

## LP Series Snap-in Type 85°C

### Features

- ◆ Directly mountable on printed circuit board, without holders.
- ◆ Aluminum case designed explosion-proof vent.
- ◆ RoHS Compliant



### Specifications

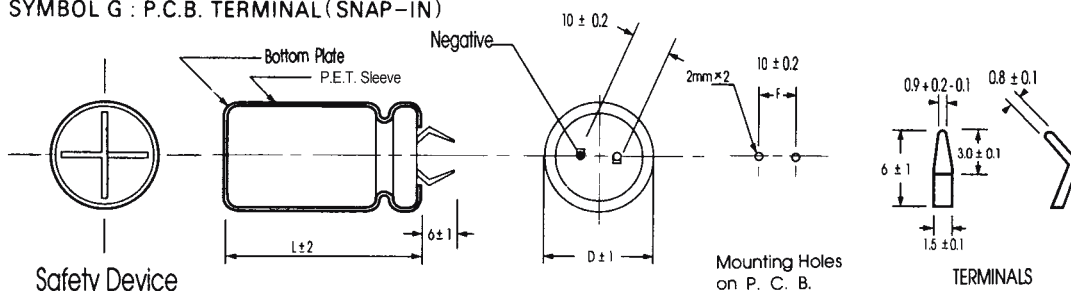
| Item  | Performance Characteristics   |  |       |       |        |         |         |     |     |         |         |
|---|---|--|-------|-------|--------|---------|---------|-----|-----|---------|---------|
| Operating Temperature Range                   | -40 to +85°C  | -25 to +85°C                           |       |       |        |         |         |     |     |         |         |
| Rated Voltage Range                           | 10 to 100 VDC   | 160 to 450 VDC                         |       |       |        |         |         |     |     |         |         |
| Capacitance Range                             | 470 to 68000 µF   | 47 to 2700 µF                          |       |       |        |         |         |     |     |         |         |
| Capacitance Tolerance                         | ±20% (120Hz, +20°C)   |  |       |       |        |         |         |     |     |         |         |
| Leakage Current (+20°C, max.)                 | I ≤ 0.02CV After 5 minutes with rated working voltage applied.  |  |       |       |        |         |         |     |     |         |         |
| Dissipation Factor<br>(tan δ, at 20°C, 120Hz) | Less than the value under table (%)   |  |       |       |        |         |         |     |     |         |         |
|   | µF \ VDC  | 10~16                                  | 25~35 | 50~63 | 80~100 | 160~250 | 315~450 |     |     |         |         |
|   | 47~390  | —                                      | —     | —     | —      | 15      | 20      |     |     |         |         |
|   | 470~3900  | 25                                     | 20    | 20    | 20     | 15      | 20      |     |     |         |         |
|   | 4700~8200   | 35                                     | 30    | 30    | 25     | —       | —       |     |     |         |         |
|   | 10000~22000   | 40                                     | 35    | 30    | —      | —       | —       |     |     |         |         |
|   | 27000~47000   | 45                                     | 40    | 35    | —      | —       | —       |     |     |         |         |
| Low Temperature Characteristics<br>(at 120Hz) | Impedance ratio max.  |  |       |       |        |         |         |     |     |         |         |
|   | Rated voltage(V)  | 10                                     | 16    | 25    | 35     | 50      | 63      | 100 | 160 | 200~250 | 400~450 |
|   | Z - 25°C / Z+20°C   | 5                                      | 5     | 4     | 4      | 4       | 4       | 4   | 4   | 4       | 8       |
|   | Z - 40°C / Z+20°C   | 15                                     | 15    | 15    | 12     | 12      | 12      | 12  | —   | —       | —       |
| Endurance                                     | Test conditions   |  |       |       |        |         |         |     |     |         |         |
|   | Duration time   | :2000 Hrs                              |       |       |        |         |         |     |     |         |         |
|   | Ambient temperature   | :+85°C                                 |       |       |        |         |         |     |     |         |         |
|   | Applied voltage   | :Rated DC working voltage              |       |       |        |         |         |     |     |         |         |
|   | After test requirement at +20°C   |  |       |       |        |         |         |     |     |         |         |
|   | Capacitance change  | :≤ ±20% of the initial measured value  |       |       |        |         |         |     |     |         |         |
|   | Dissipation factor  | :≤ 200% of the initial specified value |       |       |        |         |         |     |     |         |         |
| Leakage current                               | :≤ The initial specified value  |  |       |       |        |         |         |     |     |         |         |
| Shelf Life                                    | Test conditions   |  |       |       |        |         |         |     |     |         |         |
|   | Duration time   | :1000 Hrs                              |       |       |        |         |         |     |     |         |         |
|   | Ambient temperature   | :+85°C                                 |       |       |        |         |         |     |     |         |         |
|   | Applied voltage   | :None                                  |       |       |        |         |         |     |     |         |         |
|   | After test requirement at +20°C : Same limits as Endurance.   |  |       |       |        |         |         |     |     |         |         |
|   | Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes. |  |       |       |        |         |         |     |     |         |         |

### Multiplier for Ripple Current vs. Frequency

| CAP(µF) \ Frequency(Hz) | 50(60) | 120 | 1K   | 10K  | 50K-100K |
|-------------------------|--------|-----|------|------|----------|
| 10 < CAP ≤ 100          | 0.8    | 1   | 1.36 | 1.48 | 1.53     |
| 100 < CAP ≤ 1000        | 0.8    | 1   | 1.25 | 1.35 | 1.38     |
| 1000 < CAP              | 0.8    | 1   | 1.17 | 1.25 | 1.28     |

### Diagram of Dimensions:(unit:mm)

SYMBOL G : P.C.B. TERMINAL (SNAP-IN)



## Case Size

| WV<br>Cap (μF) / φ D |       | 10   |        |      |        |      |        |      |        | 16    |        |       |        |       |        |       |        |
|----------------------|-------|------|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
|                      |       | 22   |        | 25   |        | 30   |        | 35   |        | 22    |        | 25    |        | 30    |        | 35    |        |
|                      |       | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |
| 4700                 | 22x21 | 2.40 |        |      |        |      |        |      |        | 22x21 | 2.40   |       |        |       |        |       |        |
| 6800                 | 22x26 | 2.84 |        |      |        |      |        |      |        | 22x26 | 2.84   |       |        |       |        |       |        |
| 8200                 | 22x26 | 2.90 |        |      |        |      |        |      |        | 22x26 | 2.90   |       |        |       |        |       |        |
| 10000                | 22x31 | 3.06 | 25x26  | 3.06 |        |      |        |      |        | 22x31 | 3.06   | 25x26 | 3.06   |       |        |       |        |
| 12000                | 22x31 | 3.43 | 25x26  | 3.43 |        |      |        |      |        | 22x31 | 3.43   | 25x26 | 3.43   |       |        |       |        |
| 15000                | 22x36 | 3.94 | 25x31  | 3.94 |        |      |        |      |        | 22x36 | 3.94   | 25x31 | 3.94   |       |        |       |        |
| 18000                | 22x41 | 4.34 | 25x31  | 4.34 |        |      |        |      |        | 22x41 | 4.34   | 25x31 | 4.34   |       |        |       |        |
| 22000                | 22x46 | 4.80 | 25x36  | 4.80 | 30x31  | 4.80 |        |      |        | 22x46 | 4.80   | 25x36 | 4.80   | 30x31 | 4.80   |       |        |
| 27000                |       |      | 25x46  | 7.57 | 30x36  | 7.57 |        |      |        |       |        | 25x46 | 7.57   | 30x36 | 7.57   |       |        |
| 33000                |       |      | 25x51  | 8.20 | 30x41  | 8.20 | 35x32  | 8.20 |        |       |        | 25x51 | 8.20   | 30x41 | 8.20   | 35x32 | 8.20   |
| 39000                |       |      |        |      | 30x46  | 8.33 | 35x37  | 8.33 |        |       |        |       |        | 30x46 | 8.33   | 35x37 | 8.33   |
| 47000                |       |      |        |      | 30x51  | 8.96 | 35x42  | 8.93 |        |       |        |       |        | 30x51 | 8.96   | 35x42 | 8.96   |
| 56000                |       |      |        |      |        |      | 35x47  | 10.5 |        |       |        |       |        | 30x56 | 10.5   | 35x52 | 10.8   |
| 68000                |       |      |        |      |        |      | 35x52  | 10.8 |        |       |        |       |        |       |        |       |        |

| WV<br>Cap (μF) / φ D |       | 25   |        |      |        |      |        |      |        | 35    |        |       |        |       |        |       |        |
|----------------------|-------|------|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
|                      |       | 22   |        | 25   |        | 30   |        | 35   |        | 22    |        | 25    |        | 30    |        | 35    |        |
|                      |       | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |
| 2200                 |       |      |        |      |        |      |        |      |        | 22x21 | 2.00   |       |        |       |        |       |        |
|                      |       |      |        |      |        |      |        |      |        | 22x26 | 2.18   |       |        |       |        |       |        |
| 3300                 |       |      |        |      |        |      |        |      |        | 22x26 | 2.46   |       |        |       |        |       |        |
|                      |       |      |        |      |        |      |        |      |        | 22x26 | 2.50   |       |        |       |        |       |        |
| 3900                 |       |      |        |      |        |      |        |      |        | 22x31 | 2.64   |       |        |       |        |       |        |
|                      |       |      |        |      |        |      |        |      |        | 22x31 | 2.68   | 25x26 | 2.68   |       |        |       |        |
| 4700                 | 22x26 | 2.64 |        |      |        |      |        |      |        | 22x31 | 2.72   | 25x26 | 2.72   |       |        |       |        |
| 5600                 | 22x26 | 2.72 |        |      |        |      |        |      |        | 22x31 | 2.72   | 25x26 | 2.72   |       |        |       |        |
|                      | 22x31 | 2.78 |        |      |        |      |        |      |        |       |        |       |        |       |        |       |        |
| 6800                 | 22x31 | 2.93 | 25x26  | 2.93 |        |      |        |      |        | 22x36 | 3.06   | 25x31 | 3.06   |       |        |       |        |
| 8200                 | 22x31 | 3.05 | 25x26  | 3.05 |        |      |        |      |        | 22x41 | 3.29   | 25x36 | 3.34   |       |        |       |        |
| 10000                | 22x36 | 3.43 | 25x31  | 3.43 | 30x26  | 3.43 |        |      |        | 22x46 | 3.60   | 25x41 | 3.60   | 30x31 | 3.60   |       |        |
| 12000                | 22x41 | 3.84 | 25x36  | 3.84 | 30x31  | 3.84 |        |      |        | 22x51 | 3.80   | 25x46 | 3.80   | 30x36 | 3.80   | 35x32 | 3.80   |
| 15000                | 22x51 | 4.39 | 25x41  | 4.39 | 30x31  | 4.39 |        |      |        |       |        | 25x51 | 3.92   | 30x41 | 3.92   | 35x32 | 3.92   |
| 18000                |       |      | 25x46  | 4.80 | 30x36  | 4.80 |        |      |        |       |        |       |        | 30x46 | 4.70   | 35x37 | 4.70   |
| 22000                |       |      | 25x51  | 5.40 | 30x41  | 5.40 |        |      |        |       |        |       |        | 30x51 | 5.45   | 35x42 | 5.45   |
| 27000                |       |      |        |      | 30x46  | 5.97 | 35x37  | 5.97 |        |       |        |       |        |       |        | 35x47 | 5.78   |
| 33000                |       |      |        |      | 30x51  | 6.24 | 35x42  | 6.24 |        |       |        |       |        |       |        | 35x52 | 6.36   |
| 39000                |       |      |        |      |        |      | 35x47  | 7.10 |        |       |        |       |        |       |        |       |        |
| 47000                |       |      |        |      |        |      | 35x52  | 7.60 |        |       |        |       |        |       |        |       |        |

| WV<br>Cap (μF) / φ D |       | 50   |        |      |        |      |        |      |        | 63    |        |       |        |       |        |       |        |
|----------------------|-------|------|--------|------|--------|------|--------|------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
|                      |       | 22   |        | 25   |        | 30   |        | 35   |        | 22    |        | 25    |        | 30    |        | 35    |        |
|                      |       | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |
| 1000                 |       |      |        |      |        |      |        |      |        | 22x21 | 1.50   |       |        |       |        |       |        |
|                      |       |      |        |      |        |      |        |      |        | 22x26 | 1.58   |       |        |       |        |       |        |
| 1500                 | 22x26 | 1.44 |        |      |        |      |        |      |        | 22x26 | 1.68   |       |        |       |        |       |        |
| 2200                 | 22x26 | 2.04 |        |      |        |      |        |      |        | 22x31 | 2.52   | 25x26 | 2.52   |       |        |       |        |
| 2700                 | 22x31 | 2.30 |        |      |        |      |        |      |        | 22x36 | 2.82   | 25x31 | 2.82   |       |        |       |        |
| 3300                 | 22x31 | 2.64 | 25x26  | 2.64 |        |      |        |      |        | 22x41 | 3.12   | 25x31 | 3.12   | 30x26 | 3.12   |       |        |
| 3900                 | 22x31 | 2.72 | 25x26  | 2.72 |        |      |        |      |        | 22x46 | 3.21   | 25x36 | 3.21   | 30x31 | 3.21   |       |        |
| 4700                 | 22x36 | 2.88 | 25x31  | 2.88 | 30x26  | 2.88 |        |      |        | 22x51 | 3.28   | 25x41 | 3.28   |       |        | 35x27 | 3.28   |
| 5600                 | 22x41 | 3.06 | 25x36  | 3.06 | 30x31  | 3.06 |        |      |        |       |        | 25x46 | 3.86   | 30x36 | 3.86   | 35x32 | 3.86   |
| 6800                 | 22x51 | 3.24 | 25x41  | 3.24 | 30x31  | 3.24 |        |      |        |       |        | 25x51 | 4.32   | 30x41 | 4.32   | 35x32 | 4.32   |
| 8200                 |       |      | 25x46  | 3.48 | 30x36  | 3.48 |        |      |        |       |        |       |        | 30x46 | 4.44   | 35x37 | 4.44   |
| 10000                |       |      | 25x51  | 3.96 | 30x41  | 3.96 | 35x32  | 3.96 |        |       |        |       |        |       |        | 35x47 | 4.77   |
| 12000                |       |      |        |      | 30x46  | 4.10 | 35x37  | 4.10 |        |       |        |       |        |       |        |       |        |
| 15000                |       |      |        |      | 30x51  | 4.70 | 35x42  | 4.70 |        |       |        |       |        |       |        | 35x63 | 5.04   |
| 18000                |       |      |        |      |        |      | 35x47  | 5.31 |        |       |        |       |        |       |        |       |        |
| 22000                |       |      |        |      |        |      | 35x52  | 5.85 |        |       |        |       |        |       |        |       |        |

Ripple Current (A, rms) at 85°C 120Hz

φ D x L (mm)

| WV<br>Cap (μF)<br>φ D | 80    |        |       |        |       |        |       |        | 100  |        |      |        |      |        |      |        |      |
|-----------------------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                       | 22    |        | 25    |        | 30    |        | 35    |        | 22   |        | 25   |        | 30   |        | 35   |        |      |
|                       | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |      |
| 470                   |       |        |       |        |       |        |       |        |      | 22x21  | 1.34 |        |      |        |      |        |      |
| 680                   | 22x21 | 1.25   |       |        |       |        |       |        |      |        |      |        |      |        |      |        |      |
|                       | 22x26 | 1.34   |       |        |       |        |       |        |      | 22x26  | 1.53 |        |      |        |      |        |      |
| 1000                  | 22x26 | 1.62   |       |        |       |        |       |        |      | 22x31  | 1.62 | 25x26  | 1.62 |        |      |        |      |
|                       | 22x31 | 1.65   |       |        |       |        |       |        |      | 22x31  | 1.65 | 25x31  | 1.74 |        |      |        |      |
| 1200                  |       |        |       |        |       |        |       |        |      | 22x36  | 1.74 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x36  | 1.72 | 25x36  | 1.85 | 30x31  | 1.85 |        |      |
| 1500                  | 22x31 | 1.76   | 25x26 | 1.76   |       |        |       |        |      | 22x41  | 1.85 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x41  | 2.05 | 25x41  | 2.20 | 30x31  | 2.20 |        |      |
| 1800                  | 22x36 | 1.82   | 25x31 | 1.82   |       |        |       |        |      | 22x46  | 2.20 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x46  | 2.52 | 25x41  | 2.64 | 30x31  | 2.64 |        |      |
| 2200                  | 22x41 | 2.52   | 25x31 | 2.52   | 30x26 | 2.52   |       |        |      | 22x51  | 2.64 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x51  | 3.08 | 25x46  | 3.16 | 30x36  | 3.16 |        |      |
| 2700                  | 22x46 | 2.76   | 25x36 | 2.76   | 30x31 | 2.76   |       |        |      |        |      | 25x51  | 3.42 | 30x41  | 3.42 |        |      |
| 3300                  | 22x51 | 3.24   | 25x41 | 3.24   | 30x31 | 3.24   |       |        |      |        |      |        |      |        |      |        |      |
| 3900                  |       |        | 25x46 | 3.40   | 30x36 | 3.40   |       |        |      |        |      |        |      | 30x46  | 3.58 | 35x37  | 3.58 |
| 4700                  |       |        | 25x51 | 3.60   | 30x41 | 3.60   |       |        |      |        |      |        |      | 30x51  | 3.72 | 35x42  | 3.72 |
| 5600                  |       |        |       |        | 30x46 | 3.78   | 35x37 | 3.78   |      |        |      |        |      |        |      | 35x47  | 3.78 |
| 6800                  |       |        |       |        | 30x51 | 4.60   | 35x42 | 4.60   |      |        |      |        |      |        |      | 35x52  | 4.1  |
| 8200                  |       |        |       |        |       |        | 35x52 | 4.92   |      |        |      |        |      |        |      |        |      |
| 10000                 |       |        |       |        |       |        | 35x63 | 5.04   |      |        |      |        |      |        |      |        |      |

| WV<br>Cap (μF)<br>φ D | 160   |        |       |        |       |        |       |        | 200  |        |      |        |      |        |      |        |      |
|-----------------------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                       | 22    |        | 25    |        | 30    |        | 35    |        | 22   |        | 25   |        | 30   |        | 35   |        |      |
|                       | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |      |
| 150                   |       |        |       |        |       |        |       |        |      | 22x21  | 0.96 |        |      |        |      |        |      |
| 180                   |       |        |       |        |       |        |       |        |      | 22x21  | 0.98 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x26  | 1    |        |      |        |      |        |      |
| 220                   | 22x21 | 1.16   |       |        |       |        |       |        |      | 22x26  | 1.36 |        |      |        |      |        |      |
|                       | 22x26 | 1.2    |       |        |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 270                   | 22x26 | 1.35   |       |        |       |        |       |        |      | 22x26  | 1.46 |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x31  | 1.5  |        |      |        |      |        |      |
| 330                   | 22x36 | 1.39   |       |        |       |        |       |        |      | 22x31  | 1.89 | 25x26  | 1.89 |        |      |        |      |
|                       | 22x31 | 1.44   |       |        |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 390                   | 22x31 | 1.66   | 25x26 | 1.66   |       |        |       |        |      | 22x31  | 1.92 | 25x31  | 1.92 |        |      |        |      |
|                       | 22x31 | 1.7    | 25x31 | 1.76   |       |        |       |        |      | 22x31  | 2.09 |        |      |        |      |        |      |
| 470                   | 22x36 | 1.76   |       |        |       |        |       |        |      | 22x36  | 2.23 | 25x31  | 2.23 | 30x26  | 2.23 |        |      |
|                       | 22x36 | 2.03   | 25x31 | 2.03   | 30x26 | 2.03   |       |        |      | 22x41  | 2.57 | 25x36  | 2.57 | 30x26  | 2.57 |        |      |
| 560                   |       |        |       |        |       |        |       |        |      | 22x46  | 2.57 | 25x41  | 2.57 |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x46  | 2.98 | 25x31  | 2.98 | 30x31  | 2.98 |        |      |
| 680                   | 22x41 | 2.36   | 25x36 | 2.36   | 30x31 | 2.36   |       |        |      |        |      | 25x36  | 2.98 |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 820                   | 22x46 | 2.72   | 25x41 | 2.72   | 30x31 | 2.57   |       |        |      | 22x51  | 3.26 | 25x46  | 3.26 | 30x36  | 3.26 | 35x27  | 3.26 |
|                       |       |        |       |        | 30x36 | 2.72   |       |        |      |        |      |        |      |        |      |        |      |
| 1000                  |       |        | 25x46 | 3.13   |       |        |       |        |      |        |      | 25x46  | 3.74 |        |      |        |      |
|                       |       |        |       |        | 30x41 | 3.13   | 35x32 | 3.13   |      |        |      | 25x51  | 3.92 | 30x41  | 3.92 | 35x32  | 3.92 |
| 1200                  |       |        | 25x51 | 3.44   | 30x36 | 3.44   | 35x32 | 3.25   |      |        |      |        |      | 30x46  | 4.25 | 35x37  | 4.25 |
|                       |       |        |       |        |       |        | 35x37 | 3.44   |      |        |      |        |      |        |      |        |      |
| 1500                  |       |        |       |        | 30x46 | 3.96   | 35x37 | 3.96   |      |        |      |        |      | 30x51  | 4.99 | 35x42  | 4.99 |
| 1800                  |       |        |       |        | 30x51 | 4.47   | 35x42 | 4.47   |      |        |      |        |      |        |      | 35x47  | 5.84 |
| 2200                  |       |        |       |        |       |        | 35x47 | 4.65   |      |        |      |        |      |        |      | 35x52  | 6.07 |
| 2700                  |       |        |       |        |       |        | 35x52 | 4.76   |      |        |      |        |      |        |      |        |      |

| WV<br>Cap (μF)<br>φ D | 220   |        |       |        |       |        |       |        | 250  |        |      |        |      |        |      |        |      |
|-----------------------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|
|                       | 22    |        | 25    |        | 30    |        | 35    |        | 22   |        | 25   |        | 30   |        | 35   |        |      |
|                       | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |      |
| 120                   |       |        |       |        |       |        |       |        |      | 22x21  | 0.85 |        |      |        |      |        |      |
| 150                   |       |        |       |        |       |        |       |        |      | 22x21  | 0.9  |        |      |        |      |        |      |
|                       |       |        |       |        |       |        |       |        |      | 22x26  | 0.98 |        |      |        |      |        |      |
| 180                   | 22x21 | 0.75   |       |        |       |        |       |        |      | 22x26  | 1.05 |        |      |        |      |        |      |
|                       | 22x26 | 0.87   |       |        |       |        |       |        |      | 22x31  | 1.12 |        |      |        |      |        |      |
| 220                   | 22x26 | 0.95   |       |        |       |        |       |        |      | 22x26  | 1.26 |        |      |        |      |        |      |
|                       | 22x26 | 1.1    |       |        |       |        |       |        |      | 22x31  | 1.36 | 25x26  | 1.36 |        |      |        |      |
| 270                   | 22x26 | 1.22   |       |        |       |        |       |        |      | 22x31  | 1.6  | 25x31  | 1.72 |        |      |        |      |
|                       | 22x31 | 1.3    | 25x26 | 1.3    |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 330                   | 22x31 | 1.55   |       |        |       |        |       |        |      | 22x31  | 1.75 | 25x26  | 1.74 |        |      |        |      |
|                       |       |        | 25x26 | 1.55   |       |        |       |        |      | 22x36  | 1.87 | 25x31  | 1.87 | 30x26  | 1.87 |        |      |
| 390                   | 22x31 | 1.57   |       |        |       |        |       |        |      | 22x41  | 2.04 | 25x36  | 2.04 | 30x31  | 2.04 |        |      |
|                       | 22x36 | 1.65   | 25x31 | 1.65   |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 470                   | 22x36 | 1.75   |       |        |       |        |       |        |      | 22x46  | 2.38 | 25x41  | 2.38 | 30x31  | 2.38 |        |      |
|                       | 22x41 | 1.85   | 25x36 | 1.85   | 30x26 | 1.85   |       |        |      |        |      |        |      |        |      |        |      |
| 560                   | 22x41 | 2.1    | 25x36 | 2.1    |       |        |       |        |      | 22x51  | 2.74 | 25x46  | 2.81 | 30x36  | 2.81 | 35x27  | 2.81 |
|                       | 22x46 | 2.2    | 25x41 | 2.2    | 30x31 | 2.2    | 35x27 | 2.2    |      |        |      |        |      |        |      |        |      |
| 680                   | 22x46 | 2.25   | 25x41 | 2.25   |       |        |       |        |      |        |      | 25x51  | 3.11 | 30x41  | 3.11 | 35x32  | 3.11 |
|                       | 22x51 | 2.3    | 25x46 | 2.3    | 30x36 | 2.3    | 35x27 | 2.3    |      |        |      |        |      |        |      |        |      |
| 820                   | 22x51 | 2.54   | 25x46 | 2.54   | 30x41 | 2.6    | 35x32 | 2.6    |      |        |      |        |      | 30x46  | 3.55 | 35x37  | 3.55 |
|                       |       |        | 25x51 | 2.6    |       |        |       |        |      |        |      |        |      |        |      |        |      |
| 1000                  |       |        | 25x51 | 3.07   |       |        |       |        |      |        |      |        |      | 30x51  | 4    | 35x42  | 4    |
|                       |       |        | 25x56 | 3.2    | 30x46 | 3.2    | 35x37 | 3.2    |      |        |      |        |      |        |      |        |      |
| 1200                  |       |        |       |        | 30x51 | 3.7    | 35x42 | 3.7    |      |        |      |        |      |        |      | 35x47  | 4.55 |
| 1500                  |       |        |       |        | 30x56 | 3.85   | 35x47 | 3.85   |      |        |      |        |      |        |      | 35x52  | 5.34 |
| 1800                  |       |        |       |        |       |        | 35x52 | 4      |      |        |      |        |      |        |      |        |      |
| 2200                  |       |        |       |        |       |        | 35x57 | 4.2    |      |        |      |        |      |        |      |        |      |

φ DxL(mm)

| Cap<br>(μF) | φ D | WV    |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        |       |        |       |        |  |
|-------------|-----|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--|
|             |     | 350   |        |       |        |       |        |       |        |      |        | 400   |        |       |        |       |        |       |        |       |        |  |
|             |     | 22    |        | 25    |        | 30    |        | 35    |        | 40   |        | 22    |        | 25    |        | 30    |        | 35    |        | 40    |        |  |
|             |     | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |  |
| 47          |     |       |        |       |        |       |        |       |        |      |        | 22x21 | 0.42   |       |        |       |        |       |        |       |        |  |
| 56          |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        |       |        |       |        |  |
| 68          |     |       |        |       |        |       |        |       |        |      |        | 22x26 | 0.47   |       |        |       |        |       |        |       |        |  |
| 82          |     |       |        |       |        |       |        |       |        |      |        | 22x31 | 0.51   |       |        |       |        |       |        |       |        |  |
|             |     |       |        |       |        |       |        |       |        |      |        | 22x26 | 0.83   |       |        |       |        |       |        |       |        |  |
| 100         |     |       |        |       |        |       |        |       |        |      |        | 22x26 | 0.96   |       |        |       |        |       |        |       |        |  |
|             |     | 22x26 | 0.76   |       |        |       |        |       |        |      |        | 22x31 | 1.03   | 25x26 | 1.03   |       |        |       |        |       |        |  |
| 120         |     | 22x31 | 0.89   | 25x26 | 0.89   |       |        |       |        |      |        | 22x31 | 1.07   | 25x26 | 1.07   |       |        |       |        |       |        |  |
|             |     | 22x31 | 1.02   | 25x26 | 1.02   |       |        |       |        |      |        |       |        |       |        |       |        |       |        |       |        |  |
| 150         |     | 22x36 | 1.08   | 25x31 | 1.08   |       |        |       |        |      |        | 22x36 | 1.26   | 25x31 | 1.26   | 30x26 | 1.26   |       |        |       |        |  |
|             |     | 22x36 | 1.08   | 25x31 | 1.08   |       |        |       |        |      |        | 22x41 | 1.46   | 25x36 | 1.46   | 30x26 | 1.46   |       |        |       |        |  |
| 180         |     | 22x41 | 1.15   | 25x36 | 1.15   | 30x26 | 1.15   |       |        |      |        |       |        |       |        | 30x31 | 1.46   |       |        |       |        |  |
|             |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        |       |        |       |        |  |
| 220         |     |       |        |       |        |       |        |       |        |      |        | 22x41 | 1.59   |       |        |       |        |       |        |       |        |  |
|             |     | 22x46 | 1.4    | 25x41 | 1.4    | 30x31 | 1.4    | 35x27 | 1.4    |      |        | 22x51 | 1.75   | 25x41 | 1.75   | 30x36 | 1.75   |       |        |       |        |  |
| 270         |     |       |        | 25x46 | 1.63   | 30x36 | 1.63   | 35x27 | 1.75   |      |        |       |        | 25x46 | 1.96   | 30x36 | 1.96   | 35x32 | 1.96   |       |        |  |
| 330         |     |       |        | 25x51 | 1.88   | 30x41 | 1.88   | 35x32 | 1.88   |      |        |       |        | 25x51 | 2.26   | 30x41 | 2.26   | 35x37 | 2.26   |       |        |  |
| 390         |     |       |        |       |        | 30x46 | 2.12   | 35x37 | 2.12   |      |        |       |        |       |        | 30x46 | 2.5    | 35x42 | 2.5    |       |        |  |
| 470         |     |       |        |       |        | 30x51 | 2.41   | 35x42 | 2.41   |      |        |       |        |       |        | 30x46 | 2.54   | 35x42 | 2.67   | 40x37 | 2.8    |  |
|             |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        | 30x51 | 2.66   | 35x47 | 2.8    |       |        |  |
| 560         |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        | 35x42 | 2.89   |       |        |  |
|             |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        | 35x47 | 3.03   |       |        |  |
|             |     |       |        |       |        |       |        | 35x47 | 2.9    |      |        |       |        |       |        |       |        | 35x52 | 3.16   | 40x46 | 3.2    |  |
| 680         |     |       |        |       |        |       |        | 35x52 | 3.2    |      |        |       |        |       |        |       |        | 35x47 | 3.27   | 40x52 | 3.69   |  |
|             |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        | 35x52 | 3.41   |       |        |  |
| 820         |     |       |        |       |        |       |        |       |        |      |        |       |        |       |        |       |        | 35x63 | 3.80   |       |        |  |

| Cap<br>(μF) | φ D | WV    |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |  |
|-------------|-----|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--|
|             |     | 420   |        |       |        |       |        |       |        |       |        | 450   |        |       |        |       |        |       |        |       |        |  |
|             |     | 22    |        | 25    |        | 30    |        | 35    |        | 40    |        | 22    |        | 25    |        | 30    |        | 35    |        | 40    |        |  |
|             |     | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple |  |
| 47          |     | 22x21 | 0.38   |       |        |       |        |       |        |       |        | 22x26 | 0.36   |       |        |       |        |       |        |       |        |  |
| 56          |     | 22x26 | 0.42   |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |  |
| 68          |     |       |        |       |        |       |        |       |        |       |        | 22x26 | 0.46   |       |        |       |        |       |        |       |        |  |
|             |     | 22x31 | 0.49   |       |        |       |        |       |        |       |        | 22x31 | 0.5    |       |        |       |        |       |        |       |        |  |
| 82          |     | 22x26 | 0.79   |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |  |
|             |     | 22x31 | 0.85   | 25x26 | 0.85   |       |        |       |        |       |        | 22x31 | 0.89   | 25x26 | 0.89   |       |        |       |        |       |        |  |
| 100         |     | 22x36 | 1.03   | 25x26 | 1.03   |       |        |       |        |       |        | 22x36 | 1.03   | 25x31 | 1.03   |       |        |       |        |       |        |  |
| 120         |     | 22x36 | 1.12   | 25x31 | 1.12   |       |        |       |        |       |        | 22x41 | 1.19   | 25x36 | 1.19   |       |        |       |        |       |        |  |
|             |     | 22x36 | 1.25   |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        |  |
| 150         |     | 22x41 | 1.32   | 25x36 | 1.32   | 30x31 | 1.32   |       |        |       |        | 22x51 | 1.39   | 25x41 | 1.39   | 30x31 | 1.39   |       |        |       |        |  |
|             |     |       |        |       |        |       |        |       |        |       |        |       |        | 25x36 | 1.37   |       |        |       |        |       |        |  |
| 180         |     |       |        |       |        |       |        |       |        |       |        |       |        | 25x41 | 1.45   |       |        |       |        |       |        |  |
|             |     | 22x41 | 1.38   | 25x41 | 1.48   | 30x36 | 1.48   |       |        |       |        | 22x51 | 1.52   | 25x46 | 1.52   | 30x36 | 1.52   |       |        |       |        |  |
|             |     |       |        |       |        |       |        |       |        |       |        |       |        | 25x41 | 1.6    |       |        |       |        |       |        |  |
| 220         |     |       |        |       |        |       |        |       |        |       |        |       |        | 25x46 | 1.68   | 30x31 | 1.68   |       |        |       |        |  |
|             |     | 22x46 | 1.63   | 25x46 | 1.75   | 30x41 | 1.75   | 35x32 | 1.75   |       |        | 22x46 | 1.76   | 25x51 | 1.76   | 30x41 | 1.76   | 35x37 | 1.76   |       |        |  |
| 270         |     |       |        | 25x51 | 1.98   | 30x46 | 1.98   | 35x37 | 1.98   |       |        |       |        |       |        | 30x46 | 2      | 35x37 | 2      |       |        |  |
| 330         |     |       |        | 25x51 | 2.27   |       |        | 35x42 | 2.27   |       |        |       |        |       |        | 30x46 | 2.29   | 35x37 | 2.29   |       |        |  |
| 390         |     |       |        |       |        |       |        | 35x47 | 2.52   | 40x32 | 2.52   |       |        |       |        | 30x46 | 2.54   | 35x42 | 2.54   | 40x37 | 2.54   |  |
|             |     |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        | 35x42 | 2.76   |       |        |  |
| 470         |     |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |        | 35x47 | 2.89   | 40x42 | 2.89   |  |
| 560         |     |       |        |       |        |       |        |       |        | 40x37 | 2.91   |       |        |       |        |       |        |       |        | 40x42 | 2.95   |  |
|             |     |       |        |       |        |       |        |       |        | 40x42 | 2.95   |       |        |       |        |       |        |       |        |       |        |  |
| 680         |     |       |        |       |        |       |        |       |        | 40x52 | 3.3    |       |        |       |        |       |        |       |        |       |        |  |

Ripple Current (A, rms) at 85°C 120Hz