ (μA) or 5 mA, whichever is smaller (at 20°C). [C: Rated Capacitance(μF), V: Voltage (V)] | |
| Tangent of loss angle (tan δ) | See refer to next page (Measurement frequency : 120Hz at 20°C) | |
| Stability at Low Temperature | Rated voltage (V) | 350 to 450 |
| | Impedance ratio ZT/Z20(MAX.) | Z - 25°C / Z+20°C 8 |
| 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 5000 hours at 85°C, the peak voltage shall not exceed the rated voltage. | |
| | Capacitance change | Within ±20% of the initial capacitance value |
| | tan δ | 300% or less than the initial specified value |
| Shelf Life | After storing the capacitors under no load at 85°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. | |
| | Leakage current | Less than or equal to the initial specified value |
| | Appearance | There shall be found to remarkable abnormality on the capacitor |
| Endurance of charge-discharge behavior | After an application of charge-discharge voltage for 20million times (charge-discharge voltage difference(ΔV)=rated voltage × 0.3, cycle 3Hz) 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 |
| Marking | Printed with white color letter on darkbrown sleeve. | |

Drawing

φ35 Screw terminal type



φ51 to 90 Screw terminal type



※ B
3-leg brackets for φ90 capacitors have different hole shapes from the ordinary ones illustrated below.



Type numbering system (Example : 400V 1800μF)



※ Configuration
Cr (iii) Plating (RoHS compliant)
SE

Please refer to page 348 for schematic of dimensions.
※Please contact to us if PVCless products are required.

● Dimension of terminal pitch (W) and length (ℓ) and Nominal dia. of bolt (mm)

| φD | W | ℓ | α | Nominal dia. of bolt |
|------|------|---|---|----------------------|
| 51 | 22.0 | 6 | 3 | M5 |
| 63.5 | 28.6 | 6 | 3 | M5 |
| 76.2 | 31.8 | 6 | 3 | M5 |
| 90 | 31.8 | 6 | 3 | M5 |

● Dimension of mounting bracket (mm)

| Symbol | Leg shape | 3-Leg | | | | 2-Leg | | | |
|--------|-----------|-------|------|------|------|-------|------|------|------|
| | | φD | 51 | 63.5 | 76.2 | 90 | 51 | 63.5 | 76.2 |
| P | | 32.5 | 38.1 | 44.5 | 50.8 | 33.2 | 40.5 | 46.5 | 53 |
| A | | 38.5 | 43 | 49.2 | 58.5 | 40 | 46.5 | 53 | 59 |
| T | | 7.5 | 8.0 | 7.0 | 8.0 | 6.0 | 7.0 | 6.0 | 6.0 |
| S | | 5.0 | 5.0 | 5.0 | 5.0 | 4.5 | 4.5 | 4.5 | 4.5 |
| U | | 12 | 14 | 14 | 18 | 14 | 14 | 14 | 14 |
| θ° | | 60 | 60 | 60 | 60 | 30 | 30 | 30 | 30 |
| H | | 20 | 25 | 30 | 35 | 25 | 35 | 35 | 35 |
| h | | 15 | 20 | 24 | 25 | 15 | 20 | 20 | 20 |

● Dimension table in next page.

LQR

■ Dimensions

| 350V (2V) | | | | | |
|-----------|-----------------|---------------------|-------|----------------------|--------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (Arms) | tan δ | Leakage Current (mA) | Code |
| 820 | 35 × 80 | 3.3 | 0.15 | 1.60 | LQR2V821MSEC |
| 1000 | 35 × 100 | 4.3 | 0.15 | 1.77 | LQR2V102MSEC |
| 1800 | 51 × 80 | 7.2 | 0.15 | 2.38 | LQR2V182MSEF |
| 2200 | 51 × 100 | 9.1 | 0.15 | 2.63 | LQR2V222MSEF |
| 2700 | 51 × 110 | 10.8 | 0.15 | 2.91 | LQR2V272MSEF |
| | 63.5 × 80 | 10.6 | 0.15 | 2.91 | LQR2V272MSEG |
| 3300 | 51 × 130 | 12.4 | 0.15 | 3.22 | LQR2V332MSEF |
| | 63.5 × 90 | 11.9 | 0.15 | 3.22 | LQR2V332MSEG |
| 3900 | 63.5 × 110 | 14.6 | 0.15 | 3.50 | LQR2V392MSEG |
| | 76.2 × 80 | 14.1 | 0.15 | 3.50 | LQR2V392MSEH |
| 4700 | 51 × 170 | 17.0 | 0.15 | 3.84 | LQR2V472MSEF |
| | 76.2 × 90 | 16.4 | 0.15 | 3.84 | LQR2V472MSEH |
| 5600 | 63.5 × 150 | 20.4 | 0.15 | 4.20 | LQR2V562MSEG |
| | 76.2 × 110 | 19.7 | 0.15 | 4.20 | LQR2V562MSEH |
| 6800 | 63.5 × 170 | 23.5 | 0.15 | 4.62 | LQR2V682MSEG |
| | 76.2 × 130 | 22.9 | 0.15 | 4.62 | LQR2V682MSEH |
| | 90 × 100 | 22.5 | 0.15 | 4.62 | LQR2V682MSEJ |
| 8200 | 63.5 × 190 | 27.1 | 0.15 | 5.00 | LQR2V822MSEG |
| | 76.2 × 150 | 26.4 | 0.15 | 5.00 | LQR2V822MSEH |
| 10000 | 76.2 × 170 | 31.1 | 0.15 | 5.00 | LQR2V103MSEH |
| | 90 × 130 | 30.2 | 0.15 | 5.00 | LQR2V103MSEJ |
| 12000 | 76.2 × 190 | 35.7 | 0.15 | 5.00 | LQR2V123MSEH |
| 15000 | 90 × 190 | 40.5 | 0.15 | 5.00 | LQR2V153MSEJ |

| 400V (2G) | | | | | |
|-----------|-----------------|---------------------|-------|----------------------|--------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (Arms) | tan δ | Leakage Current (mA) | Code |
| 680 | 35 × 80 | 3.2 | 0.15 | 1.56 | LQR2G681MSEC |
| 820 | 35 × 100 | 4.1 | 0.15 | 1.71 | LQR2G821MSEC |
| 1500 | 51 × 80 | 7.5 | 0.15 | 2.32 | LQR2G152MSEF |
| 1800 | 51 × 90 | 9.1 | 0.15 | 2.54 | LQR2G182MSEF |
| 2200 | 51 × 110 | 10.4 | 0.15 | 2.81 | LQR2G222MSEF |
| 2700 | 63.5 × 90 | 11.5 | 0.15 | 3.11 | LQR2G272MSEG |
| 3300 | 51 × 150 | 13.7 | 0.15 | 3.44 | LQR2G332MSEF |
| | 63.5 × 110 | 13.2 | 0.15 | 3.44 | LQR2G332MSEG |
| 3900 | 63.5 × 130 | 16.0 | 0.15 | 3.74 | LQR2G392MSEG |
| | 76.2 × 90 | 15.3 | 0.15 | 3.74 | LQR2G392MSEH |
| 4700 | 63.5 × 150 | 18.7 | 0.15 | 4.11 | LQR2G472MSEG |
| | 76.2 × 110 | 18.3 | 0.15 | 4.11 | LQR2G472MSEH |
| 5600 | 63.5 × 170 | 22.0 | 0.15 | 4.49 | LQR2G562MSEG |
| | 76.2 × 130 | 21.4 | 0.15 | 4.49 | LQR2G562MSEH |
| 6800 | 76.2 × 150 | 25.4 | 0.15 | 4.94 | LQR2G682MSEH |
| 8200 | 76.2 × 170 | 28.6 | 0.15 | 5.00 | LQR2G822MSEH |
| | 90 × 130 | 27.8 | 0.15 | 5.00 | LQR2G822MSEJ |
| 10000 | 90 × 150 | 32.7 | 0.15 | 5.00 | LQR2G103MSEJ |
| 12000 | 90 × 170 | 37.6 | 0.15 | 5.00 | LQR2G123MSEJ |
| 15000 | 90 × 220 | 43.0 | 0.15 | 5.00 | LQR2G153MSEJ |

| 450V (2W) | | | | | |
|-----------|-----------------|---------------------|-------|----------------------|--------------|
| Cap. (μF) | Size φD × L(mm) | Rated ripple (Arms) | tan δ | Leakage Current (mA) | Code |
| 680 | 35 × 100 | 3.5 | 0.15 | 1.65 | LQR2W681MSEC |
| 820 | 35 × 110 | 3.9 | 0.15 | 1.82 | LQR2W821MSEC |
| 1200 | 51 × 80 | 5.2 | 0.15 | 2.20 | LQR2W122MSEF |
| 1500 | 51 × 100 | 6.3 | 0.15 | 2.46 | LQR2W152MSEF |
| 1800 | 51 × 110 | 7.4 | 0.15 | 2.70 | LQR2W182MSEF |
| | 63.5 × 80 | 7.9 | 0.15 | 2.70 | LQR2W182MSEG |
| 2200 | 51 × 130 | 8.7 | 0.15 | 2.98 | LQR2W222MSEF |
| | 63.5 × 100 | 8.6 | 0.15 | 2.98 | LQR2W222MSEG |
| 2700 | 51 × 150 | 10.2 | 0.15 | 3.30 | LQR2W272MSEF |
| | 76.2 × 80 | 10.0 | 0.15 | 3.30 | LQR2W272MSEH |
| 3300 | 63.5 × 130 | 12.4 | 0.15 | 3.65 | LQR2W332MSEG |
| | 76.2 × 100 | 11.8 | 0.15 | 3.65 | LQR2W332MSEH |
| 3900 | 63.5 × 150 | 13.7 | 0.15 | 3.97 | LQR2W392MSEG |
| | 76.2 × 110 | 14.1 | 0.15 | 3.97 | LQR2W392MSEH |
| | 90 × 90 | 13.6 | 0.15 | 3.97 | LQR2W392MSEJ |
| 4700 | 63.5 × 170 | 16.5 | 0.15 | 4.36 | LQR2W472MSEG |
| | 76.2 × 130 | 16.3 | 0.15 | 4.36 | LQR2W472MSEH |
| | 90 × 110 | 15.8 | 0.15 | 4.36 | LQR2W472MSEJ |
| 5600 | 63.5 × 190 | 19.4 | 0.15 | 4.76 | LQR2W562MSEG |
| | 90 × 130 | 19.1 | 0.15 | 4.76 | LQR2W562MSEJ |
| 6800 | 76.2 × 170 | 23.3 | 0.15 | 5.00 | LQR2W682MSEH |
| 8200 | 90 × 150 | 26.1 | 0.15 | 5.00 | LQR2W822MSEJ |
| 10000 | 90 × 190 | 31.3 | 0.15 | 5.00 | LQR2W103MSEJ |
| 12000 | 90 × 220 | 35.5 | 0.15 | 5.00 | LQR2W123MSEJ |

Rated ripple current (Arms) at 85°C 120Hz

● Frequency coefficient of rated ripple current

| Frequency (Hz) | 50 | 60 | 120 | 360 | 1k | 10k or more |
|----------------|------|------|------|------|------|-------------|
| Coefficient | 0.80 | 0.82 | 1.00 | 1.20 | 1.35 | 1.40 |

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