

# Type 381LQ 105 °C Compact, High Ripple, Snap-In Aluminum

## Higher Capacitance per Case Size



Type 381LQ is on average 23% smaller and more than 5 mm shorter than Type 381LX. This is achieved with a new can closure method that permits installing capacitor elements into smaller cans. Approaching the robust capability of the 381L the new 381LQ enables you to shrink equipment size and retain the original performance.

### Highlights

- More capacitance per case
- Compares to the 381L

### Specifications

|                                 |                                                                                                                                      |       |       |        |         |       |             |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------|-------|--------|---------|-------|-------------|
| Temperature Range               | -40 °C to + 105 °C ≤ 315 Vdc<br>-25 °C to + 105 °C ≥ 350 Vdc                                                                         |       |       |        |         |       |             |
| Rated Voltage Range             | 10 Vdc to 450 Vdc                                                                                                                    |       |       |        |         |       |             |
| Capacitance Range               | 100 µF to 100,000 µF                                                                                                                 |       |       |        |         |       |             |
| Capacitance Tolerance           | ± 20%                                                                                                                                |       |       |        |         |       |             |
| Leakage Current                 | ≤3 √CV µA, 4 mA max, 5 minutes                                                                                                       |       |       |        |         |       |             |
| Ripple Current Multipliers      | Ambient Temperature                                                                                                                  |       |       |        |         |       |             |
|                                 | 45 °C                                                                                                                                | 60 °C | 70 °C | 85 °C  | 105 °C  |       |             |
|                                 | 2.35                                                                                                                                 | 2.20  | 2.00  | 1.70   | 1.00    |       |             |
|                                 | Frequency                                                                                                                            |       |       |        |         |       |             |
|                                 | Voltage                                                                                                                              | 50 Hz | 60 Hz | 120 Hz | 500 kHz | 1 kHz | 10 kHz & Up |
|                                 | 10 - 100 WV                                                                                                                          | 0.93  | 0.95  | 1.00   | 1.05    | 1.08  | 1.15        |
|                                 | 160 - 450 WV                                                                                                                         | 0.75  | 0.80  | 1.00   | 1.20    | 1.25  | 1.40        |
| Low Temperature Characteristics | Impedance ratio: Z <sub>-20°C</sub> /Z <sub>+25°C</sub><br>≤ 10 (10 Vdc)<br>≤ 8 (16–50 Vdc)<br>≤ 4 (63–100 Vdc)<br>≤ 3 (150–450 Vdc) |       |       |        |         |       |             |
| Endurance Life Test             | 2000 h at full load at 105 °C<br>Δ Capacitance ±20%<br>ESR 200% of limit<br>DCL 100% of limit                                        |       |       |        |         |       |             |
| Shelf Life Test                 | 1000 h at 105 °C<br>Δ Capacitance ±20%<br>ESR 200% of limit<br>DCL 100% of limit                                                     |       |       |        |         |       |             |
| Vibration                       | 10 to 55 Hz, 0.06” and 10 g max, 2 h each plane                                                                                      |       |       |        |         |       |             |
| RoHS Compliant                  |                                                                                                                                      |       |       |        |         |       |             |

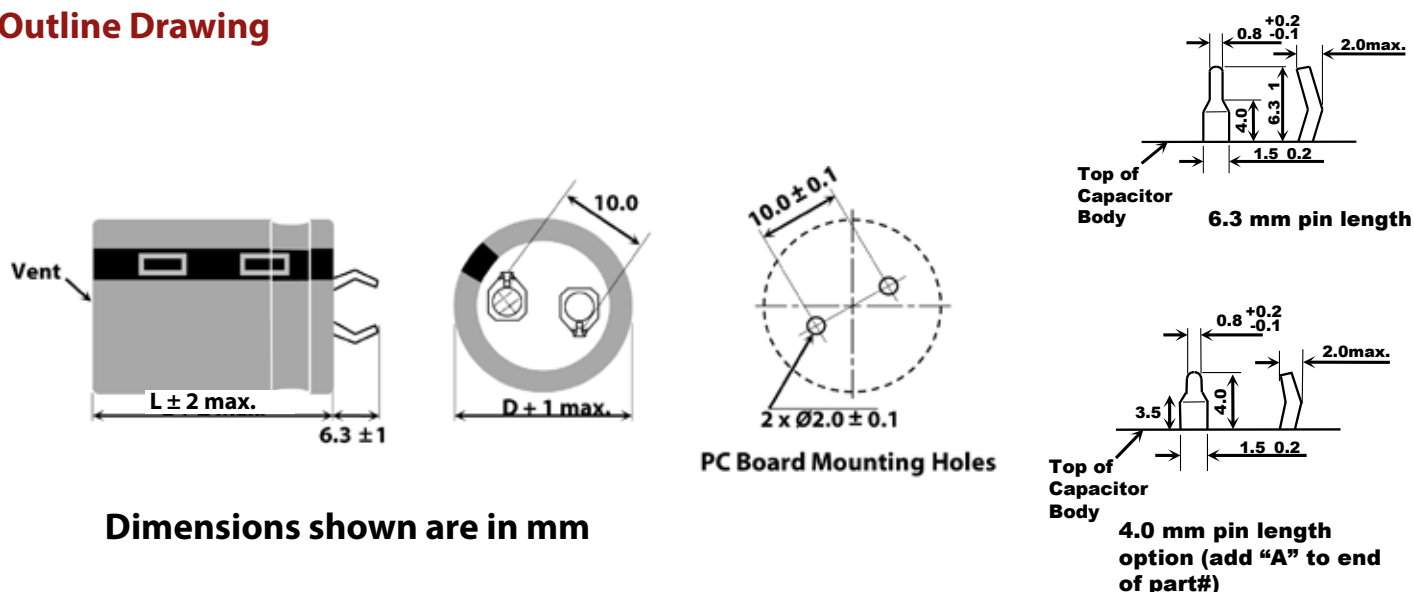
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### Part Numbering System

| 381LQ | 821                                                             | M             | 400                            | A05       | 2                 | A                                                                    | +D                                                         |
|-------|-----------------------------------------------------------------|---------------|--------------------------------|-----------|-------------------|----------------------------------------------------------------------|------------------------------------------------------------|
| Type  | Cap                                                             | Tolerance     | Voltage                        | Case Code | Insulating Sleeve | Pin Style                                                            |                                                            |
| 381LQ | 471 = 470 $\mu$ F<br>332 = 3300 $\mu$ F<br>103 = 10,000 $\mu$ F | M = $\pm$ 20% | 160 = 160 Vdc<br>450 = 450 Vdc |           | 2 = PVC           | Blank = 2 pins<br>snap-in 6.3 mm L<br>A = 2 pins snap-in<br>4.0 mm L | Blank = no end disk if <250 V<br>D = end disk, any voltage |

### Outline Drawing



Dimensions shown are in mm

Note that for 200 volts and under the insulating end disc is optional - If one is needed add a (+D) to the end of the part numbering system.

### Insulated Case Dimensions

|      | DIAMETER |        | LENGTH |        | Typical |
|------|----------|--------|--------|--------|---------|
| Case | D        |        | L      |        | Weight  |
| Code | mm       | inches | mm     | inches | (grams) |
| H01  | 22       | 0.87   | 25     | 0.98   | 16      |
| H02  | 22       | 0.87   | 30     | 1.18   | 19      |
| H03  | 22       | 0.87   | 35     | 1.38   | 22      |
| H04  | 22       | 0.87   | 40     | 1.57   | 24      |
| H45  | 22       | 0.87   | 45     | 1.77   | 28      |
| H05  | 22       | 0.87   | 50     | 1.97   | 31      |
| J01  | 25       | 0.98   | 25     | 0.98   | 20      |
| J02  | 25       | 0.98   | 30     | 1.18   | 24      |
| J03  | 25       | 0.98   | 35     | 1.38   | 27      |
| J04  | 25       | 0.98   | 40     | 1.57   | 31      |
| J45  | 25       | 0.98   | 45     | 1.77   | 35      |
| J05  | 25       | 0.98   | 50     | 1.97   | 38      |

|      | DIAMETER |        | LENGTH |        | Typical |
|------|----------|--------|--------|--------|---------|
| Case | D        |        | L      |        | Weight  |
| Code | mm       | inches | mm     | inches | (grams) |
| K01  | 30       | 1.18   | 25     | 0.98   | 30      |
| K02  | 30       | 1.18   | 30     | 1.18   | 35      |
| K03  | 30       | 1.18   | 35     | 1.38   | 40      |
| K04  | 30       | 1.18   | 40     | 1.57   | 44      |
| K45  | 30       | 1.18   | 45     | 1.77   | 49      |
| K05  | 30       | 1.18   | 50     | 1.97   | 53      |
| A01  | 35       | 1.38   | 25     | 0.98   | 42      |
| A02  | 35       | 1.38   | 30     | 1.18   | 48      |
| A03  | 35       | 1.38   | 35     | 1.38   | 54      |
| A04  | 35       | 1.38   | 40     | 1.57   | 60      |
| A45  | 35       | 1.38   | 45     | 1.77   | 67      |
| A05  | 35       | 1.38   | 50     | 1.97   | 74      |

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### Ratings

|                       |                  | ESR Max |        | Ripple Amps |        | Nominal |
|-----------------------|------------------|---------|--------|-------------|--------|---------|
|                       |                  | @ 25 °C |        | @ 105 °C    |        | Size    |
| Cap.                  | Catalog          | 120 Hz  | 20 kHz | 120 Hz      | 20 kHz | D x L   |
| (µF)                  | Part Number      | Ω       | Ω      | (A)         | (A)    | (mm)    |
| 10 Vdc (13 Vdc Surge) |                  |         |        |             |        |         |
| 12000                 | 381LQ123M010H012 | 0.076   | 0.065  | 2.20        | 2.53   | 22 x 25 |
| 18000                 | 381LQ183M010H022 | 0.051   | 0.043  | 2.40        | 2.76   | 22 x 30 |
| 18000                 | 381LQ183M010H012 | 0.051   | 0.043  | 2.40        | 2.76   | 25 x 25 |
| 22000                 | 381LQ223M010H032 | 0.041   | 0.035  | 2.60        | 2.99   | 22 x 35 |
| 22000                 | 381LQ223M010J022 | 0.041   | 0.035  | 2.60        | 2.99   | 25 x 30 |
| 27000                 | 381LQ273M010H042 | 0.034   | 0.029  | 3.10        | 3.57   | 22 x 40 |
| 27000                 | 381LQ273M010J032 | 0.034   | 0.029  | 3.10        | 3.57   | 25 x 35 |
| 27000                 | 381LQ273M010K012 | 0.034   | 0.029  | 3.10        | 3.57   | 30 x 25 |
| 33000                 | 381LQ333M010H452 | 0.028   | 0.023  | 3.40        | 3.91   | 22 x 45 |
| 33000                 | 381LQ333M010J042 | 0.028   | 0.023  | 3.40        | 3.91   | 25 x 40 |
| 39000                 | 381LQ393M010J452 | 0.026   | 0.022  | 3.70        | 4.26   | 25 x 45 |
| 39000                 | 381LQ393M010K022 | 0.026   | 0.023  | 3.70        | 4.26   | 30 x 30 |
| 39000                 | 381LQ393M010A012 | 0.026   | 0.022  | 3.70        | 4.26   | 35 x 25 |
| 47000                 | 381LQ473M010J052 | 0.024   | 0.021  | 4.20        | 4.83   | 25 x 50 |
| 47000                 | 381LQ473M010K032 | 0.024   | 0.022  | 4.20        | 4.83   | 30 x 35 |
| 47000                 | 381LQ473M010A022 | 0.024   | 0.021  | 4.20        | 4.83   | 35 x 30 |
| 56000                 | 381LQ563M010K042 | 0.023   | 0.021  | 5.00        | 5.75   | 30 x 40 |
| 56000                 | 381LQ563M010A032 | 0.023   | 0.020  | 5.00        | 5.75   | 35 x 35 |
| 68000                 | 381LQ683M010K452 | 0.022   | 0.020  | 5.40        | 6.21   | 30 x 45 |
| 68000                 | 381LQ683M010A042 | 0.022   | 0.019  | 5.40        | 6.21   | 35 x 40 |
| 82000                 | 381LQ823M010A452 | 0.021   | 0.019  | 6.10        | 7.02   | 35 x 45 |
| 100000                | 381LQ104M010A052 | 0.020   | 0.019  | 6.90        | 7.94   | 35 x 50 |
| 16 Vdc (20 Vdc Surge) |                  |         |        |             |        |         |
| 10000                 | 381LQ103M016H012 | 0.075   | 0.063  | 2.60        | 2.99   | 22 x 25 |
| 12000                 | 381LQ123M016H022 | 0.062   | 0.053  | 2.90        | 3.34   | 22 x 30 |
| 12000                 | 381LQ123M016J012 | 0.062   | 0.053  | 2.90        | 3.34   | 25 x 25 |
| 15000                 | 381LQ153M016H032 | 0.050   | 0.042  | 3.20        | 3.68   | 22 x 35 |
| 18000                 | 381LQ183M016H042 | 0.041   | 0.035  | 3.50        | 4.03   | 22 x 40 |
| 18000                 | 381LQ183M016J022 | 0.041   | 0.035  | 3.50        | 4.03   | 25 x 30 |
| 22000                 | 381LQ223M016H452 | 0.034   | 0.029  | 3.80        | 4.37   | 22 x 45 |
| 22000                 | 381LQ223M016J032 | 0.034   | 0.029  | 3.80        | 4.37   | 25 x 35 |
| 22000                 | 381LQ223M016H012 | 0.034   | 0.029  | 3.80        | 4.37   | 30 x 25 |
| 27000                 | 381LQ273M016H052 | 0.028   | 0.023  | 4.20        | 4.83   | 22 x 50 |
| 27000                 | 381LQ273M016J042 | 0.028   | 0.023  | 4.20        | 4.83   | 25 x 40 |
| 27000                 | 381LQ273M016K022 | 0.028   | 0.023  | 4.20        | 4.83   | 30 x 30 |
| 27000                 | 381LQ273M016A012 | 0.028   | 0.023  | 4.20        | 4.83   | 35 x 25 |
| 33000                 | 381LQ333M016J452 | 0.023   | 0.019  | 4.70        | 5.41   | 25 x 45 |
| 33000                 | 381LQ333M016K032 | 0.023   | 0.019  | 4.70        | 5.41   | 30 x 35 |
| 33000                 | 381LQ333M016A022 | 0.023   | 0.020  | 4.70        | 5.41   | 35 x 30 |
| 39000                 | 381LQ393M016K042 | 0.022   | 0.018  | 5.10        | 5.87   | 30 x 40 |
| 39000                 | 381LQ393M016A032 | 0.022   | 0.020  | 5.10        | 5.87   | 35 x 35 |
| 47000                 | 381LQ473M016K452 | 0.016   | 0.014  | 5.50        | 6.33   | 30 x 45 |
| 47000                 | 381LQ473M016A042 | 0.021   | 0.019  | 5.50        | 6.33   | 35 x 40 |
| 56000                 | 381LQ563M016K052 | 0.020   | 0.018  | 6.00        | 6.90   | 30 x 50 |
| 25 Vdc (32 Vdc Surge) |                  |         |        |             |        |         |
| 56000                 | 381LQ563M016A452 | 0.020   | 0.018  | 6.00        | 6.90   | 35 x 45 |
| 6800                  | 381LQ682M025H012 | 0.085   | 0.064  | 2.40        | 2.76   | 22 x 25 |
| 8200                  | 381LQ822M025H022 | 0.071   | 0.053  | 2.70        | 3.11   | 22 x 30 |
| 8200                  | 381LQ822M025J012 | 0.071   | 0.053  | 2.70        | 3.11   | 25 x 25 |
| 10000                 | 381LQ103M025H032 | 0.058   | 0.044  | 3.00        | 3.45   | 22 x 35 |
| 12000                 | 381LQ123M025H042 | 0.048   | 0.036  | 3.20        | 3.68   | 22 x 40 |
| 12000                 | 381LQ123M025J022 | 0.048   | 0.036  | 3.20        | 3.68   | 25 x 30 |
| 15000                 | 381LQ153M025H452 | 0.039   | 0.029  | 3.60        | 4.14   | 22 x 45 |
| 15000                 | 381LQ153M025J032 | 0.039   | 0.029  | 3.60        | 4.14   | 25 x 35 |
| 15000                 | 381LQ153M025K012 | 0.039   | 0.029  | 3.60        | 4.14   | 30 x 25 |
| 18000                 | 381LQ183M025H052 | 0.032   | 0.024  | 3.90        | 4.49   | 22 x 50 |
| 18000                 | 381LQ183M025J042 | 0.032   | 0.024  | 3.90        | 4.49   | 25 x 40 |
| 18000                 | 381LQ183M025K022 | 0.032   | 0.024  | 3.90        | 4.49   | 30 x 30 |
| 18000                 | 381LQ183M025A012 | 0.032   | 0.024  | 3.90        | 4.49   | 35 x 25 |
| 22000                 | 381LQ223M025J452 | 0.026   | 0.020  | 4.30        | 4.95   | 25 x 45 |
| 22000                 | 381LQ223M025K032 | 0.026   | 0.020  | 4.30        | 4.95   | 30 x 35 |
| 22000                 | 381LQ223M025A022 | 0.026   | 0.020  | 4.30        | 4.95   | 35 x 30 |
| 27000                 | 381LQ273M025K042 | 0.021   | 0.016  | 4.80        | 5.52   | 30 x 40 |
| 27000                 | 381LQ273M025A032 | 0.021   | 0.016  | 4.80        | 5.52   | 35 x 35 |
| 33000                 | 381LQ333M025K452 | 0.018   | 0.013  | 5.50        | 6.33   | 30 x 45 |
| 33000                 | 381LQ333M025A042 | 0.018   | 0.014  | 5.50        | 6.33   | 35 x 40 |
| 39000                 | 381LQ393M025K052 | 0.017   | 0.013  | 5.80        | 6.67   | 30 x 50 |
| 39000                 | 381LQ393M025A452 | 0.017   | 0.014  | 5.80        | 6.67   | 35 x 45 |
| 47000                 | 381LQ473M025A052 | 0.017   | 0.014  | 6.30        | 7.25   | 35 x 50 |
| 35 Vdc (44 Vdc Surge) |                  |         |        |             |        |         |
| 4700                  | 381LQ472M035H012 | 0.106   | 0.079  | 2.20        | 2.53   | 22 x 25 |
| 5600                  | 381LQ562M035H022 | 0.089   | 0.067  | 2.40        | 2.76   | 22 x 30 |
| 5600                  | 381LQ562M035J012 | 0.089   | 0.067  | 2.40        | 2.76   | 25 x 25 |
| 6800                  | 381LQ682M035H032 | 0.073   | 0.055  | 2.60        | 2.99   | 22 x 35 |
| 8200                  | 381LQ822M035H042 | 0.061   | 0.045  | 2.90        | 3.34   | 22 x 40 |
| 8200                  | 381LQ822M035J022 | 0.061   | 0.045  | 2.90        | 3.34   | 25 x 30 |
| 10000                 | 381LQ103M035H452 | 0.050   | 0.037  | 3.20        | 3.68   | 22 x 45 |
| 10000                 | 381LQ103M035J032 | 0.050   | 0.037  | 3.20        | 3.68   | 25 x 35 |
| 10000                 | 381LQ103M035K012 | 0.050   | 0.037  | 3.20        | 3.68   | 30 x 25 |
| 12000                 | 381LQ123M035J042 | 0.041   | 0.031  | 3.50        | 4.03   | 25 x 40 |
| 12000                 | 381LQ123M035K022 | 0.041   | 0.031  | 3.50        | 4.03   | 30 x 30 |
| 12000                 | 381LQ123M035A012 | 0.041   | 0.031  | 3.50        | 4.03   | 35 x 25 |
| 15000                 | 381LQ153M035J452 | 0.033   | 0.025  | 3.90        | 4.49   | 25 x 45 |
| 15000                 | 381LQ153M035K032 | 0.033   | 0.025  | 3.90        | 4.49   | 30 x 35 |
| 15000                 | 381LQ153M035A022 | 0.033   | 0.025  | 3.90        | 4.49   | 35 x 30 |
| 18000                 | 381LQ183M035K042 | 0.028   | 0.021  | 4.30        | 4.95   | 30 x 40 |
| 18000                 | 381LQ183M035A032 | 0.028   | 0.021  | 4.30        | 4.95   | 35 x 35 |
| 22000                 | 381LQ223M035K452 | 0.023   | 0.017  | 5.00        | 5.75   | 30 x 45 |
| 22000                 | 381LQ223M035A042 | 0.023   | 0.017  | 5.00        | 5.75   | 35 x 40 |

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## Higher Capacitance per Case Size

|                         |                  | ESR Max |        | Ripple Amps |        | Nominal |
|-------------------------|------------------|---------|--------|-------------|--------|---------|
|                         |                  | @ 25 °C |        | @ 105 °C    |        | Size    |
| Cap.                    | Catalog          | 120 Hz  | 20 kHz | 120 Hz      | 20 kHz | D x L   |
| (µF)                    | Part Number      | Ω       | Ω      | (A)         | (A)    | (mm)    |
| 27000                   | 381LQ273M035K052 | 0.018   | 0.014  | 5.30        | 6.10   | 30 x 50 |
| 27000                   | 381LQ273M035A452 | 0.018   | 0.014  | 5.30        | 6.10   | 35 x 45 |
| 33000                   | 381LQ333M035A052 | 0.015   | 0.012  | 5.90        | 6.79   | 35 x 50 |
| 50 Vdc (63 Vdc Surge)   |                  |         |        |             |        |         |
| 2700                    | 381LQ272M050H012 | 0.154   | 0.115  | 1.80        | 2.07   | 22 x 25 |
| 3300                    | 381LQ332M050H022 | 0.126   | 0.094  | 2.00        | 2.30   | 22 x 30 |
| 3900                    | 381LQ392M050H032 | 0.106   | 0.080  | 2.20        | 2.53   | 22 x 35 |
| 3900                    | 381LQ392M050J012 | 0.106   | 0.080  | 2.20        | 2.53   | 25 x 25 |
| 4700                    | 381LQ472M050H042 | 0.088   | 0.066  | 2.50        | 2.88   | 22 x 40 |
| 4700                    | 381LQ472M050J022 | 0.088   | 0.066  | 2.50        | 2.88   | 25 x 30 |
| 5600                    | 381LQ562M050H452 | 0.074   | 0.056  | 2.80        | 3.22   | 22 x 45 |
| 5600                    | 381LQ562M050J032 | 0.074   | 0.056  | 2.80        | 3.22   | 25 x 35 |
| 4700                    | 381LQ472M050H042 | 0.088   | 0.066  | 2.50        | 2.88   | 22 x 40 |
| 4700                    | 381LQ472M050J022 | 0.088   | 0.066  | 2.50        | 2.88   | 25 x 30 |
| 5600                    | 381LQ562M050H452 | 0.074   | 0.056  | 2.80        | 3.22   | 22 x 45 |
| 5600                    | 381LQ562M050J032 | 0.074   | 0.056  | 2.80        | 3.22   | 25 x 35 |
| 5600                    | 381LQ562M050K012 | 0.074   | 0.056  | 2.80        | 3.22   | 30 x 25 |
| 6800                    | 381LQ682M050H052 | 0.061   | 0.046  | 3.30        | 3.80   | 22 x 50 |
| 6800                    | 381LQ682M050J042 | 0.061   | 0.046  | 3.30        | 3.80   | 25 x 40 |
| 6800                    | 381LQ682M050K022 | 0.061   | 0.046  | 3.30        | 3.80   | 30 x 30 |
| 6800                    | 381LQ682M050A012 | 0.061   | 0.046  | 3.30        | 3.80   | 35 x 25 |
| 8200                    | 381LQ822M050J452 | 0.051   | 0.038  | 3.60        | 4.14   | 25 x 45 |
| 8200                    | 381LQ822M050K032 | 0.051   | 0.038  | 3.60        | 4.14   | 30 x 35 |
| 10000                   | 381LQ103M050J052 | 0.041   | 0.031  | 4.00        | 4.60   | 25 x 50 |
| 10000                   | 381LQ103M050K042 | 0.041   | 0.031  | 4.00        | 4.60   | 30 x 40 |
| 10000                   | 381LQ103M050A022 | 0.041   | 0.031  | 4.00        | 4.60   | 35 x 30 |
| 12000                   | 381LQ123M050K452 | 0.035   | 0.026  | 4.50        | 5.18   | 30 x 45 |
| 12000                   | 381LQ123M050A032 | 0.035   | 0.028  | 4.50        | 5.18   | 35 x 35 |
| 15000                   | 381LQ153M050K052 | 0.028   | 0.021  | 4.80        | 5.52   | 30 x 50 |
| 15000                   | 381LQ153M050A042 | 0.028   | 0.022  | 4.80        | 5.52   | 35 x 40 |
| 18000                   | 381LQ183M050A452 | 0.023   | 0.018  | 5.60        | 6.44   | 35 x 45 |
| 63 Vdc (79 Vdc Surge)   |                  |         |        |             |        |         |
| 2200                    | 381LQ222M063H012 | 0.151   | 0.113  | 2.00        | 2.30   | 22 x 25 |
| 2700                    | 381LQ272M063H022 | 0.123   | 0.092  | 2.20        | 2.53   | 22 x 30 |
| 2700                    | 381LQ272M063J012 | 0.123   | 0.092  | 2.20        | 2.53   | 25 x 25 |
| 3300                    | 381LQ332M063H032 | 0.100   | 0.075  | 2.50        | 2.88   | 22 x 35 |
| 3900                    | 381LQ392M063H042 | 0.085   | 0.064  | 2.70        | 3.11   | 22 x 40 |
| 3900                    | 381LQ392M063J022 | 0.085   | 0.064  | 2.70        | 3.11   | 25 x 30 |
| 3900                    | 381LQ392M063K012 | 0.085   | 0.064  | 2.70        | 3.11   | 30 x 25 |
| 4700                    | 381LQ472M063H452 | 0.071   | 0.053  | 3.00        | 3.45   | 22 x 45 |
| 4700                    | 381LQ472M063J032 | 0.071   | 0.053  | 3.00        | 3.45   | 25 x 35 |
| 5600                    | 381LQ562M063H052 | 0.059   | 0.044  | 3.30        | 3.80   | 22 x 50 |
| 5600                    | 381LQ562M063J042 | 0.059   | 0.044  | 3.30        | 3.80   | 25 x 40 |
| 5600                    | 381LQ562M063K022 | 0.059   | 0.044  | 3.30        | 3.80   | 30 x 30 |
| 5600                    | 381LQ562M063A012 | 0.059   | 0.044  | 3.30        | 3.80   | 35 x 25 |
| 6800                    | 381LQ682M063J452 | 0.049   | 0.037  | 3.60        | 4.14   | 25 x 45 |
| 6800                    | 381LQ682M063K032 | 0.049   | 0.037  | 3.60        | 4.14   | 30 x 35 |
| 6800                    | 381LQ682M063A022 | 0.049   | 0.037  | 3.60        | 4.14   | 35 x 30 |
| 8200                    | 381LQ822M063K042 | 0.040   | 0.030  | 3.90        | 4.49   | 30 x 40 |
| 8200                    | 381LQ822M063A032 | 0.040   | 0.030  | 3.90        | 4.49   | 35 x 35 |
| 10000                   | 381LQ103M063K452 | 0.033   | 0.025  | 4.40        | 5.06   | 30 x 45 |
| 10000                   | 381LQ103M063A042 | 0.033   | 0.025  | 4.40        | 5.06   | 35 x 40 |
| 12000                   | 381LQ123M063K052 | 0.028   | 0.021  | 4.80        | 5.52   | 30 x 50 |
| 12000                   | 381LQ123M063A452 | 0.028   | 0.022  | 4.80        | 5.52   | 35 x 45 |
| 15000                   | 381LQ153M063A052 | 0.022   | 0.018  | 5.40        | 6.21   | 35 x 50 |
| 80 Vdc (100 Vdc Surge)  |                  |         |        |             |        |         |
| 1200                    | 381LQ122M080H012 | 0.235   | 0.176  | 1.50        | 1.73   | 22 x 25 |
| 1500                    | 381LQ152M080H022 | 0.188   | 0.141  | 1.70        | 1.96   | 22 x 30 |
| 1500                    | 381LQ152M080J012 | 0.188   | 0.141  | 1.70        | 1.96   | 25 x 25 |
| 1800                    | 381LQ182M080H032 | 0.157   | 0.117  | 1.80        | 2.07   | 22 x 35 |
| 2200                    | 381LQ222M080H042 | 0.128   | 0.096  | 2.10        | 2.42   | 22 x 40 |
| 2200                    | 381LQ222M080J022 | 0.128   | 0.096  | 2.10        | 2.42   | 25 x 30 |
| 2700                    | 381LQ272M080H452 | 0.104   | 0.078  | 2.40        | 2.76   | 22 x 45 |
| 2700                    | 381LQ272M080J032 | 0.104   | 0.078  | 2.40        | 2.76   | 25 x 35 |
| 2700                    | 381LQ272M080K012 | 0.104   | 0.078  | 2.40        | 2.76   | 30 x 25 |
| 3300                    | 381LQ332M080H052 | 0.085   | 0.064  | 2.60        | 2.99   | 22 x 50 |
| 3300                    | 381LQ332M080J042 | 0.085   | 0.064  | 2.60        | 2.99   | 25 x 40 |
| 3300                    | 381LQ332M080K022 | 0.085   | 0.064  | 2.60        | 2.99   | 30 x 30 |
| 3300                    | 381LQ332M080A012 | 0.085   | 0.064  | 2.60        | 2.99   | 35 x 25 |
| 3900                    | 381LQ392M080J452 | 0.072   | 0.054  | 3.00        | 3.45   | 25 x 45 |
| 3900                    | 381LQ392M080K032 | 0.072   | 0.054  | 3.00        | 3.45   | 30 x 35 |
| 4700                    | 381LQ472M080J052 | 0.060   | 0.045  | 3.30        | 3.80   | 25 x 50 |
| 4700                    | 381LQ472M080K042 | 0.060   | 0.045  | 3.30        | 3.80   | 30 x 40 |
| 4700                    | 381LQ472M080A022 | 0.060   | 0.045  | 3.30        | 3.80   | 35 x 30 |
| 5600                    | 381LQ562M080K452 | 0.050   | 0.038  | 3.70        | 4.26   | 30 x 45 |
| 5600                    | 381LQ562M080A032 | 0.050   | 0.038  | 3.70        | 4.26   | 35 x 35 |
| 6800                    | 381LQ682M080K052 | 0.041   | 0.031  | 3.90        | 4.49   | 30 x 50 |
| 6800                    | 381LQ682M080A042 | 0.041   | 0.032  | 3.90        | 4.49   | 35 x 40 |
| 8200                    | 381LQ822M080A452 | 0.034   | 0.027  | 4.50        | 5.18   | 35 x 45 |
| 100 Vdc (125 Vdc Surge) |                  |         |        |             |        |         |
| 820                     | 381LQ821M100H012 | 0.303   | 0.197  | 1.40        | 1.61   | 22 x 25 |
| 1200                    | 381LQ122M100H022 | 0.207   | 0.135  | 1.80        | 2.07   | 22 x 30 |
| 1200                    | 381LQ122M100J012 | 0.207   | 0.135  | 1.80        | 2.07   | 25 x 25 |
| 1500                    | 381LQ152M100H032 | 0.166   | 0.108  | 2.10        | 2.42   | 22 x 35 |
| 1500                    | 381LQ152M100J022 | 0.166   | 0.108  | 2.10        | 2.42   | 25 x 30 |
| 1800                    | 381LQ182M100H042 | 0.138   | 0.090  | 2.30        | 2.65   | 22 x 40 |
| 1800                    | 381LQ182M100J032 | 0.138   | 0.090  | 2.30        | 2.65   | 25 x 35 |
| 1800                    | 381LQ182M100K012 | 0.138   | 0.090  | 2.30        | 2.65   | 30 x 25 |

# Type 381LQ 105 °C Compact, High Ripple, Snap-In Aluminum

## Higher Capacitance per Case Size

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR Max<br>@ 25 °C      |             | Ripple Amps<br>@ 105 °C |               | Nominal<br>Size |
|-------------------------|------------------------|-------------------------|-------------|-------------------------|---------------|-----------------|
|                         |                        | 120 Hz<br>Ω             | 20 kHz<br>Ω | 120 Hz<br>(A)           | 20 kHz<br>(A) | D x L<br>(mm)   |
|                         |                        | 100 Vdc (125 Vdc Surge) |             |                         |               |                 |
| 2200                    | 381LQ222M100H452       | 0.113                   | 0.073       | 2.60                    | 2.99          | 22 x 45         |
| 2200                    | 381LQ222M100J042       | 0.113                   | 0.073       | 2.60                    | 2.99          | 25 x 40         |
| 2200                    | 381LQ222M100K022       | 0.113                   | 0.073       | 2.60                    | 2.99          | 30 x 30         |
| 2200                    | 381LQ222M100A012       | 0.113                   | 0.073       | 2.60                    | 2.99          | 35 x 25         |
| 2700                    | 381LQ272M100J452       | 0.092                   | 0.060       | 2.90                    | 3.34          | 25 x 45         |
| 2700                    | 381LQ272M100K032       | 0.092                   | 0.060       | 2.90                    | 3.34          | 30 x 35         |
| 3300                    | 381LQ332M100J052       | 0.075                   | 0.049       | 3.20                    | 3.68          | 25 x 50         |
| 3300                    | 381LQ332M100K042       | 0.075                   | 0.049       | 3.20                    | 3.68          | 30 x 40         |
| 3300                    | 381LQ332M100A022       | 0.075                   | 0.049       | 3.20                    | 3.68          | 35 x 30         |
| 3900                    | 381LQ392M100K452       | 0.064                   | 0.043       | 3.60                    | 4.14          | 30 x 45         |
| 3900                    | 381LQ392M100A032       | 0.064                   | 0.043       | 3.60                    | 4.14          | 35 x 35         |
| 4700                    | 381LQ472M100K052       | 0.053                   | 0.038       | 3.80                    | 4.37          | 30 x 50         |
| 4700                    | 381LQ472M100A042       | 0.053                   | 0.037       | 3.80                    | 4.37          | 35 x 40         |
| 5600                    | 381LQ562M100A452       | 0.044                   | 0.031       | 4.20                    | 4.83          | 35 x 45         |
| 6800                    | 381LQ682M100A052       | 0.037                   | 0.027       | 4.70                    | 5.41          | 35 x 50         |
| 160 Vdc (200 Vdc Surge) |                        |                         |             |                         |               |                 |
| 470                     | 381LQ471M160H012       | 0.423                   | 0.190       | 1.40                    | 1.96          | 22 x 25         |
| 560                     | 381LQ561M160H022       | 0.355                   | 0.160       | 1.50                    | 2.10          | 22 x 30         |
| 680                     | 381LQ681M160H022       | 0.293                   | 0.132       | 1.70                    | 2.38          | 22 x 30         |
| 680                     | 381LQ681M160J012       | 0.293                   | 0.132       | 1.70                    | 2.38          | 25 x 25         |
| 820                     | 381LQ821M160H032       | 0.243                   | 0.109       | 2.00                    | 2.80          | 22 x 35         |
| 820                     | 381LQ821M160J022       | 0.243                   | 0.109       | 2.00                    | 2.80          | 25 x 30         |
| 1000                    | 381LQ102M160H042       | 0.199                   | 0.090       | 2.20                    | 3.08          | 22 x 40         |
| 1000                    | 381LQ102M160J032       | 0.199                   | 0.090       | 2.20                    | 3.08          | 25 x 35         |
| 1000                    | 381LQ102M160K012       | 0.216                   | 0.108       | 2.20                    | 3.08          | 30 x 25         |
| 1200                    | 381LQ122M160H452       | 0.166                   | 0.075       | 2.30                    | 3.22          | 22 x 45         |
| 1200                    | 381LQ122M160J042       | 0.166                   | 0.075       | 2.30                    | 3.22          | 25 x 40         |
| 1200                    | 381LQ122M160K022       | 0.166                   | 0.075       | 2.30                    | 3.22          | 30 x 30         |
| 1200                    | 381LQ122M160A012       | 0.180                   | 0.090       | 2.30                    | 3.22          | 35 x 25         |
| 1500                    | 381LQ152M160J452       | 0.133                   | 0.060       | 2.50                    | 3.50          | 25 x 45         |
| 1500                    | 381LQ152M160K032       | 0.133                   | 0.060       | 2.50                    | 3.50          | 30 x 35         |
| 1500                    | 381LQ152M160A022       | 0.155                   | 0.077       | 2.50                    | 3.50          | 35 x 30         |
| 1800                    | 381LQ182M160J052       | 0.110                   | 0.055       | 2.70                    | 3.78          | 25 x 50         |
| 1800                    | 381LQ182M160K042       | 0.110                   | 0.055       | 2.70                    | 3.78          | 30 x 40         |
| 1800                    | 381LQ182M160A022       | 0.120                   | 0.060       | 2.70                    | 3.78          | 35 x 30         |
| 2200                    | 381LQ222M160K452       | 0.090                   | 0.045       | 2.90                    | 4.06          | 30 x 45         |
| 2200                    | 381LQ222M160A032       | 0.098                   | 0.049       | 2.90                    | 4.06          | 35 x 35         |
| 2700                    | 381LQ272M160K052       | 0.080                   | 0.040       | 3.10                    | 4.34          | 30 x 50         |
| 2700                    | 381LQ272M160A042       | 0.086                   | 0.043       | 3.10                    | 4.34          | 35 x 40         |
| 3300                    | 381LQ332M160A052       | 0.070                   | 0.042       | 3.30                    | 4.62          | 35 x 50         |
| 180 Vdc (225 Vdc Surge) |                        |                         |             |                         |               |                 |
| 560                     | 381LQ561M180H022       | 0.355                   | 0.160       | 1.50                    | 2.10          | 22 x 30         |
| 560                     | 381LQ561M180J012       | 0.355                   | 0.160       | 1.50                    | 2.10          | 25 x 25         |

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR Max<br>@ 25 °C |        | Ripple Amps<br>@ 105 °C |        | Nominal<br>Size |
|-------------------------|------------------------|--------------------|--------|-------------------------|--------|-----------------|
|                         |                        | 120 Hz             | 20 kHz | 120 Hz                  | 20 kHz | D x L           |
|                         |                        | Ω                  | Ω      | (A)                     | (A)    | (mm)            |
| 180 Vdc (225 Vdc Surge) |                        |                    |        |                         |        |                 |
| 680                     | 381LQ681M180H032       | 0.293              | 0.132  | 1.70                    | 2.38   | 22 x 35         |
| 680                     | 381LQ681M180J022       | 0.293              | 0.132  | 1.70                    | 2.38   | 25 x 30         |
| 820                     | 381LQ821M180H042       | 0.243              | 0.109  | 2.00                    | 2.80   | 22 x 40         |
| 820                     | 381LQ821M180J022       | 0.243              | 0.109  | 2.00                    | 2.80   | 25 x 30         |
| 820                     | 381LQ821M180K012       | 0.243              | 0.109  | 2.00                    | 2.80   | 30 x 25         |
| 1000                    | 381LQ102M180H452       | 0.199              | 0.090  | 2.20                    | 3.08   | 22 x 45         |
| 1000                    | 381LQ102M180J042       | 0.199              | 0.090  | 2.20                    | 3.08   | 25 x 40         |
| 1000                    | 381LQ102M180K022       | 0.199              | 0.090  | 2.20                    | 3.08   | 30 x 30         |
| 1000                    | 381LQ102M180A012       | 0.216              | 0.097  | 2.20                    | 3.08   | 35 x 25         |
| 1200                    | 381LQ122M180J452       | 0.166              | 0.075  | 2.30                    | 3.22   | 25 x 45         |
| 1200                    | 381LQ122M180K032       | 0.166              | 0.075  | 2.30                    | 3.22   | 30 x 35         |
| 1500                    | 381LQ152M180J052       | 0.133              | 0.060  | 2.50                    | 3.50   | 25 x 50         |
| 1500                    | 381LQ152M180K042       | 0.133              | 0.060  | 2.50                    | 3.50   | 30 x 40         |
| 1500                    | 381LQ152M180A022       | 0.155              | 0.077  | 2.50                    | 3.50   | 35 x 30         |
| 1800                    | 381LQ182M180K452       | 0.110              | 0.050  | 2.70                    | 3.78   | 30 x 45         |
| 1800                    | 381LQ182M180A032       | 0.129              | 0.064  | 2.70                    | 3.78   | 35 x 35         |
| 2200                    | 381LQ222M180K052       | 0.090              | 0.041  | 2.90                    | 4.06   | 30 x 50         |
| 2200                    | 381LQ222M180A042       | 0.098              | 0.049  | 2.90                    | 4.06   | 35 x 40         |
| 2700                    | 381LQ272M180A052       | 0.086              | 0.043  | 3.10                    | 4.34   | 35 x 50         |
| 200 Vdc (250 Vdc Surge) |                        |                    |        |                         |        |                 |
| 390                     | 381LQ391M200H012       | 0.510              | 0.230  | 1.31                    | 1.83   | 22 x 25         |
| 470                     | 381LQ471M200H022       | 0.423              | 0.190  | 1.45                    | 2.03   | 22 x 30         |
| 560                     | 381LQ561M200H022       | 0.355              | 0.160  | 1.67                    | 2.34   | 22 x 30         |
| 680                     | 381LQ681M200H042       | 0.293              | 0.132  | 1.75                    | 2.45   | 22 x 40         |
| 680                     | 381LQ681M200J022       | 0.293              | 0.132  | 1.75                    | 2.45   | 25 x 30         |
| 820                     | 381LQ821M200H452       | 0.243              | 0.109  | 2.04                    | 2.86   | 22 x 45         |
| 820                     | 381LQ821M200J032       | 0.243              | 0.109  | 2.04                    | 2.86   | 25 x 35         |
| 820                     | 381LQ821M200K012       | 0.243              | 0.109  | 2.04                    | 2.86   | 30 x 25         |
| 1000                    | 381LQ102M200H052       | 0.199              | 0.090  | 2.30                    | 3.22   | 22 x 50         |
| 1000                    | 381LQ102M200J042       | 0.199              | 0.090  | 2.10                    | 2.90   | 25 x 40         |
| 1000                    | 381LQ102M200J452       | 0.199              | 0.090  | 2.30                    | 3.22   | 25 x 45         |
| 1000                    | 381LQ102M200K022       | 0.199              | 0.090  | 2.30                    | 3.22   | 30 x 30         |
| 1000                    | 381LQ102M200A012       | 0.216              | 0.097  | 2.30                    | 3.22   | 35 x 25         |
| 1200                    | 381LQ122M200J452       | 0.166              | 0.075  | 2.40                    | 3.30   | 25 x 45         |
| 1200                    | 381LQ122M200J052       | 0.166              | 0.075  | 2.65                    | 3.71   | 25 x 50         |
| 1200                    | 381LQ122M200K032       | 0.166              | 0.075  | 2.65                    | 3.71   | 30 x 35         |
| 1200                    | 381LQ122M200A022       | 0.180              | 0.090  | 2.65                    | 3.71   | 35 x 30         |
| 1500                    | 381LQ152M200K042       | 0.133              | 0.060  | 2.80                    | 3.92   | 30 x 40         |
| 1500                    | 381LQ152M200A022       | 0.114              | 0.072  | 2.80                    | 3.92   | 35 x 30         |
| 1800                    | 381LQ182M200K452       | 0.110              | 0.050  | 3.08                    | 4.31   | 30 x 45         |
| 1800                    | 381LQ182M200A042       | 0.129              | 0.084  | 3.08                    | 4.31   | 35 x 40         |
| 2200                    | 381LQ222M200K052       | 0.090              | 0.041  | 3.48                    | 4.87   | 30 x 50         |
| 2200                    | 381LQ222M200A452       | 0.096              | 0.044  | 3.48                    | 4.87   | 35 x 45         |

# Type 381LQ 105 °C Compact, High Ripple, Snap-In Aluminum

## Higher Capacitance per Case Size

| Cap.<br>(μF)            | Catalog<br>Part Number | ESR Max<br>@ 25 °C      |             | Ripple Amps<br>@ 105 °C |               | Nominal<br>Size |
|-------------------------|------------------------|-------------------------|-------------|-------------------------|---------------|-----------------|
|                         |                        | 120 Hz<br>Ω             | 20 kHz<br>Ω | 120 Hz<br>(A)           | 20 kHz<br>(A) | D x L<br>(mm)   |
|                         |                        | 250 Vdc (300 Vdc Surge) |             |                         |               |                 |
| 270                     | 381LQ271M250H012       | 0.614                   | 0.276       | 1.10                    | 1.54          | 22 x 25         |
| 330                     | 381LQ331M250H022       | 0.502                   | 0.226       | 1.20                    | 1.68          | 22 x 30         |
| 330                     | 381LQ331M250J012       | 0.502                   | 0.226       | 1.20                    | 1.68          | 25 x 25         |
| 390                     | 381LQ391M250H022       | 0.425                   | 0.191       | 1.20                    | 1.70          | 22 x 30         |
| 390                     | 381LQ391M250H032       | 0.425                   | 0.191       | 1.30                    | 1.82          | 22 x 35         |
| 390                     | 381LQ391M250J012       | 0.425                   | 0.191       | 1.30                    | 1.82          | 25 x 25         |
| 470                     | 381LQ471M250H032       | 0.353                   | 0.159       | 1.30                    | 1.82          | 22 x 35         |
| 470                     | 381LQ471M250H042       | 0.353                   | 0.159       | 1.40                    | 1.96          | 22 x 40         |
| 470                     | 381LQ471M250J022       | 0.353                   | 0.159       | 1.40                    | 1.96          | 25 x 30         |
| 470                     | 381LQ471M250K012       | 0.353                   | 0.159       | 1.40                    | 1.96          | 30 x 25         |
| 560                     | 381LQ561M250H042       | 0.296                   | 0.133       | 1.40                    | 1.96          | 22 x 40         |
| 560                     | 381LQ561M250H452       | 0.296                   | 0.133       | 1.50                    | 2.10          | 22 x 45         |
| 560                     | 381LQ561M250J032       | 0.296                   | 0.133       | 1.50                    | 2.10          | 25 x 35         |
| 560                     | 381LQ561M250K012       | 0.296                   | 0.133       | 1.50                    | 2.10          | 30 x 25         |
| 680                     | 381LQ681M250H452       | 0.244                   | 0.110       | 1.50                    | 2.10          | 22 x 45         |
| 680                     | 381LQ681M250H052       | 0.244                   | 0.110       | 1.70                    | 2.38          | 22 x 50         |
| 680                     | 381LQ681M250J042       | 0.244                   | 0.110       | 1.70                    | 2.38          | 25 x 40         |
| 680                     | 381LQ681M250K022       | 0.244                   | 0.110       | 1.70                    | 2.38          | 30 x 30         |
| 680                     | 381LQ681M250A012       | 0.244                   | 0.110       | 1.70                    | 2.38          | 35 x 25         |
| 820                     | 381LQ821M250J452       | 0.202                   | 0.091       | 2.00                    | 2.80          | 25 x 45         |
| 820                     | 381LQ821M250K032       | 0.202                   | 0.091       | 2.00                    | 2.80          | 30 x 35         |
| 820                     | 381LQ821M250A022       | 0.202                   | 0.091       | 2.00                    | 2.80          | 35 x 30         |
| 1000                    | 381LQ102M250J052       | 0.166                   | 0.075       | 2.20                    | 3.08          | 25 x 50         |
| 1000                    | 381LQ102M250K042       | 0.166                   | 0.075       | 2.20                    | 3.08          | 30 x 40         |
| 1000                    | 381LQ102M250A022       | 0.166                   | 0.075       | 2.20                    | 3.08          | 35 x 30         |
| 1200                    | 381LQ122M250K452       | 0.138                   | 0.062       | 2.30                    | 3.22          | 30 x 45         |
| 1200                    | 381LQ122M250A032       | 0.138                   | 0.062       | 2.30                    | 3.22          | 35 x 35         |
| 1500                    | 381LQ152M250A452       | 0.110                   | 0.050       | 2.50                    | 3.50          | 35 x 45         |
| 1800                    | 381LQ182M250A452       | 0.092                   | 0.041       | 2.50                    | 3.50          | 35 x 45         |
| 1800                    | 381LQ182M250A052       | 0.092                   | 0.041       | 2.70                    | 3.78          | 35 x 50         |
| 315 Vdc (365 Vdc Surge) |                        |                         |             |                         |               |                 |
| 150                     | 381LQ151M315H012       | 1.105                   | 0.497       | 0.82                    | 1.15          | 22 x 25         |
| 180                     | 381LQ181M315H022       | 0.921                   | 0.414       | 0.90                    | 1.26          | 22 x 30         |
| 220                     | 381LQ221M315H022       | 0.754                   | 0.339       | 1.00                    | 1.40          | 22 x 30         |
| 270                     | 381LQ271M315J022       | 0.614                   | 0.276       | 1.10                    | 1.54          | 25 x 30         |
| 330                     | 381LQ331M315H452       | 0.502                   | 0.226       | 1.20                    | 1.68          | 22 x 45         |
| 330                     | 381LQ331M315J032       | 0.502                   | 0.226       | 1.20                    | 1.68          | 25 x 35         |
| 330                     | 381LQ331M315K012       | 0.502                   | 0.226       | 1.20                    | 1.68          | 30 x 25         |
| 390                     | 381LQ391M315J042       | 0.425                   | 0.191       | 1.30                    | 1.82          | 25 x 40         |
| 390                     | 381LQ391M315K022       | 0.425                   | 0.191       | 1.30                    | 1.82          | 30 x 30         |
| 390                     | 381LQ391M315A012       | 0.425                   | 0.191       | 1.30                    | 1.82          | 35 x 25         |
| 470                     | 381LQ471M315J452       | 0.353                   | 0.159       | 1.40                    | 1.96          | 25 x 45         |
| 470                     | 381LQ471M315K032       | 0.353                   | 0.159       | 1.40                    | 1.96          | 30 x 35         |

|                         |                  | ESR Max |        | Ripple Amps |        | Nominal |
|-------------------------|------------------|---------|--------|-------------|--------|---------|
|                         |                  | @ 25 °C |        | @ 105 °C    |        | Size    |
| Cap.                    | Catalog          | 120 Hz  | 20 kHz | 120 Hz      | 20 kHz | D x L   |
| (µF)                    | Part Number      | Ω       | Ω      | (A)         | (A)    | (mm)    |
| 560                     | 381LQ561M315J052 | 0.296   | 0.133  | 1.50        | 2.10   | 25 x 50 |
| 560                     | 381LQ561M315K042 | 0.296   | 0.133  | 1.50        | 2.10   | 30 x 40 |
| 560                     | 381LQ561M315A022 | 0.296   | 0.133  | 1.50        | 2.10   | 35 x 30 |
| 680                     | 381LQ681M315K452 | 0.244   | 0.116  | 1.70        | 2.38   | 30 x 45 |
| 680                     | 381LQ681M315A032 | 0.244   | 0.116  | 1.70        | 2.38   | 35 x 35 |
| 820                     | 381LQ821M315K052 | 0.202   | 0.091  | 2.00        | 2.80   | 30 x 50 |
| 820                     | 381LQ821M315A042 | 0.202   | 0.091  | 2.00        | 2.80   | 35 x 40 |
| 1000                    | 381LQ102M315A452 | 0.166   | 0.075  | 2.30        | 3.22   | 35 x 45 |
| 350 Vdc (400 Vdc Surge) |                  |         |        |             |        |         |
| 120                     | 381LQ121M350H012 | 1.382   | 0.622  | 0.75        | 1.05   | 22 x 25 |
| 150                     | 381LQ151M350H022 | 1.105   | 0.497  | 0.82        | 1.15   | 22 x 30 |
| 180                     | 381LQ181M350H022 | 0.921   | 0.414  | 0.90        | 1.26   | 22 x 30 |
| 180                     | 381LQ181M350J012 | 0.921   | 0.414  | 0.90        | 1.26   | 25 x 25 |
| 220                     | 381LQ221M350H032 | 0.754   | 0.339  | 1.00        | 1.40   | 22 x 35 |
| 220                     | 381LQ221M350J022 | 0.754   | 0.339  | 1.00        | 1.40   | 25 x 30 |
| 270                     | 381LQ271M350J032 | 0.614   | 0.276  | 1.10        | 1.54   | 25 x 35 |
| 270                     | 381LQ271M350K012 | 0.614   | 0.276  | 1.10        | 1.54   | 30 x 25 |
| 330                     | 381LQ331M350J042 | 0.502   | 0.226  | 1.20        | 1.68   | 25 x 40 |
| 330                     | 381LQ331M350K022 | 0.502   | 0.226  | 1.20        | 1.68   | 30 x 30 |
| 390                     | 381LQ391M350J452 | 0.425   | 0.191  | 1.30        | 1.82   | 25 x 45 |
| 390                     | 381LQ391M350K032 | 0.425   | 0.191  | 1.30        | 1.82   | 30 x 35 |
| 470                     | 381LQ471M350J052 | 0.353   | 0.159  | 1.40        | 1.96   | 25 x 50 |
| 470                     | 381LQ471M350A022 | 0.353   | 0.159  | 1.40        | 1.96   | 35 x 30 |
| 560                     | 381LQ561M350K452 | 0.296   | 0.133  | 1.50        | 2.10   | 30 x 45 |
| 560                     | 381LQ561M350A032 | 0.296   | 0.133  | 1.50        | 2.10   | 35 x 35 |
| 680                     | 381LQ681M350K052 | 0.244   | 0.110  | 1.70        | 2.38   | 30 x 50 |
| 680                     | 381LQ681M350A042 | 0.244   | 0.110  | 1.70        | 2.38   | 35 x 40 |
| 820                     | 381LQ821M350A452 | 0.202   | 0.091  | 1.90        | 2.66   | 35 x 45 |
| 400 Vdc (450 Vdc Surge) |                  |         |        |             |        |         |
| 100                     | 381LQ101M400H012 | 1.824   | 0.821  | 0.70        | 0.98   | 22 x 25 |
| 120                     | 381LQ121M400H022 | 1.520   | 0.684  | 0.75        | 1.05   | 22 x 30 |
| 150                     | 381LQ151M400H022 | 1.216   | 0.547  | 0.88        | 1.23   | 22 x 30 |
| 180                     | 381LQ181M400H032 | 1.013   | 0.458  | 0.95        | 1.33   | 22 x 35 |
| 180                     | 381LQ181M400J022 | 1.013   | 0.458  | 0.95        | 1.33   | 25 x 30 |
| 220                     | 381LQ221M400H042 | 0.829   | 0.373  | 1.00        | 1.40   | 22 x 45 |
| 220                     | 381LQ221M400H452 | 0.829   | 0.373  | 1.10        | 1.54   | 22 x 45 |
| 220                     | 381LQ221M400J032 | 0.829   | 0.373  | 1.10        | 1.54   | 25 x 35 |
| 220                     | 381LQ221M400K012 | 0.829   | 0.373  | 1.10        | 1.54   | 30 x 25 |
| 270                     | 381LQ271M400H452 | 0.675   | 0.304  | 1.10        | 1.54   | 22 x 45 |
| 270                     | 381LQ271M400H052 | 0.675   | 0.304  | 1.22        | 1.71   | 22 x 50 |
| 270                     | 381LQ271M400J042 | 0.675   | 0.304  | 1.22        | 1.71   | 25 x 40 |
| 270                     | 381LQ271M400K022 | 0.675   | 0.304  | 1.22        | 1.71   | 30 x 30 |
| 270                     | 381LQ271M400A012 | 0.675   | 0.304  | 1.22        | 1.71   | 35 x 25 |
| 330                     | 381LQ331M400J452 | 0.553   | 0.249  | 1.44        | 2.02   | 25 x 45 |



# Type 381LQ 105 °C Compact, High Ripple, Snap-In Aluminum

## Higher Capacitance per Case Size

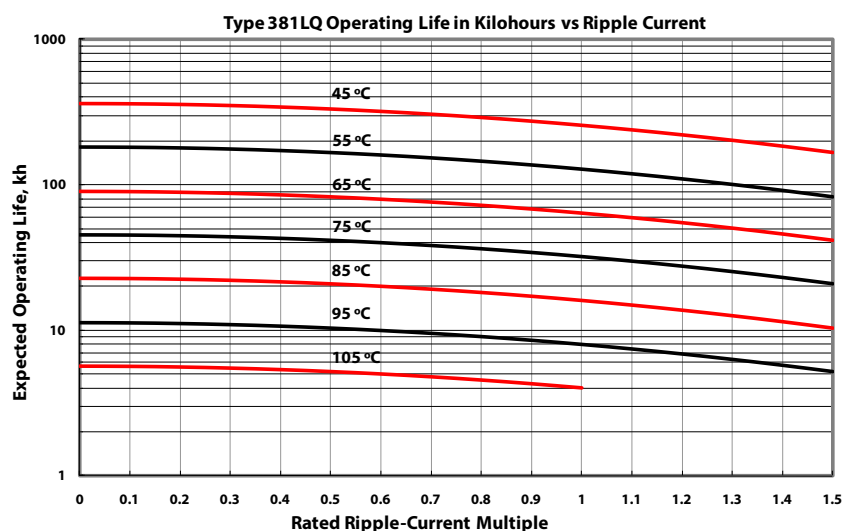
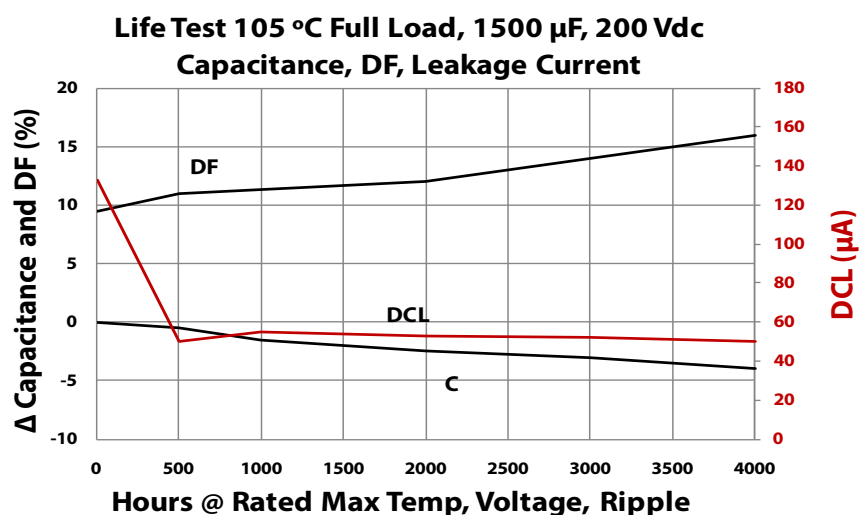
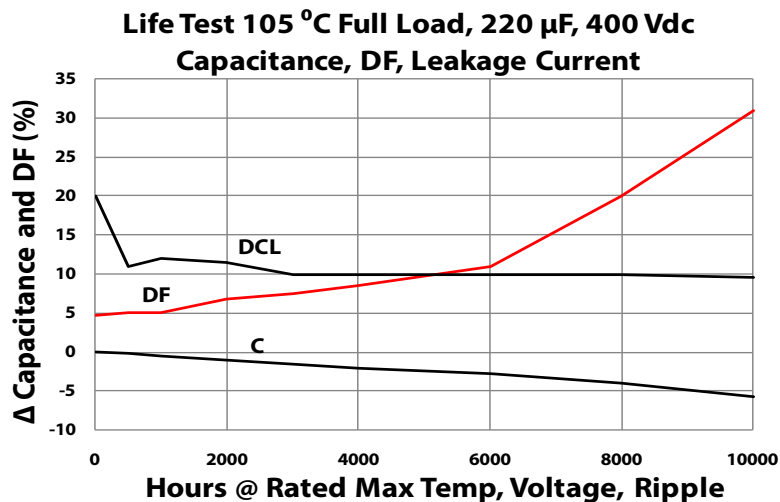
|                         |                  | ESR Max |        | Ripple Amps |        | Nominal |
|-------------------------|------------------|---------|--------|-------------|--------|---------|
|                         |                  | @ 25 °C |        | @ 105 °C    |        | Size    |
| Cap.                    | Catalog          | 120 Hz  | 20 kHz | 120 Hz      | 20 kHz | D x L   |
| (µF)                    | Part Number      | Ω       | Ω      | (A)         | (A)    | (mm)    |
| 400 Vdc (450 Vdc Surge) |                  |         |        |             |        |         |
| 330                     | 381LQ331M400K032 | 0.553   | 0.249  | 1.44        | 2.02   | 30 x 35 |
| 330                     | 381LQ331M400A022 | 0.553   | 0.249  | 1.44        | 2.02   | 35 x 30 |
| 390                     | 381LQ391M400J052 | 0.468   | 0.210  | 1.55        | 2.17   | 25 x 50 |
| 390                     | 381LQ391M400K032 | 0.468   | 0.210  | 1.40        | 1.95   | 30 x 35 |
| 390                     | 381LQ391M400K042 | 0.468   | 0.210  | 1.55        | 2.17   | 30 x 40 |
| 390                     | 381LQ391M400A022 | 0.468   | 0.210  | 1.55        | 2.17   | 35 x 30 |
| 470                     | 381LQ471M400K452 | 0.388   | 0.175  | 1.68        | 2.35   | 30 x 45 |
| 470                     | 381LQ471M400A032 | 0.388   | 0.175  | 1.68        | 2.35   | 35 x 35 |
| 560                     | 381LQ561M400K052 | 0.326   | 0.147  | 1.90        | 2.66   | 30 x 50 |
| 560                     | 381LQ561M400A042 | 0.326   | 0.147  | 1.90        | 2.66   | 35 x 40 |
| 680                     | 381LQ681M400A452 | 0.268   | 0.121  | 2.12        | 2.97   | 35 x 45 |
| 820                     | 381LQ821M400A052 | 0.200   | 0.090  | 2.30        | 3.20   | 35 x 50 |
| 420 Vdc (470 Vdc Surge) |                  |         |        |             |        |         |
| 120                     | 381LQ121M420H022 | 1.520   | 0.684  | 0.75        | 1.05   | 22 x 30 |
| 120                     | 381LQ121M420J012 | 1.520   | 0.684  | 0.75        | 1.05   | 25 x 25 |
| 150                     | 381LQ151M420H032 | 1.220   | 0.550  | 0.85        | 1.20   | 22 x 35 |
| 180                     | 381LQ181M420H042 | 1.100   | 0.460  | 0.90        | 1.30   | 22 x 40 |
| 180                     | 381LQ181M420J022 | 1.100   | 0.460  | 0.90        | 1.30   | 25 x 30 |
| 220                     | 381LQ221M420H452 | 0.830   | 0.370  | 1.05        | 1.50   | 22 x 45 |
| 220                     | 381LQ221M420J032 | 0.830   | 0.370  | 1.05        | 1.50   | 25 x 35 |
| 220                     | 381LQ221M420K012 | 0.830   | 0.370  | 1.05        | 1.50   | 30 x 25 |
| 270                     | 381LQ271M420H052 | 0.675   | 0.305  | 1.20        | 1.70   | 22 x 50 |
| 270                     | 381LQ271M420J042 | 0.675   | 0.305  | 1.20        | 1.70   | 25 x 40 |
| 270                     | 381LQ271M420K022 | 0.675   | 0.305  | 1.20        | 1.70   | 30 x 30 |
| 270                     | 381LQ271M420A012 | 0.675   | 0.305  | 1.20        | 1.70   | 35 x 25 |
| 330                     | 381LQ331M420J052 | 0.550   | 0.250  | 1.40        | 2.00   | 25 x 50 |
| 330                     | 381LQ331M420K032 | 0.550   | 0.250  | 1.40        | 2.00   | 30 x 35 |
| 330                     | 381LQ331M420A032 | 0.550   | 0.250  | 1.40        | 2.00   | 35 x 35 |
| 390                     | 381LQ391M420K042 | 0.470   | 0.210  | 1.55        | 2.15   | 30 x 40 |
| 390                     | 381LQ391M420A032 | 0.470   | 0.210  | 1.55        | 2.15   | 35 x 35 |
| 470                     | 381LQ471M420K452 | 0.390   | 0.175  | 1.70        | 2.40   | 30 x 45 |
| 470                     | 381LQ471M420A032 | 0.390   | 0.175  | 1.70        | 2.40   | 35 x 35 |
| 560                     | 381LQ561M420K052 | 0.330   | 0.150  | 1.90        | 2.65   | 30 x 50 |

|                         |                  | ESR Max |        | Ripple Amps |        | Nominal |
|-------------------------|------------------|---------|--------|-------------|--------|---------|
|                         |                  | @ 25 °C |        | @ 105 °C    |        | Size    |
| Cap.                    | Catalog          | 120 Hz  | 20 kHz | 120 Hz      | 20 kHz | D x L   |
| (µF)                    | Part Number      | Ω       | Ω      | (A)         | (A)    | (mm)    |
| 420 Vdc (470 Vdc Surge) |                  |         |        |             |        |         |
| 560                     | 381LQ561M420A452 | 0.330   | 0.150  | 1.90        | 2.65   | 35 x 45 |
| 680                     | 381LQ681M420A052 | 0.270   | 0.120  | 2.10        | 2.95   | 35 x 50 |
| 450 Vdc (500 Vdc Surge) |                  |         |        |             |        |         |
| 100                     | 381LQ101M450H022 | 1.824   | 0.821  | 0.64        | 0.90   | 22 x 30 |
| 100                     | 381LQ101M450J012 | 1.824   | 0.821  | 0.64        | 0.90   | 25 x 25 |
| 120                     | 381LQ121M450H032 | 1.520   | 0.684  | 0.72        | 1.01   | 22 x 35 |
| 120                     | 381LQ121M450J022 | 1.520   | 0.684  | 0.72        | 1.01   | 25 x 30 |
| 150                     | 381LQ151M450H042 | 1.216   | 0.547  | 0.79        | 1.11   | 22 x 40 |
| 150                     | 381LQ151M450J022 | 1.216   | 0.547  | 0.79        | 1.11   | 25 x 30 |
| 150                     | 381LQ151M450K012 | 1.216   | 0.547  | 0.79        | 1.11   | 30 x 25 |
| 180                     | 381LQ181M450H452 | 1.013   | 0.456  | 0.87        | 1.22   | 22 x 45 |
| 180                     | 381LQ181M450J032 | 1.013   | 0.456  | 0.80        | 1.10   | 25 x 35 |
| 180                     | 381LQ181M450J042 | 1.013   | 0.456  | 0.87        | 1.22   | 25 x 40 |
| 180                     | 381LQ181M450K022 | 1.013   | 0.456  | 0.87        | 1.22   | 30 x 30 |
| 220                     | 381LQ221M450H052 | 0.829   | 0.373  | 0.90        | 1.25   | 22 x 50 |
| 220                     | 381LQ221M450J452 | 0.829   | 0.373  | 1.00        | 1.40   | 25 x 45 |
| 220                     | 381LQ221M450K022 | 0.829   | 0.373  | 1.00        | 1.40   | 30 x 30 |
| 220                     | 381LQ221M450A012 | 0.829   | 0.373  | 1.00        | 1.40   | 35 x 25 |
| 270                     | 381LQ271M450J052 | 0.675   | 0.304  | 1.19        | 1.67   | 25 x 50 |
| 270                     | 381LQ271M450K032 | 0.675   | 0.304  | 1.10        | 1.50   | 30 x 35 |
| 270                     | 381LQ271M450K042 | 0.675   | 0.304  | 1.19        | 1.67   | 30 x 40 |
| 270                     | 381LQ271M450A022 | 0.675   | 0.304  | 1.19        | 1.67   | 35 x 30 |
| 330                     | 381LQ331M450K042 | 0.553   | 0.249  | 1.25        | 1.75   | 30 x 40 |
| 330                     | 381LQ331M450K452 | 0.553   | 0.249  | 1.38        | 1.93   | 30 x 45 |
| 330                     | 381LQ331M450A032 | 0.553   | 0.249  | 1.38        | 1.93   | 35 x 35 |
| 390                     | 381LQ391M450K452 | 0.468   | 0.210  | 1.40        | 1.95   | 30 x 45 |
| 390                     | 381LQ391M450A042 | 0.468   | 0.210  | 1.55        | 2.17   | 35 x 40 |
| 470                     | 381LQ471M450A452 | 0.388   | 0.175  | 1.74        | 2.44   | 35 x 45 |
| 560                     | 381LQ561M450A052 | 0.326   | 0.147  | 1.90        | 2.66   | 35 x 50 |
| 390                     | 381LQ391M450K052 | 0.680   | 0.210  | 1.55        | 2.17   | 30 x 50 |
| 390                     | 381LQ391M450A042 | 0.468   | 0.210  | 1.55        | 2.17   | 35 x 40 |
| 470                     | 381LQ471M450A452 | 0.388   | 0.175  | 1.74        | 2.44   | 35 x 45 |
| 560                     | 381LQ561M450A052 | 0.326   | 0.147  | 1.90        | 2.66   | 35 x 50 |

# Type 381LQ 105 °C Compact, High Ripple, Snap-In Aluminum

Higher Capacitance per Case Size

## Typical Performance Curves





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