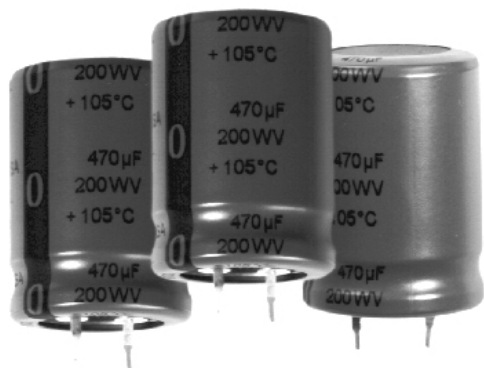


# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

## 27% Smaller for Same Capacitance



Type 380LQ is on average 27% smaller and more than 10 mm shorter than Type 380LX. This is achieved with a new can-closure method that permits installing capacitor elements into smaller cans. Approaching the capability of the 380LX, the new 380LQ enables you to shrink equipment size and retain the original performance.

### Highlights

- New, more capacitance per case
- Compare to Type 380LX
- New, lower voltages down to 16 V

## Specifications

### Operating Temperature:

–40 °C to + 85 °C ≤ 315 Vdc

–25 °C to + 85 °C ≥ 350 Vdc

### Rated Voltage:

16 to 450 Vdc

### Capacitance:

82 µF to 100000 µF ± 20%

### Leakage Current:

≤ 3  $\sqrt{CV}$  µA, 4 mA max, 5 minutes

### Ripple Current Multipliers:

#### Ambient Temperature

| 45 °C | 60 °C | 70 °C | 85 °C |
|-------|-------|-------|-------|
| 1.50  | 1.46  | 1.30  | 1.00  |

### Frequency

| Freq. Hz  | 50 Hz | 60 Hz | 120 Hz | 500 Hz | 1 kHz | 10 kHz |
|-----------|-------|-------|--------|--------|-------|--------|
| 16-100WV  | 0.93  | 0.95  | 1.00   | 1.05   | 1.08  | 1.15   |
| 160-450WV | 0.75  | 0.80  | 1.00   | 1.20   | 1.25  | 1.40   |

### Load LifeTest:

2000 h at full load at 85 °C

Δ Capacitance ± 20%

ESR 200% of limit

DCL 100% of limit

### EIA Ripple Life:

2000 h at 85 °C, full load per EIA IS-749 °C

Δ Capacitance –20%

ESR 200% of limit

DCL 100% of limit

### Shelf Life:

1000 h at 85 °C

Δ Capacitance ± 10%

ESR 200% of limit

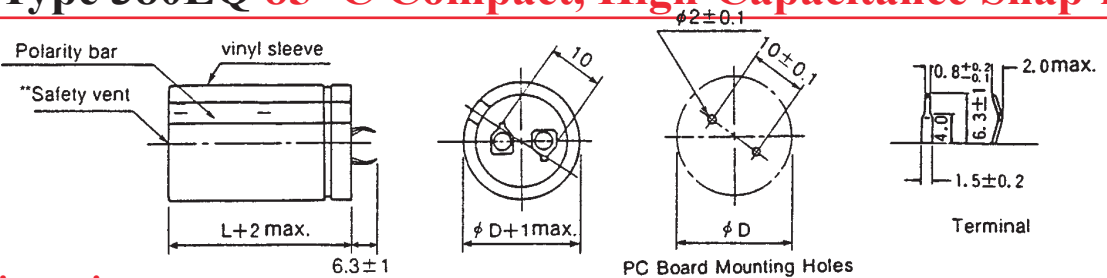
DCL 100% of limit

### Vibration:

10 to 55 Hz, 0.06" and 10 g max, 2 h each plane

# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

## Outline Drawing



## Insulated Case Dimensions

| Case Code | DIAMETER D |        | LENGTH L |        | Typical Weight (grams) | Case Code | DIAMETER D |        | LENGTH L |        | Typical Weight (grams) |
|-----------|------------|--------|----------|--------|------------------------|-----------|------------|--------|----------|--------|------------------------|
|           | mm         | inches | mm       | inches |                        |           | mm         | inches | mm       | inches |                        |
| H01       | 22         | 0.87   | 25       | 0.98   | 16                     | K01       | 30         | 1.18   | 25       | 0.98   | 30                     |
| H02       | 22         | 0.87   | 30       | 1.18   | 19                     | K02       | 30         | 1.18   | 30       | 1.18   | 35                     |
| H03       | 22         | 0.87   | 35       | 1.38   | 22                     | K03       | 30         | 1.18   | 35       | 1.38   | 40                     |
| H04       | 22         | 0.87   | 40       | 1.57   | 24                     | K04       | 30         | 1.18   | 40       | 1.57   | 44                     |
| H45       | 22         | 0.87   | 45       | 1.77   | 28                     | K45       | 30         | 1.18   | 45       | 1.77   | 49                     |
| H05       | 22         | 0.87   | 50       | 1.97   | 31                     | K05       | 30         | 1.18   | 50       | 1.97   | 53                     |
| J01       | 25         | 0.98   | 25       | 0.98   | 20                     | A01       | 35         | 1.38   | 25       | 0.98   | 42                     |
| J02       | 25         | 0.98   | 30       | 1.18   | 24                     | A02       | 35         | 1.38   | 30       | 1.18   | 48                     |
| J03       | 25         | 0.98   | 35       | 1.38   | 27                     | A03       | 35         | 1.38   | 35       | 1.38   | 54                     |
| J04       | 25         | 0.98   | 40       | 1.57   | 31                     | A04       | 35         | 1.38   | 40       | 1.57   | 60                     |
| J45       | 25         | 0.98   | 45       | 1.77   | 35                     | A45       | 35         | 1.38   | 45       | 1.77   | 67                     |
| J05       | 25         | 0.98   | 50       | 1.97   | 38                     | A05       | 35         | 1.38   | 50       | 1.97   | 74                     |

## Part Numbering System

**380LQ**

**Type**

**561**

**Capacitance**

561 = 560  $\mu$ F  
392 = 3900  $\mu$ F

**M**

**Tolerance**

M =  $\pm 20\%$

**160**

**Rated Voltage**

16 = 016  
450 = 450 V

**H01**

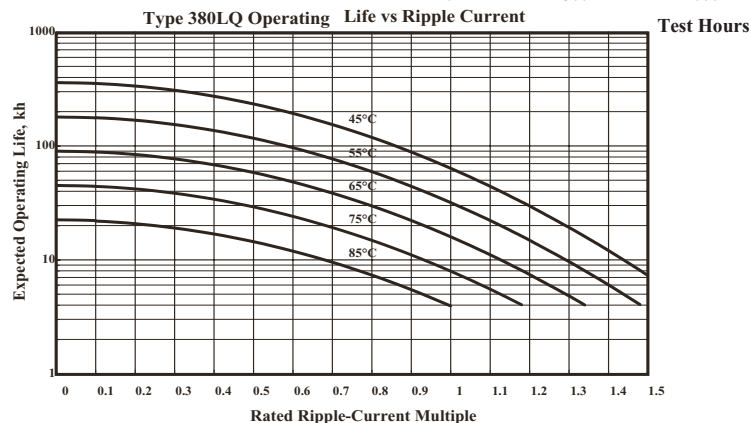
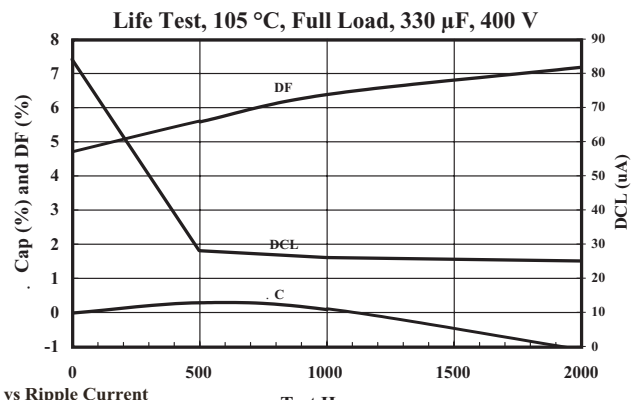
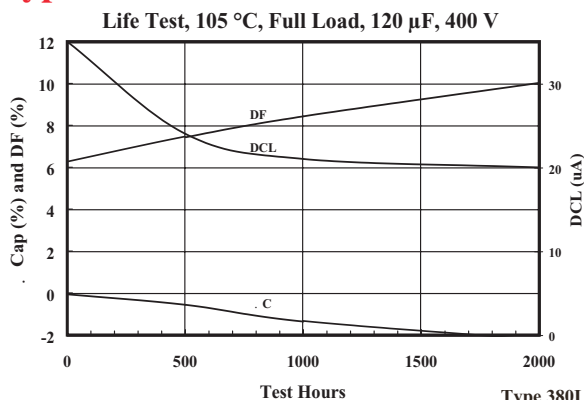
**Case Code**

**2**

**Insulation**

2=PVC

## Typical Performance Curves



# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

## Ratings

| Cap.<br>(μF)                 | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °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)   |
| <b>16 Vdc (20 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 12000                        | 380LQ123M016H012       | 0.069              | 0.059         | 4.52                   | 5.20          | 22 x 25         |
| 15000                        | 380LQ153M016H022       | 0.055              | 0.047         | 5.26                   | 6.05          | 22 x 30         |
| 18000                        | 380LQ183M016H032       | 0.046              | 0.039         | 5.57                   | 6.41          | 22 x 35         |
| 18000                        | 380LQ183M016J012       | 0.046              | 0.039         | 5.57                   | 6.41          | 25 x 25         |
| 22000                        | 380LQ223M016H042       | 0.038              | 0.032         | 6.10                   | 7.02          | 22 x 40         |
| 22000                        | 380LQ223M016J022       | 0.038              | 0.032         | 6.10                   | 7.02          | 25 x 30         |
| 27000                        | 380LQ273M016H452       | 0.031              | 0.026         | 6.31                   | 7.26          | 22 x 45         |
| 27000                        | 380LQ273M016J032       | 0.031              | 0.026         | 6.31                   | 7.26          | 25 x 25         |
| 27000                        | 380LQ273M016K012       | 0.031              | 0.026         | 6.31                   | 7.26          | 30 x 25         |
| 33000                        | 380LQ333M016H052       | 0.025              | 0.021         | 6.84                   | 7.87          | 22 x 50         |
| 33000                        | 380LQ333M016J042       | 0.025              | 0.021         | 6.84                   | 7.87          | 25 x 40         |
| 33000                        | 380LQ333M016K022       | 0.025              | 0.021         | 6.84                   | 7.87          | 30 x 30         |
| 33000                        | 380LQ333M016A012       | 0.025              | 0.021         | 6.84                   | 7.87          | 35 x 25         |
| 39000                        | 380LQ393M016J452       | 0.024              | 0.020         | 6.94                   | 7.98          | 25 x 45         |
| 39000                        | 380LQ393M016K032       | 0.024              | 0.020         | 6.94                   | 7.98          | 30 x 35         |
| 47000                        | 380LQ473M016J052       | 0.023              | 0.019         | 7.47                   | 8.59          | 25 x 50         |
| 47000                        | 380LQ473M016K042       | 0.023              | 0.019         | 7.47                   | 8.59          | 30 x 40         |
| 47000                        | 380LQ473M016A022       | 0.023              | 0.019         | 7.47                   | 8.59          | 35 x 30         |
| 56000                        | 380LQ563M016K452       | 0.022              | 0.019         | 8.73                   | 10.04         | 30 x 45         |
| 56000                        | 380LQ563M016A032       | 0.022              | 0.018         | 8.73                   | 10.04         | 35 x 35         |
| 68000                        | 380LQ683M016K052       | 0.021              | 0.018         | 9.05                   | 10.41         | 30 x 50         |
| 68000                        | 380LQ683M016A042       | 0.021              | 0.018         | 9.05                   | 10.41         | 35 x 40         |
| 82000                        | 380LQ823M016A452       | 0.020              | 0.018         | 9.49                   | 10.91         | 35 x 45         |
| 100000                       | 380LQ104M016A052       | 0.019              | 0.018         | 10.18                  | 11.71         | 35 x 50         |
| <b>25 Vdc (32 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 8200                         | 380LQ822M025H012       | 0.081              | 0.065         | 3.57                   | 4.11          | 22 x 25         |
| 12000                        | 380LQ123M025H022       | 0.055              | 0.044         | 4.10                   | 4.72          | 22 x 30         |
| 12000                        | 380LQ123M025J012       | 0.055              | 0.044         | 4.10                   | 4.72          | 25 x 25         |
| 15000                        | 380LQ153M025H032       | 0.044              | 0.035         | 4.63                   | 5.32          | 22 x 35         |
| 15000                        | 380LQ153M025J022       | 0.044              | 0.035         | 4.63                   | 5.32          | 25 x 30         |
| 18000                        | 380LQ183M025H042       | 0.037              | 0.029         | 5.47                   | 6.29          | 22 x 40         |
| 18000                        | 380LQ183M025J032       | 0.037              | 0.029         | 5.47                   | 6.29          | 25 x 35         |
| 18000                        | 380LQ183M025K012       | 0.037              | 0.029         | 5.47                   | 6.29          | 30 x 25         |
| 22000                        | 380LQ223M025H452       | 0.030              | 0.024         | 6.10                   | 7.02          | 22 x 45         |
| 22000                        | 380LQ223M025J042       | 0.030              | 0.024         | 6.10                   | 7.02          | 25 x 40         |
| 22000                        | 380LQ223M025K022       | 0.030              | 0.024         | 6.10                   | 7.02          | 30 x 30         |
| 22000                        | 380LQ223M025A012       | 0.030              | 0.024         | 6.10                   | 7.02          | 35 x 25         |
| 27000                        | 380LQ273M025J452       | 0.025              | 0.020         | 6.21                   | 7.14          | 25 x 45         |
| 27000                        | 380LQ273M025K032       | 0.025              | 0.020         | 6.21                   | 7.14          | 30 x 35         |
| 33000                        | 380LQ333M025J052       | 0.020              | 0.016         | 6.84                   | 7.87          | 25 x 50         |
| 33000                        | 380LQ333M025K042       | 0.020              | 0.016         | 6.84                   | 7.87          | 30 x 40         |
| 33000                        | 380LQ333M025A022       | 0.020              | 0.016         | 6.84                   | 7.87          | 35 x 30         |
| 39000                        | 380LQ393M025K452       | 0.020              | 0.016         | 7.36                   | 8.46          | 30 x 45         |
| 39000                        | 380LQ393M025A032       | 0.020              | 0.016         | 7.36                   | 8.46          | 35 x 35         |
| 47000                        | 380LQ473M025K052       | 0.019              | 0.016         | 8.00                   | 9.20          | 30 x 50         |
| <b>35 Vdc (44 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 47000                        | 380LQ473M025A042       | 0.019              | 0.015         | 8.00                   | 9.20          | 35 x 40         |
| 56000                        | 380LQ563M025A452       | 0.019              | 0.016         | 8.91                   | 10.25         | 35 x 45         |
| 68000                        | 380LQ683M025A052       | 0.018              | 0.016         | 9.79                   | 11.26         | 35 x 50         |
| <b>50 Vdc (63 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 3300                         | 380LQ332M050H012       | 0.151              | 0.113         | 2.73                   | 3.14          | 22 x 25         |
| 4700                         | 380LQ472M050H022       | 0.106              | 0.079         | 3.03                   | 3.48          | 22 x 30         |
| 4700                         | 380LQ472M050J012       | 0.106              | 0.079         | 3.03                   | 3.48          | 25 x 25         |
| 5600                         | 380LQ562M050H032       | 0.089              | 0.067         | 3.42                   | 3.93          | 22 x 35         |
| 6800                         | 380LQ682M050H042       | 0.073              | 0.055         | 3.85                   | 4.43          | 22 x 40         |
| 6800                         | 380LQ682M050J022       | 0.073              | 0.055         | 3.85                   | 4.43          | 25 x 30         |
| 6800                         | 380LQ682M050K012       | 0.073              | 0.055         | 3.85                   | 4.43          | 30 x 25         |
| 8200                         | 380LQ822M050H452       | 0.061              | 0.045         | 4.41                   | 5.07          | 22 x 45         |
| 8200                         | 380LQ822M050J032       | 0.061              | 0.045         | 4.41                   | 5.07          | 25 x 35         |
| 10000                        | 380LQ103M050H052       | 0.05               | 0.037         | 4.97                   | 5.72          | 22 x 50         |
| 10000                        | 380LQ103M050J042       | 0.05               | 0.037         | 4.97                   | 5.72          | 25 x 40         |
| 10000                        | 380LQ103M050K022       | 0.05               | 0.037         | 4.97                   | 5.72          | 30 x 30         |
| 10000                        | 380LQ103M050A012       | 0.05               | 0.037         | 4.97                   | 5.72          | 35 x 25         |
| 12000                        | 380LQ123M050J452       | 0.041              | 0.031         | 5.58                   | 6.42          | 25 x 45         |
| 12000                        | 380LQ123M050K032       | 0.041              | 0.031         | 5.58                   | 6.42          | 30 x 35         |
| 12000                        | 380LQ123M050A022       | 0.041              | 0.031         | 5.58                   | 6.42          | 35 x 30         |
| 15000                        | 380LQ153M050K042       | 0.033              | 0.025         | 6.44                   | 7.41          | 30 x 40         |
| 15000                        | 380LQ153M050A032       | 0.033              | 0.025         | 6.44                   | 7.41          | 35 x 35         |
| 18000                        | 380LQ183M050K452       | 0.028              | 0.021         | 6.94                   | 7.98          | 30 x 45         |

# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

| Cap.<br>(µF)                  | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °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)   |
| 27000                         | 380LQ273M050A052       | 0.018              | 0.015         | 8.96                   | 10.30         | 35 x 50         |
| <b>63 Vdc (79 Vdc Surge)</b>  |                        |                    |               |                        |               |                 |
| 2200                          | 380LQ222M063H012       | 0.188              | 0.141         | 2.52                   | 2.90          | 22 x 25         |
| 3300                          | 380LQ332M063H022       | 0.126              | 0.094         | 4.10                   | 4.72          | 22 x 30         |
| 3300                          | 380LQ332M063J012       | 0.126              | 0.094         | 4.10                   | 4.72          | 25 x 25         |
| 3900                          | 380LQ392M063H032       | 0.106              | 0.080         | 4.44                   | 5.11          | 22 x 35         |
| 3900                          | 380LQ392M063J022       | 0.106              | 0.080         | 4.44                   | 5.11          | 25 x 30         |
| 4700                          | 380LQ472M063H042       | 0.088              | 0.066         | 4.86                   | 5.59          | 22 x 40         |
| 5600                          | 380LQ562M063H452       | 0.074              | 0.056         | 5.36                   | 6.16          | 22 x 45         |
| 5600                          | 380LQ562M063J042       | 0.074              | 0.056         | 5.36                   | 6.16          | 25 x 40         |
| 6800                          | 380LQ682M063J452       | 0.061              | 0.046         | 5.84                   | 6.72          | 25 x 45         |
| 6800                          | 380LQ682M063K012       | 0.061              | 0.046         | 5.84                   | 6.72          | 30 x 30         |
| 6800                          | 380LQ682M063A012       | 0.061              | 0.046         | 5.84                   | 6.72          | 35 x 25         |
| 8200                          | 380LQ822M063J052       | 0.051              | 0.038         | 6.00                   | 6.90          | 25 x 50         |
| 8200                          | 380LQ822M063K032       | 0.051              | 0.038         | 6.00                   | 6.90          | 30 x 35         |
| 8200                          | 380LQ822M063A022       | 0.051              | 0.038         | 6.00                   | 6.90          | 35 x 30         |
| 10000                         | 380LQ103M063K042       | 0.041              | 0.031         | 6.52                   | 7.50          | 30 x 40         |
| 10000                         | 380LQ103M063A032       | 0.041              | 0.031         | 6.52                   | 7.50          | 35 x 35         |
| 12000                         | 380LQ123M063K452       | 0.035              | 0.026         | 7.15                   | 8.22          | 30 x 45         |
| 12000                         | 380LQ123M063A042       | 0.035              | 0.026         | 7.15                   | 8.22          | 35 x 40         |
| 15000                         | 380LQ153M063A452       | 0.028              | 0.021         | 7.91                   | 9.10          | 35 x 45         |
| 18000                         | 380LQ183M063A052       | 0.023              | 0.018         | 8.55                   | 9.83          | 35 x 50         |
| 18000                         | 380LQ183M063A052       | 0.023              | 0.018         | 8.55                   | 9.83          | 35 x 50         |
| <b>80 Vdc (100 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 1500                          | 380LQ152M080H012       | 0.221              | 0.166         | 2.26                   | 2.60          | 22 x 25         |
| 1800                          | 380LQ182M080H022       | 0.184              | 0.138         | 2.52                   | 2.90          | 22 x 30         |
| 2200                          | 380LQ222M080H032       | 0.151              | 0.113         | 2.73                   | 3.14          | 22 x 35         |
| 2200                          | 380LQ222M080J012       | 0.151              | 0.113         | 2.73                   | 3.14          | 25 x 25         |
| 2700                          | 380LQ272M080H042       | 0.123              | 0.092         | 2.78                   | 3.20          | 22 x 40         |
| 2700                          | 380LQ272M080J022       | 0.123              | 0.092         | 2.78                   | 3.20          | 25 x 30         |
| 3300                          | 380LQ332M080H452       | 0.100              | 0.075         | 3.21                   | 3.69          | 22 x 45         |
| 3300                          | 380LQ332M080J032       | 0.100              | 0.075         | 3.21                   | 3.69          | 25 x 35         |
| 3300                          | 380LQ332M080K012       | 0.100              | 0.075         | 3.21                   | 3.69          | 30 x 25         |
| 3900                          | 380LQ392M080H052       | 0.085              | 0.064         | 3.59                   | 4.13          | 22 x 50         |
| 3900                          | 380LQ392M080J042       | 0.085              | 0.064         | 3.59                   | 4.13          | 25 x 40         |
| 3900                          | 380LQ392M080A012       | 0.085              | 0.064         | 3.59                   | 4.13          | 35 x 25         |
| 4700                          | 380LQ472M080H452       | 0.071              | 0.053         | 4.09                   | 4.70          | 25 x 45         |
| 4700                          | 380LQ472M080K022       | 0.071              | 0.053         | 4.09                   | 4.70          | 30 x 30         |
| 5600                          | 380LQ562M080J052       | 0.059              | 0.044         | 4.55                   | 5.23          | 25 x 50         |
| 5600                          | 380LQ562M080K032       | 0.059              | 0.044         | 4.55                   | 5.23          | 30 x 35         |
| 5600                          | 380LQ562M080A022       | 0.059              | 0.044         | 4.55                   | 5.23          | 35 x 30         |
| 6800                          | 380LQ682M080K452       | 0.049              | 0.037         | 5.16                   | 5.93          | 30 x 45         |
| 6800                          | 380LQ682M080A032       | 0.049              | 0.037         | 5.16                   | 5.93          | 35 x 35         |
| 8200                          | 380LQ822M080K052       | 0.040              | 0.030         | 5.83                   | 6.70          | 30 x 50         |
| 8200                          | 380LQ822M080A042       | 0.040              | 0.030         | 5.83                   | 6.70          | 35 x 40         |

| Cap.<br>(µF)                   | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °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)   |
| <b>100 Vdc (125 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 1000                           | 380LQ102M100H012       | 0.332              | 0.216         | 1.96                   | 2.25          | 22 x 25         |
| 1200                           | 380LQ122M100J012       | 0.276              | 0.180         | 2.31                   | 2.66          | 25 x 25         |
| 1500                           | 380LQ152M100H022       | 0.221              | 0.144         | 2.57                   | 2.96          | 22 x 30         |
| 1800                           | 380LQ182M100H032       | 0.184              | 0.120         | 2.84                   | 3.27          | 22 x 35         |
| 1800                           | 380LQ182M100J022       | 0.184              | 0.120         | 2.84                   | 3.27          | 25 x 30         |
| 2200                           | 380LQ222M100H452       | 0.151              | 0.098         | 3.14                   | 3.61          | 22 x 45         |
| 2200                           | 380LQ222M100J032       | 0.151              | 0.098         | 3.14                   | 3.61          | 25 x 35         |
| 2200                           | 380LQ222M100K012       | 0.151              | 0.098         | 3.14                   | 3.61          | 30 x 25         |
| 2700                           | 380LQ272M100H052       | 0.123              | 0.080         | 3.71                   | 4.27          | 22 x 50         |
| 2700                           | 380LQ272M100J042       | 0.123              | 0.080         | 3.71                   | 4.27          | 25 x 40         |
| 2700                           | 380LQ272M100K022       | 0.123              | 0.080         | 3.71                   | 4.27          | 30 x 30         |
| 2700                           | 380LQ272M100A012       | 0.123              | 0.080         | 3.71                   | 4.27          | 35 x 25         |
| 3300                           | 380LQ332M100J452       | 0.100              | 0.065         | 4.06                   | 4.67          | 25 x 45         |
| 3300                           | 380LQ332M100K032       | 0.100              | 0.065         | 4.06                   | 4.67          | 30 x 35         |
| 3900                           | 380LQ392M100J052       | 0.085              | 0.055         | 4.54                   | 5.22          | 25 x 50         |
| 3900                           | 380LQ392M100K042       | 0.085              | 0.055         | 4.54                   | 5.22          | 30 x 40         |
| 3900                           | 380LQ392M100A022       | 0.085              | 0.055         | 4.54                   | 5.22          | 35 x 30         |
| 4700                           | 380LQ472M100K452       | 0.071              | 0.046         | 5.13                   | 5.90          | 30 x 45         |
| 4700                           | 380LQ472M100A032       | 0.071              | 0.046         | 5.13                   | 5.90          | 35 x 35         |
| 5600                           | 380LQ562M100K052       | 0.059              | 0.041         | 5.75                   | 6.61          | 30 x 50         |
| 5600                           | 380LQ562M100A042       | 0.059              | 0.038         | 5.75                   | 6.61          | 35 x 40         |
| 6800                           | 380LQ682M100A452       | 0.049              | 0.034         | 6.60                   | 7.59          | 35 x 45         |
| 8200                           | 380LQ822M100A052       | 0.040              | 0.030         | 7.29                   | 8.38          | 35 x 50         |
| <b>160 Vdc (200 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 560                            | 380LQ561M160H012       | 0.355              | 0.160         | 2.25                   | 3.15          | 22 x 25         |
| 680                            | 380LQ681M160H022       | 0.293              | 0.132         | 2.50                   | 3.50          | 22 x 30         |
| 820                            | 380LQ821M160H032       | 0.243              | 0.109         | 2.75                   | 3.85          | 22 x 35         |
| 1000                           | 380LQ102M160H042       | 0.199              | 0.090         | 3.00                   | 4.20          | 22 x 40         |
| 1000                           | 380LQ102M160J022       | 0.199              | 0.090         | 3.00                   | 4.20          | 25 x 30         |
| 1200                           | 380LQ122M160H452       | 0.166              | 0.075         | 3.25                   | 4.55          | 22 x 45         |
| 1200                           | 380LQ122M160J032       | 0.166              | 0.075         | 3.25                   | 4.55          | 25 x 35         |
| 1200                           | 380LQ122M160K012       | 0.166              | 0.075         | 3.25                   | 4.55          | 30 x 25         |
| 1500                           | 380LQ152M160H052       | 0.133              | 0.060         | 3.73                   | 5.22          | 22 x 50         |
| 1500                           | 380LQ152M160J042       | 0.133              | 0.060         | 3.73                   | 5.22          | 25 x 40         |
| 1500                           | 380LQ152M160K022       | 0.133              | 0.060         | 3.73                   | 5.22          | 30 x 30         |
| 1500                           | 380LQ152M160A012       | 0.133              | 0.060         | 3.73                   | 5.22          | 35 x 25         |
| 1800                           | 380LQ182M160J452       | 0.111              | 0.050         | 4.20                   | 5.88          | 25 x 45         |
| 1800                           | 380LQ182M160K032       | 0.120              | 0.054         | 4.20                   | 5.88          | 30 x 35         |
| 1800                           | 380LQ182M160A022       | 0.111              | 0.050         | 4.20                   | 5.88          | 35 x 30         |
| 2200                           | 380LQ222M160K042       | 0.090              | 0.041         | 4.78                   | 6.69          | 30 x 40         |
| 2200                           | 380LQ222M160A032       | 0.098              | 0.049         | 4.78                   | 6.69          | 35 x 35         |
| 2700                           | 380LQ272M160K452       | 0.074              | 0.033         | 5.45                   | 7.63          | 30 x 45         |
| 2700                           | 380LQ272M160A042       | 0.080              | 0.040         | 5.45                   | 7.63          | 35 x 40         |
| 3300                           | 380LQ332M160A452       | 0.070              | 0.035         | 5.75                   | 8.05          | 35 x 45         |

# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

| Cap.<br>(µF)                   | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °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)   |
| 3900                           | 380LQ392M160A052       | 0.055              | 0.028         | 6.00                   | 8.40          | 35 x 50         |
| <b>180 Vdc (225 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 470                            | 380LQ471M180H012       | 0.423              | 0.190         | 2.08                   | 2.91          | 22 x 25         |
| 560                            | 380LQ561M180H022       | 0.355              | 0.160         | 2.25                   | 3.15          | 22 x 30         |
| 680                            | 380LQ681M180H022       | 0.293              | 0.132         | 2.50                   | 3.50          | 22 x 30         |
| 680                            | 380LQ681M180J012       | 0.293              | 0.132         | 2.50                   | 3.50          | 25 x 25         |
| 820                            | 380LQ821M180H032       | 0.243              | 0.109         | 2.75                   | 3.85          | 22 x 35         |
| 820                            | 380LQ821M180J022       | 0.243              | 0.109         | 2.75                   | 3.85          | 25 x 30         |
| 1000                           | 380LQ102M180H452       | 0.199              | 0.090         | 3.00                   | 4.20          | 22 x 45         |
| 1000                           | 380LQ102M180J032       | 0.199              | 0.090         | 3.00                   | 4.20          | 25 x 35         |
| 1500                           | 380LQ152M200A022       | 0.144              | 0.065         | 3.87                   | 5.42          | 35 X 30         |
| 1800                           | 380LQ182M200K452       | 0.160              | 0.080         | 4.32                   | 6.05          | 30 X 45         |
| 1800                           | 380LQ182M200A032       | 0.120              | 0.060         | 4.32                   | 6.05          | 35 X 35         |
| 2200                           | 380LQ222M200K052       | 0.098              | 0.049         | 4.92                   | 6.89          | 30 X 50         |
| 2200                           | 380LQ222M200A042       | 0.105              | 0.053         | 4.92                   | 6.89          | 35 X 40         |
| 2700                           | 380LQ272M200A052       | 0.086              | 0.043         | 5.45                   | 7.63          | 35 X 50         |
| 3300                           | 380LQ332M180A052       | 0.080              | 0.040         | 5.75                   | 8.05          | 35 X 50         |
| <b>200 Vdc (250 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 390                            | 380LQ391M200H012       | 0.510              | 0.230         | 1.68                   | 2.35          | 22 X 25         |
| 470                            | 380LQ471M200H022       | 0.423              | 0.190         | 1.85                   | 2.59          | 22 X 30         |
| 560                            | 380LQ561M200H022       | 0.355              | 0.160         | 2.43                   | 3.40          | 22 X 30         |
| 560                            | 380LQ561M200J012       | 0.355              | 0.160         | 2.43                   | 3.40          | 25 X 25         |
| 680                            | 380LQ681M200H032       | 0.293              | 0.132         | 2.68                   | 3.75          | 22 X 35         |
| 680                            | 380LQ681M200J022       | 0.293              | 0.132         | 2.68                   | 3.75          | 25 X 30         |
| 820                            | 380LQ821M200H042       | 0.243              | 0.109         | 2.93                   | 4.10          | 22 X 40         |
| 820                            | 380LQ821M200J022       | 0.243              | 0.109         | 2.93                   | 4.10          | 25 X 30         |
| 820                            | 380LQ821M200K012       | 0.243              | 0.109         | 2.93                   | 4.10          | 30 X 25         |
| 1000                           | 380LQ102M200H452       | 0.199              | 0.090         | 3.25                   | 4.55          | 22 X 45         |
| 1000                           | 380LQ102M200J032       | 0.199              | 0.090         | 3.25                   | 4.55          | 25 X 35         |
| 1000                           | 380LQ102M200K022       | 0.199              | 0.090         | 3.25                   | 4.55          | 30 X 30         |
| 1000                           | 380LQ102M200A012       | 0.232              | 0.116         | 3.25                   | 4.55          | 35 X 25         |
| 1200                           | 380LQ122M200H052       | 0.166              | 0.075         | 3.50                   | 4.90          | 22 X 50         |
| 1200                           | 380LQ122M200J042       | 0.166              | 0.075         | 3.50                   | 4.90          | 25 X 40         |
| 1200                           | 380LQ122M200K022       | 0.166              | 0.075         | 3.50                   | 4.90          | 30 X 30         |
| 1500                           | 380LQ152M200J052       | 0.133              | 0.060         | 3.87                   | 5.42          | 25 X 50         |
| 1500                           | 380LQ152M200K032       | 0.144              | 0.065         | 3.87                   | 5.42          | 30 X 35         |
| <b>250 Vdc (300 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 270                            | 380LQ271M250H012       | 0.737              | 0.332         | 1.31                   | 1.83          | 22 X 25         |
| 330                            | 380LQ331M250H022       | 0.603              | 0.271         | 1.75                   | 2.45          | 22 X 30         |
| 390                            | 380LQ391M250H022       | 0.510              | 0.230         | 1.91                   | 2.67          | 22 X 30         |
| 390                            | 380LQ391M250J012       | 0.510              | 0.230         | 1.91                   | 2.67          | 25 X 25         |
| 470                            | 380LQ471M250H032       | 0.423              | 0.190         | 2.11                   | 2.95          | 22 X 35         |
| 470                            | 380LQ471M250J022       | 0.423              | 0.190         | 2.11                   | 2.95          | 25 X 30         |
| 560                            | 380LQ561M250H042       | 0.355              | 0.160         | 2.25                   | 3.15          | 22 X 40         |
| 560                            | 380LQ561M250J022       | 0.355              | 0.160         | 2.25                   | 3.15          | 25 X 30         |
| 560                            | 380LQ561M250K012       | 0.355              | 0.160         | 2.25                   | 3.15          | 30 X 25         |

| Cap.<br>(µF)                   | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °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)   |
| 680                            | 380LQ681M250H452       | 0.293              | 0.132         | 2.50                   | 3.50          | 22 X 45         |
| 680                            | 380LQ681M250J032       | 0.293              | 0.132         | 2.50                   | 3.50          | 25 X 35         |
| 680                            | 380LQ681M250K022       | 0.293              | 0.132         | 2.50                   | 3.50          | 30 X 30         |
| 820                            | 380LQ821M250H052       | 0.243              | 0.109         | 2.77                   | 3.88          | 22 X 50         |
| 820                            | 380LQ821M250J042       | 0.243              | 0.109         | 2.77                   | 3.88          | 25 X 40         |
| 820                            | 380LQ821M250K022       | 0.243              | 0.109         | 2.77                   | 3.88          | 30 X 30         |
| 820                            | 380LQ821M250A012       | 0.243              | 0.121         | 2.77                   | 3.88          | 35 X 25         |
| 1000                           | 380LQ102M250J452       | 0.199              | 0.090         | 3.32                   | 4.65          | 25 X 45         |
| 1000                           | 380LQ102M250K032       | 0.199              | 0.090         | 3.32                   | 4.65          | 30 X 35         |
| 1000                           | 380LQ102M250A022       | 0.199              | 0.090         | 3.32                   | 4.65          | 35 X 30         |
| 1200                           | 380LQ122M250K042       | 0.166              | 0.075         | 3.53                   | 4.94          | 30 X 40         |
| 1200                           | 380LQ122M250A032       | 0.166              | 0.083         | 3.53                   | 4.94          | 35 X 35         |
| 1500                           | 380LQ152M250K052       | 0.133              | 0.066         | 4.04                   | 5.66          | 30 X 50         |
| 1500                           | 380LQ152M250A042       | 0.133              | 0.066         | 4.04                   | 5.66          | 35 X 40         |
| 1800                           | 380LQ182M250A452       | 0.111              | 0.055         | 4.55                   | 6.37          | 35 X 45         |
| 2200                           | 380LQ222M250A052       | 0.105              | 0.052         | 5.00                   | 7.00          | 35 X 50         |
| <b>315 Vdc (385 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 180                            | 380LQ181M315H012       | 1.105              | 0.553         | 1.21                   | 1.69          | 22 X 25         |
| 220                            | 380LQ221M315H022       | 0.904              | 0.452         | 1.41                   | 1.97          | 22 X 30         |
| 270                            | 380LQ271M315H022       | 0.737              | 0.368         | 1.60                   | 2.24          | 22 X 30         |
| 330                            | 380LQ331M315H042       | 0.603              | 0.301         | 1.82                   | 2.55          | 22 X 40         |
| 330                            | 380LQ331M315J022       | 0.603              | 0.301         | 1.82                   | 2.55          | 25 X 30         |
| 330                            | 380LQ331M315K012       | 0.603              | 0.301         | 1.82                   | 2.55          | 30 X 25         |
| 390                            | 380LQ391M315H452       | 0.510              | 0.255         | 2.01                   | 2.81          | 22 X 45         |
| 390                            | 380LQ391M315J032       | 0.510              | 0.255         | 2.01                   | 2.81          | 25 X 35         |
| 390                            | 390LQ391M315K022       | 0.510              | 0.255         | 2.01                   | 2.81          | 30 X 30         |
| 470                            | 380LQ471M315H052       | 0.423              | 0.212         | 2.27                   | 3.18          | 22 X 50         |
| 470                            | 380LQ471M315J042       | 0.423              | 0.212         | 2.27                   | 3.18          | 25 X 40         |
| 470                            | 380LQ471M315K022       | 0.423              | 0.212         | 2.27                   | 3.18          | 30 X 30         |
| 470                            | 380LQ471M315A012       | 0.423              | 0.233         | 2.27                   | 3.18          | 35 X 25         |
| 560                            | 380LQ561M315J452       | 0.355              | 0.178         | 2.56                   | 3.58          | 25 X 45         |
| 560                            | 380LQ561M315K032       | 0.355              | 0.178         | 2.56                   | 3.58          | 30 X 35         |
| 560                            | 380LQ561M315A022       | 0.355              | 0.195         | 2.56                   | 3.58          | 35 X 30         |
| 680                            | 380LQ681M315K042       | 0.293              | 0.148         | 2.87                   | 4.02          | 30 X 40         |
| 680                            | 380LQ681M315A032       | 0.293              | 0.146         | 2.87                   | 4.55          | 35 X 35         |
| 820                            | 380LQ821M315K452       | 0.243              | 0.121         | 3.25                   | 4.55          | 30 X 45         |
| 820                            | 380LQ821M315A042       | 0.243              | 0.121         | 3.25                   | 4.55          | 35 X 40         |
| 1000                           | 380LQ102M315K052       | 0.199              | 0.090         | 3.63                   | 5.08          | 30 X 50         |
| 1000                           | 380LQ102M315A452       | 0.199              | 0.109         | 3.63                   | 5.08          | 35 X 45         |
| <b>350 Vdc (400 Vdc Surge)</b> |                        |                    |               |                        |               |                 |
| 150                            | 380LQ151M350H012       | 1.328              | 0.663         | 1.12                   | 1.57          | 22 X 25         |
| 180                            | 380LQ181M350H022       | 1.105              | 0.553         | 1.22                   | 1.71          | 22 X 30         |
| 220                            | 380LQ221M350H032       | 0.904              | 0.452         | 1.44                   | 2.02          | 22 X 35         |
| 270                            | 380LQ271M350H042       | 0.737              | 0.368         | 1.66                   | 2.32          | 22 X 40         |
| 270                            | 380LQ271M350J022       | 0.737              | 0.368         | 1.66                   | 2.32          | 25 X 30         |
| 330                            | 380LQ331M350H452       | 0.603              | 0.301         | 1.88                   | 2.63          | 22 X 45         |

# Type 380LQ 85 °C Compact, High-Capacitance Snap-in

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °C |               | Nominal<br>Size<br>D x L<br>(mm) |
|-------------------------|------------------------|--------------------|---------------|------------------------|---------------|----------------------------------|
|                         |                        | 120 Hz<br>(Ω)      | 20 kHz<br>(Ω) | 120 Hz<br>(A)          | 20 kHz<br>(A) |                                  |
| 390                     | 380LQ391M350H052       | 0.510              | 0.255         | 2.06                   | 2.88          | 22 X 50                          |
| 390                     | 380LQ391M350J042       | 0.510              | 0.255         | 2.06                   | 2.88          | 25 X 40                          |
| 390                     | 380LQ391M350K022       | 0.510              | 0.255         | 2.06                   | 2.88          | 30 X 30                          |
| 390                     | 380LQ391M350A012       | 0.510              | 0.255         | 2.06                   | 2.88          | 35 X 25                          |
| 470                     | 380LQ471M350J452       | 0.423              | 0.211         | 2.40                   | 3.36          | 25 X 45                          |
| 470                     | 380LQ471M350K032       | 0.423              | 0.211         | 2.40                   | 3.36          | 30 X 35                          |
| 470                     | 380LQ471M350A022       | 0.423              | 0.211         | 2.40                   | 3.36          | 35 X 30                          |
| 560                     | 380LQ561M350J050       | 0.355              | 0.178         | 2.60                   | 3.64          | 25 X 50                          |
| 560                     | 380LQ561M350K042       | 0.355              | 0.178         | 2.60                   | 3.64          | 30 X 40                          |
| 560                     | 380LQ561M350A022       | 0.355              | 0.178         | 2.60                   | 3.64          | 35 X 30                          |
| 680                     | 380LQ681M350K452       | 0.293              | 0.146         | 2.96                   | 4.14          | 30 X 45                          |
| 680                     | 380LQ681M350A032       | 0.293              | 0.146         | 2.96                   | 4.14          | 35 X 35                          |
| 820                     | 380LQ821M350K052       | 0.243              | 0.121         | 3.25                   | 4.55          | 30 X 50                          |
| 820                     | 380LQ821M350A452       | 0.243              | 0.121         | 3.25                   | 4.55          | 35 X 45                          |
| 1000                    | 380LQ102M350A052       | 0.199              | 0.109         | 3.54                   | 4.96          | 35 X 50                          |
| 400 Vdc (450 Vdc Surge) |                        |                    |               |                        |               |                                  |
| 120                     | 380LQ121M400H012       | 1.658              | 0.830         | 1.02                   | 1.43          | 22 X 25                          |
| 150                     | 380LQ151M400H022       | 1.326              | 0.660         | 1.16                   | 1.62          | 22 X 30                          |
| 180                     | 380LQ181M400H032       | 1.105              | 0.552         | 1.44                   | 2.02          | 22 X 35                          |
| 220                     | 380LQ221M400H042       | 0.904              | 0.452         | 1.49                   | 2.09          | 22 X 40                          |
| 220                     | 380LQ221M400J022       | 0.904              | 0.452         | 1.49                   | 2.09          | 25 X 30                          |
| 270                     | 380LQ271M400H452       | 0.737              | 0.368         | 1.67                   | 2.34          | 22 X 45                          |
| 270                     | 380LQ271M400J032       | 0.737              | 0.368         | 1.67                   | 2.34          | 25 X 35                          |
| 270                     | 380LQ271M400K022       | 0.737              | 0.368         | 1.67                   | 2.34          | 30 X 30                          |
| 330                     | 380LQ331M400H052       | 0.603              | 0.301         | 1.90                   | 2.66          | 22 X 50                          |
| 330                     | 380LQ331M400J042       | 0.603              | 0.301         | 1.90                   | 2.66          | 25 X 40                          |
| 330                     | 380LQ331M400K022       | 0.603              | 0.301         | 1.90                   | 2.66          | 30 X 30                          |
| 330                     | 380LQ331M400A012       | 0.603              | 0.301         | 1.90                   | 2.66          | 35 X 25                          |
| 390                     | 380LQ391M400J452       | 0.510              | 0.255         | 2.13                   | 2.98          | 25 X 45                          |
| 390                     | 380LQ391M400K032       | 0.510              | 0.255         | 2.13                   | 2.98          | 30 X 35                          |
| 390                     | 380LQ391M400A022       | 0.510              | 0.255         | 2.13                   | 2.98          | 35 X 30                          |

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR Max<br>@ 25° C |               | Ripple Amps<br>@ 85 °C |               | Nominal<br>Size<br>D x L<br>(mm) |
|-------------------------|------------------------|--------------------|---------------|------------------------|---------------|----------------------------------|
|                         |                        | 120 Hz<br>(Ω)      | 20 kHz<br>(Ω) | 120 Hz<br>(A)          | 20 kHz<br>(A) |                                  |
| 470                     | 380LQ471M400J052       | 0.423              | 0.212         | 2.39                   | 3.35          | 25 X 50                          |
| 470                     | 380LQ471M400K042       | 0.423              | 0.212         | 2.39                   | 3.35          | 30 X 40                          |
| 470                     | 380LQ471M400A022       | 0.423              | 0.212         | 2.39                   | 3.35          | 35 X 30                          |
| 560                     | 380LQ561M400K452       | 0.355              | 0.178         | 2.69                   | 3.77          | 30 X 45                          |
| 560                     | 380LQ561M400A032       | 0.355              | 0.178         | 2.69                   | 3.77          | 35 X 35                          |
| 680                     | 380LQ681M400K052       | 0.293              | 0.148         | 2.96                   | 4.14          | 30 X 50                          |
| 680                     | 380LQ681M400A452       | 0.293              | 0.148         | 2.96                   | 4.14          | 35 X 45                          |
| 820                     | 380LQ821M400A052       | 0.243              | 0.122         | 3.25                   | 4.55          | 35 X 50                          |
| 450 Vdc (500 Vdc Surge) |                        |                    |               |                        |               |                                  |
| 82                      | 380LQ820M450H012       | 2.426              | 1.213         | 0.83                   | 1.16          | 22 X 25                          |
| 100                     | 380LQ101M450H012       | 1.990              | 0.995         | 0.93                   | 1.30          | 22 X 25                          |
| 120                     | 380LQ121M450H022       | 1.656              | 0.829         | 1.04                   | 1.46          | 22 X 30                          |
| 150                     | 380LQ151M450H032       | 1.326              | 0.663         | 1.19                   | 1.67          | 22 X 35                          |
| 150                     | 380LQ151M450J022       | 1.326              | 0.663         | 1.19                   | 1.67          | 25 X 30                          |
| 180                     | 380LQ181M450H042       | 1.105              | 0.553         | 1.35                   | 1.89          | 22 X 40                          |
| 180                     | 380LQ181M450J022       | 1.105              | 0.553         | 1.35                   | 1.89          | 25 X 30                          |
| 220                     | 380LQ221M450H452       | 0.904              | 0.452         | 1.55                   | 2.17          | 22 X 45                          |
| 220                     | 380LQ221M450J042       | 0.904              | 0.452         | 1.55                   | 2.17          | 25 X 40                          |
| 220                     | 380LQ221M450K022       | 0.904              | 0.452         | 1.55                   | 2.17          | 30 X 30                          |
| 220                     | 380LQ221M450A012       | 0.904              | 0.452         | 1.55                   | 2.17          | 35 X 25                          |
| 270                     | 380LQ271M450H052       | 0.737              | 0.368         | 1.78                   | 2.49          | 22 X 50                          |
| 270                     | 380LQ271M450J042       | 0.737              | 0.368         | 1.78                   | 2.49          | 25 X 40                          |
| 270                     | 380LQ271M450K022       | 0.737              | 0.368         | 1.78                   | 2.49          | 30 X 30                          |
| 330                     | 380LQ331M450J052       | 0.603              | 0.302         | 2.01                   | 2.81          | 25 X 50                          |
| 330                     | 380LQ331M450K042       | 0.603              | 0.302         | 2.01                   | 2.81          | 30 X 40                          |
| 330                     | 380LQ331M450A022       | 0.603              | 0.302         | 2.01                   | 2.81          | 35 X 30                          |
| 390                     | 380LQ391M450K042       | 0.510              | 0.255         | 2.24                   | 3.14          | 30 X 40                          |
| 390                     | 380LQ391M450A032       | 0.510              | 0.255         | 2.24                   | 3.14          | 35 X 35                          |
| 470                     | 380LQ471M450K452       | 0.423              | 0.212         | 2.53                   | 3.54          | 30 X 45                          |
| 470                     | 380LQ471M450A042       | 0.423              | 0.212         | 2.53                   | 3.54          | 35 X 40                          |
| 560                     | 380LQ561M450K052       | 0.355              | 0.178         | 2.82                   | 3.95          | 30 X 50                          |
| 560                     | 380LQ561M450A452       | 0.355              | 0.178         | 2.82                   | 3.95          | 35 X 45                          |