

## LF Series Flame Retardant Type at 85°C

### Features

- ◆ Flame Retardant type capacitor
- ◆ Used in switching power supplies, etc.
- ◆ Aluminal case designed explosion-proof vent.
- ◆ RoHS Compliant
- ◆ For detail specifications, please refer to Engineering Bulletin NO. E161



### Specifications

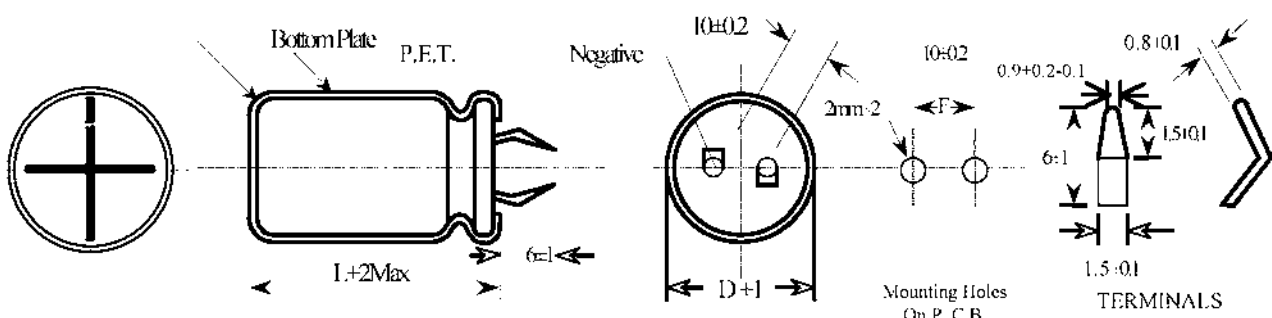
| Item  | Performance Characteristics   |                      |     |     |                 |    |
|---|---|----------------------|-----|-----|-----------------|----|
| Operating Temperature Range                     | -25 to +85°C  |                      |     |     |                 |    |
| Rate Voltage Range                              | 400 · 450 VDC   |                      |     |     |                 |    |
| Capacitance Range                               | 47 to 560 µ F   |                      |     |     |                 |    |
| Capacitance Tolerance                           | ±20%(120Hz,+20°C)   |                      |     |     |                 |    |
| Leakage Current (+20°C,max.)                    | $I \leq 0.02 CV (\mu A)$ After 5 minute with rated working voltage applied.   |                      |     |     |                 |    |
| Dissipation Factor<br>(tan δ · at 20°C · 120Hz) | Less than the value under table (%)   |                      |     |     |                 |    |
|   | <table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>400</td> <td>450</td> </tr> <tr> <td>D.F.(%)max.</td> <td colspan="2">25</td> </tr> </table>  | Working Voltage(VDC) | 400 | 450 | D.F.(%)max.     | 25 |
| Working Voltage(VDC)                            | 400   | 450                  |     |     |                 |    |
| D.F.(%)max.                                     | 25  |                      |     |     |                 |    |
| Low Temperature Characteristics<br>(at 120Hz)   | Impedance ratio max.  |                      |     |     |                 |    |
|   | <table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>400</td> <td>450</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td colspan="2">12</td> </tr> </table>  | Working Voltage(VDC) | 400 | 450 | Z-25°C / Z+20°C | 12 |
| Working Voltage(VDC)                            | 400   | 450                  |     |     |                 |    |
| Z-25°C / Z+20°C                                 | 12  |                      |     |     |                 |    |
| Load Life                                       | Test condition<br>Duration time :2000 Hrs<br>Ambient temperature :+85°C<br>Applied voltage :Rated DC working voltage<br>After test requirement at +20°C<br>Capacitance change : $\leq \pm 20\%$ of the initial measured value<br>Dissipation factor : $\leq 200\%$ of the initial specified value<br>Leakage current : $\leq$ The initial specified value |                      |     |     |                 |    |
| Shelf Life                                      | Test condition<br>Duration time :1000 Hrs<br>Ambient temperature :+85°C<br>Applied voltage :None<br>After test requirement at +20°C:Same limits as Load life.<br>Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.  |                      |     |     |                 |    |

Flame Retardant

### Multiplier for Ripple Current vs. Frequency

| CAP(µ F)\Frequency(Hz) | 50(60) | 120 | 1K   | 10K  | 50K-100K |
|------------------------|--------|-----|------|------|----------|
| 10 < CAP ≤ 100         | 0.8    | 1   | 1.25 | 1.35 | 1.38     |
| 100 < CAP              | 0.8    | 1   | 1.17 | 1.25 | 1.28     |

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



Safety Device

## Case Size

φ D x L (mm)

| WV (V)<br>Cap (μF)<br>φ D | 400 (450) |        |       |        |       |        |       |        | 450 (500) |        |      |        |      |        |      |        |      |
|---------------------------|-----------|--------|-------|--------|-------|--------|-------|--------|-----------|--------|------|--------|------|--------|------|--------|------|
|                           | 22        |        | 25    |        | 30    |        | 35    |        | 22        |        | 25   |        | 30   |        | 35   |        |      |
|                           | Size      | Ripple | Size  | Ripple | Size  | Ripple | Size  | Ripple | Size      | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |      |
| 47                        | 22×21     | 0.27   |       |        |       |        |       |        |           | 22×26  | 0.3  |        |      |        |      |        |      |
| 68                        | 22×26     | 0.33   |       |        |       |        |       |        |           | 22×31  | 0.41 |        |      |        |      |        |      |
| 82                        | 22×26     | 0.54   |       |        |       |        |       |        |           | 22×31  | 0.74 | 25×26  | 0.75 |        |      |        |      |
| 100                       | 22×31     | 0.67   | 25×26 | 0.79   |       |        |       |        |           | 22×36  | 0.86 | 25×31  | 0.87 |        |      |        |      |
| 120                       | 22×31     | 0.69   | 25×26 | 0.83   |       |        |       |        |           | 22×41  | 0.99 | 25×36  | 1.01 |        |      |        |      |
| 150                       | 22×36     | 0.82   | 25×31 | 0.97   | 30×26 | 1.03   |       |        |           | 22×51  | 1.16 | 25×41  | 1.18 | 30×31  | 1.19 |        |      |
| 180                       | 22×41     | 0.95   | 25×36 | 1.13   | 30×31 | 1.2    |       |        |           | 22×51  | 1.27 | 25×46  | 1.29 | 30×36  | 1.3  |        |      |
| 220                       | 22×51     | 1.14   | 25×41 | 1.35   | 30×36 | 1.44   |       |        |           |        |      | 25×51  | 1.49 | 30×41  | 1.51 | 35×37  | 1.52 |
| 270                       |           |        | 25×46 | 1.52   | 30×36 | 1.61   | 35×32 | 1.75   |           |        |      |        |      | 30×46  | 1.71 | 35×37  | 1.73 |
| 330                       |           |        | 25×51 | 1.66   | 30×41 | 1.85   | 35×37 | 1.93   |           |        |      |        |      | 30×46  | 1.96 | 35×37  | 1.98 |
| 390                       |           |        |       |        | 30×46 | 1.93   | 35×42 | 2.11   |           |        |      |        |      |        |      | 35×42  | 2.19 |
| 470                       |           |        |       |        | 30×46 | 2.05   | 35×47 | 2.36   |           |        |      |        |      |        |      | 35×47  | 2.5  |
| 560                       |           |        |       |        |       |        | 35×52 | 2.66   |           |        |      |        |      |        |      |        |      |

Ripple Current (A, rms) at 85°C 120Hz