

## ZLQ series

105℃ 3000～6000時間品 超小形化 低インピーダンス品  
105℃ 3000～6000 hours. UltraMiniaturized, Low Impedance



### ◆規格表／SPECIFICATIONS

| 項目 Item                                                                                                                                                    | 特性 Characteristics                                                                                                                                                                 |                                                                                           |      |      |          |                     |                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------|------|----------|---------------------|----------------------|
| カテゴリ温度範囲<br>Category Temperature Range                                                                                                                     | -40～+105℃                                                                                                                                                                          |                                                                                           |      |      |          |                     |                      |
| 定格電圧範囲<br>Rated Voltage Range                                                                                                                              | 6.3～35Vdc                                                                                                                                                                          |                                                                                           |      |      |          |                     |                      |
| 静電容量許容差<br>Capacitance Tolerance                                                                                                                           | ±20%(20℃, 120Hz)                                                                                                                                                                   |                                                                                           |      |      |          |                     |                      |
| 漏れ電流<br>Leakage Current (MAX)                                                                                                                              | I=0.03CV又は3μAのいずれか大なる値以下(定格電圧印加2分後)<br>I=0.03CV or 3μA whichever is greater. (After 2 minutes)<br>I=漏れ電流(μA) C=静電容量(μF) V=定格電圧(Vdc)<br>Leakage Current Capacitance Rated Voltage   |                                                                                           |      |      |          |                     |                      |
| 損失角の正接(tan δ)<br>Dissipation Factor (MAX)                                                                                                                  | 定格電圧 (Vdc)<br>Rated Voltage                                                                                                                                                        | 6.3                                                                                       | 10   | 16   | 25       | 35                  |                      |
|                                                                                                                                                            | tan δ                                                                                                                                                                              | 0.22                                                                                      | 0.19 | 0.16 | 0.14     | 0.12                |                      |
| (20℃, 120Hz)                                                                                                                                               |                                                                                                                                                                                    |                                                                                           |      |      |          |                     |                      |
| 1000μFを越えるものは1000μF増す毎に上表の値に0.02を加えた値とする。<br>When capacitance is over 1000μF, tan δ shall be added 0.02 to the listed value with increase of every 1000μF. |                                                                                                                                                                                    |                                                                                           |      |      |          |                     |                      |
| 耐久性<br>Endurance                                                                                                                                           | 105℃中で右表の時間定格電圧(リプル重畳)印加後、下記項目を満足すること。<br>After applying rated voltage with rated ripple current for specified time at 105℃, the capacitors shall meet the following requirements. |                                                                                           |      |      |          |                     |                      |
|                                                                                                                                                            | 静電容量変化率<br>Capacitance Change                                                                                                                                                      | 初期値の±25%以内 (6.3Vdc, 10Vdc: ±30%)<br>Within ±25% of the initial value(6.3Vdc, 10Vdc: ±30%) |      |      |          | ケースサイズ<br>Case Size | 時間(hrs)<br>Time(hrs) |
|                                                                                                                                                            | 損失角の正接<br>Dissipation Factor                                                                                                                                                       | 規格値の 200% 以下<br>Not more than 200% of the specified value.                                |      |      |          | φD≤ 6.3             | 3000                 |
|                                                                                                                                                            | 漏れ電流<br>Leakage Current                                                                                                                                                            | 規格値以下<br>Not more than the specified value.                                               |      |      |          | φD=8                | 4000                 |
|                                                                                                                                                            |                                                                                                                                                                                    |                                                                                           |      |      |          | φD=10               | 5000                 |
|                                                                                                                                                            |                                                                                                                                                                                    |                                                                                           |      |      | φD≥ 12.5 | 6000                |                      |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio (MAX)                                                                                   | 定格電圧 (Vdc)<br>Rated Voltage                                                                                                                                                        | 6.3                                                                                       | 10   | 16   | 25       | 35                  |                      |
|                                                                                                                                                            | Z(-25℃)/Z(+20℃)                                                                                                                                                                    | 3                                                                                         | 2    | 2    | 2        | 2                   |                      |
|                                                                                                                                                            | Z(-40℃)/Z(+20℃)                                                                                                                                                                    | 6                                                                                         | 4    | 3    | 3        | 3                   |                      |
|                                                                                                                                                            | (120Hz)                                                                                                                                                                            |                                                                                           |      |      |          |                     |                      |

### ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | ZLQ             | □□□□□               | M                                | □□□           | □□                      | D x L               |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | リード加工記号<br>Lead Forming | ケースサイズ<br>Case Size |

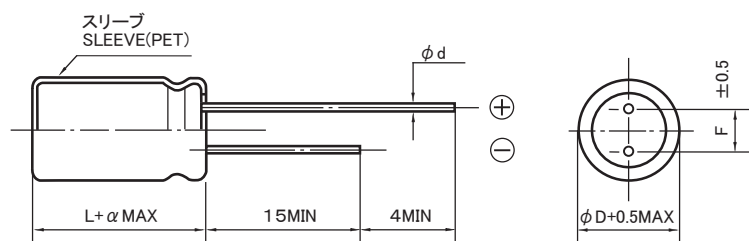
### ◆リプル電流補正係数／ MULTIPLIER FOR RIPPLE CURRENT

| 周波数(Hz)<br>Frequency | 120  | 1k   | 10k  | 100k ≤ |
|----------------------|------|------|------|--------|
| 係数<br>Coefficient    |      |      |      |        |
| 56～270μF             | 0.50 | 0.73 | 0.92 | 1.00   |
| 330～680μF            | 0.55 | 0.77 | 0.94 | 1.00   |
| 820～1800μF           | 0.60 | 0.80 | 0.96 | 1.00   |
| 2200～12000μF         | 0.70 | 0.85 | 0.98 | 1.00   |

### ◆副記号／OPTION

EFC : PETスリーブ PET Sleeve

◆寸法図／DIMENSIONS



(mm)

|          |                                                       |     |     |     |      |     |
|----------|-------------------------------------------------------|-----|-----|-----|------|-----|
| $\phi D$ | 5                                                     | 6.3 | 8   | 10  | 12.5 | 16  |
| $\phi d$ | 0.5                                                   |     | 0.6 |     |      | 0.8 |
| F        | 2.0                                                   | 2.5 | 3.5 | 5.0 |      | 7.5 |
| $\alpha$ | $L \leq 16 : \alpha = 1.5$ $L \geq 20 : \alpha = 2.0$ |     |     |     |      |     |

◆標準品一覧表／STANDARD SIZE

Rated Ripple Current (mA r.m.s./105°C, 100kHz)

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>(μF) | 外形寸法<br>Size φD×L<br>(mm) | 定格リプル電流<br>Rated Ripple Current | インピーダンス<br>(Ω MAX)<br>Impedance |               |
|--------------------------------|-----------------------------|---------------------------|---------------------------------|---------------------------------|---------------|
|                                |                             |                           |                                 | 20°C, 100kHz                    | -10°C, 100kHz |
| 6.3                            | 270                         | 5×11                      | 400                             | 0.21                            | 0.77          |
|                                | 680                         | 6.3×11                    | 620                             | 0.092                           | 0.34          |
|                                | 1200                        | 8×11.5                    | 1060                            | 0.049                           | 0.15          |
|                                | 1500                        | 8×16                      | 1390                            | 0.038                           | 0.12          |
|                                | 1800                        | 10×12.5                   | 1470                            | 0.035                           | 0.11          |
|                                | 2200                        | 8×20                      | 1660                            | 0.027                           | 0.081         |
|                                | 2700                        | 10×16                     | 1930                            | 0.025                           | 0.075         |
|                                | 3900                        | 10×20                     | 2130                            | 0.018                           | 0.054         |
|                                | 4700                        | 10×25                     | 2500                            | 0.015                           | 0.045         |
|                                | 5600                        | 12.5×20                   | 2690                            | 0.016                           | 0.041         |
|                                | 8200                        | 12.5×25                   | 3140                            | 0.013                           | 0.033         |
|                                | 8200                        | 12.5×30                   | 3680                            | 0.012                           | 0.030         |
|                                | 10000                       | 16×20                     | 3500                            | 0.014                           | 0.035         |
|                                | 10000                       | 12.5×35                   | 3800                            | 0.010                           | 0.025         |
| 10                             | 220                         | 5×11                      | 400                             | 0.21                            | 0.77          |
|                                | 470                         | 6.3×11                    | 620                             | 0.092                           | 0.34          |
|                                | 820                         | 8×11.5                    | 1060                            | 0.049                           | 0.15          |
|                                | 1200                        | 8×16                      | 1390                            | 0.038                           | 0.12          |
|                                | 1200                        | 10×12.5                   | 1470                            | 0.035                           | 0.11          |
|                                | 1800                        | 8×20                      | 1660                            | 0.027                           | 0.081         |
|                                | 1800                        | 10×16                     | 1930                            | 0.025                           | 0.075         |
|                                | 2700                        | 10×20                     | 2130                            | 0.018                           | 0.054         |
|                                | 3300                        | 10×25                     | 2500                            | 0.015                           | 0.045         |
|                                | 3900                        | 12.5×20                   | 2690                            | 0.016                           | 0.041         |
|                                | 5600                        | 12.5×25                   | 3140                            | 0.013                           | 0.033         |
|                                | 6800                        | 12.5×30                   | 3680                            | 0.012                           | 0.030         |
|                                | 6800                        | 16×20                     | 3500                            | 0.014                           | 0.035         |
|                                | 8200                        | 12.5×35                   | 3800                            | 0.010                           | 0.025         |
| 16                             | 150                         | 5×11                      | 400                             | 0.21                            | 0.77          |
|                                | 330                         | 6.3×11                    | 620                             | 0.092                           | 0.34          |
|                                | 560                         | 8×11.5                    | 1060                            | 0.049                           | 0.15          |
|                                | 820                         | 8×16                      | 1390                            | 0.038                           | 0.12          |
|                                | 820                         | 10×12.5                   | 1470                            | 0.035                           | 0.11          |
|                                | 1200                        | 8×20                      | 1660                            | 0.027                           | 0.081         |
|                                | 1200                        | 10×16                     | 1930                            | 0.025                           | 0.075         |
|                                | 1800                        | 10×20                     | 2130                            | 0.018                           | 0.054         |
|                                | 2200                        | 10×25                     | 2500                            | 0.015                           | 0.045         |
|                                | 2700                        | 12.5×20                   | 2690                            | 0.016                           | 0.041         |
|                                | 3900                        | 12.5×25                   | 3140                            | 0.013                           | 0.033         |
|                                | 3900                        | 12.5×30                   | 3680                            | 0.012                           | 0.030         |
|                                | 4700                        | 16×20                     | 3500                            | 0.014                           | 0.035         |
|                                | 5600                        | 12.5×35                   | 3800                            | 0.010                           | 0.025         |
|                                | 5600                        | 16×25                     | 3880                            | 0.011                           | 0.028         |

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>(μF) | 外形寸法<br>Size φD×L<br>(mm) | 定格リプル電流<br>Rated Ripple Current | インピーダンス<br>(Ω MAX)<br>Impedance |               |
|--------------------------------|-----------------------------|---------------------------|---------------------------------|---------------------------------|---------------|
|                                |                             |                           |                                 | 20°C, 100kHz                    | -10°C, 100kHz |
| 25                             | 82                          | 5×11                      | 400                             | 0.21                            | 0.77          |
|                                | 180                         | 6.3×11                    | 620                             | 0.092                           | 0.34          |
|                                | 330                         | 8×11.5                    | 1060                            | 0.049                           | 0.15          |
|                                | 470                         | 8×16                      | 1390                            | 0.038                           | 0.12          |
|                                | 560                         | 10×12.5                   | 1470                            | 0.035                           | 0.11          |
|                                | 680                         | 8×20                      | 1660                            | 0.027                           | 0.081         |
|                                | 820                         | 10×16                     | 1930                            | 0.025                           | 0.075         |
|                                | 1200                        | 10×20                     | 2130                            | 0.018                           | 0.054         |
|                                | 1500                        | 10×25                     | 2500                            | 0.015                           | 0.045         |
|                                | 1800                        | 12.5×20                   | 2690                            | 0.016                           | 0.041         |
|                                | 2200                        | 12.5×25                   | 3140                            | 0.013                           | 0.033         |
|                                | 2700                        | 12.5×30                   | 3680                            | 0.012                           | 0.030         |
|                                | 2700                        | 16×20                     | 3500                            | 0.014                           | 0.035         |
|                                | 3300                        | 12.5×35                   | 3800                            | 0.010                           | 0.025         |
| 35                             | 56                          | 5×11                      | 400                             | 0.21                            | 0.77          |
|                                | 120                         | 6.3×11                    | 620                             | 0.092                           | 0.34          |
|                                | 220                         | 8×11.5                    | 1060                            | 0.049                           | 0.15          |
|                                | 270                         | 8×16                      | 1390                            | 0.038                           | 0.12          |
|                                | 330                         | 10×12.5                   | 1470                            | 0.035                           | 0.11          |
|                                | 390                         | 8×20                      | 1660                            | 0.027                           | 0.081         |
|                                | 470                         | 10×16                     | 1930                            | 0.025                           | 0.075         |
|                                | 680                         | 10×20                     | 2130                            | 0.018                           | 0.054         |
|                                | 820                         | 10×25                     | 2500                            | 0.015                           | 0.045         |
|                                | 1000                        | 12.5×20                   | 2690                            | 0.016                           | 0.041         |
|                                | 1500                        | 12.5×25                   | 3140                            | 0.013                           | 0.033         |
|                                | 1500                        | 12.5×30                   | 3680                            | 0.012                           | 0.030         |
|                                | 1800                        | 16×20                     | 3500                            | 0.014                           | 0.035         |
|                                | 2200                        | 12.5×35                   | 3800                            | 0.010                           | 0.025         |
|                                | 2200                        | 16×25                     | 3880                            | 0.011                           | 0.028         |