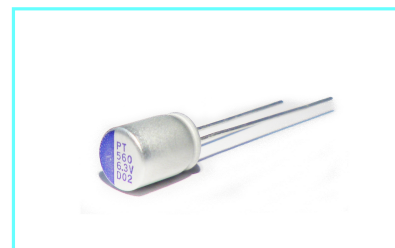


# UPT シリーズ 標準品

## Series, Radial Lead, Long Life

- 導電性高分子電解質を採用し、超低 ESR 化を実現,高リプル電流。  
Low ESR & high ripple current capability
- 105°C 5,000 時間保証品。 Endurance: 5,000 hours at 105°C
- 定格電圧範囲 Rated Voltage : 2.5V ~ 35V
- 静電容量範囲 Rated capacitance : 22 ~ 2,700  $\mu$ F

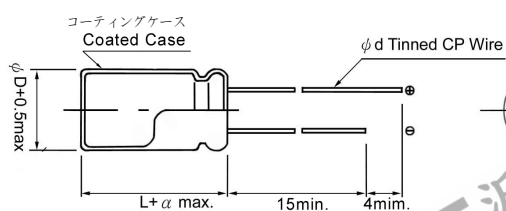


### 仕様 SPECIFICATIONS

| 項目 Item                                                                        | 性能 Performance Characteristics                                                                                                                                                                                                                                                                                         |                                                         |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 使用温度範囲<br>Operating Temperature range                                          | -55 + 105°C                                                                                                                                                                                                                                                                                                            |                                                         |
| 定格電圧範囲<br>Rated Voltage Range                                                  | 2.5V ~ 35V                                                                                                                                                                                                                                                                                                             |                                                         |
| 静電容量範囲<br>Capacitance Tolerance                                                | $\pm 20\%$ (at 120 Hz / 20°C)                                                                                                                                                                                                                                                                                          |                                                         |
| サージ電圧<br>Surge Voltage                                                         | 定格電圧 Rated Voltage x 1.15                                                                                                                                                                                                                                                                                              |                                                         |
| 漏れ電流 ※<br>Leakage Current                                                      | 標準品一覧表の値以下<br>Within the specified value as in standard rating                                                                                                                                                                                                                                                         |                                                         |
| 損失角の正接 (tan $\delta$ )<br>Dissipation Factor (tan $\delta$ )                   | 0.10 以下, Less than or equal to the specified value at 20°C, 120 Hz                                                                                                                                                                                                                                                     |                                                         |
| 温度特性 (インピーダンス比)<br>Temperature Characteristics<br>(Impedance ratio at 100 KHz) | Z (-25°C) / Z (+20°C)                                                                                                                                                                                                                                                                                                  | $\leq 1.15$                                             |
|                                                                                | Z (-55°C) / Z (+20°C)                                                                                                                                                                                                                                                                                                  | $\leq 1.25$                                             |
| 耐久性<br>Endurance                                                               | 105°Cにおいて定格電圧を 2.5 ~ 35V・5,000 時間印加後・20°Cに復帰させ測定を行なったとき、下記を満足すること<br>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000 hours at 105°C.                                                                                             |                                                         |
|                                                                                | 静電容量変化率 Capacitance change                                                                                                                                                                                                                                                                                             | 初期値の $\pm 20\%$ 以内 $\leq \pm 20\%$ of the initial value |
|                                                                                | 損失角の正接 D. F. (Tan $\delta$ )                                                                                                                                                                                                                                                                                           | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 等価直列抵抗 ESR                                                                                                                                                                                                                                                                                                             | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 漏れ電流 Leakage current                                                                                                                                                                                                                                                                                                   | 初期規格値以下 Initial specified value or less                 |
| 耐湿負荷特性<br>Bias Humidity Test                                                   | 60°C 90 ~ 95%RH 中で 1,000 時間,20°Cに復帰させ、下記を満足すること<br>The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours.                                                                                                               |                                                         |
|                                                                                | 静電容量変化率 Capacitance change                                                                                                                                                                                                                                                                                             | 初期値の $\pm 20\%$ 以内 $\leq \pm 20\%$ of the initial value |
|                                                                                | 損失角の正接 D. F. (Tan $\delta$ )                                                                                                                                                                                                                                                                                           | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 等価直列抵抗 ESR                                                                                                                                                                                                                                                                                                             | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 漏れ電流 Leakage current                                                                                                                                                                                                                                                                                                   | 初期規格値以下 Initial specified value or less                 |
| サージ電圧特性<br>Surge Voltage Test                                                  | 105°C中でサージ電圧を充電30秒・放電5分30秒で1,000回 (Rc=1 k $\Omega$ ) 印加した後20°Cに復帰させて測定を行なったとき,下記を満足すること<br>The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified At 105°C for 30 seconds through a protective resistor (R=1k $\Omega$ ) and discharge for 5 minutes 30 seconds. |                                                         |
|                                                                                | 静電容量変化率 Capacitance change                                                                                                                                                                                                                                                                                             | 初期値の $\pm 20\%$ 以内 $\leq \pm 20\%$ of the initial value |
|                                                                                | 損失角の正接 D. F. (Tan $\delta$ )                                                                                                                                                                                                                                                                                           | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 等価直列抵抗 ESR                                                                                                                                                                                                                                                                                                             | 初期規格値の 150%以下 $\leq 150\%$ of initial specified value   |
|                                                                                | 漏れ電流 Leakage current                                                                                                                                                                                                                                                                                                   | 初期規格値以下 Initial specified value or less                 |
| 保証故障率 Failure Rate                                                             | 0.5%/1,000 時間以下・0.5% per 1,000 hours maximum (Confidence level 60% at 105°C)                                                                                                                                                                                                                                           |                                                         |

※ 疑義が生じた場合は、下記の電圧処理後測定する。 電圧処理：105°Cにて 120 分間電圧印加する。印加電圧は定格電圧とする。  
In case of any doubt arises, measure the leakage current after voltage applied for 120 minutes at 105°C.

### 寸法図 Dimension



Unit: mm

| $\phi D + 0.5\max$ | 6.3        |         | 8   | 10  |
|--------------------|------------|---------|-----|-----|
|                    | $L \leq 7$ | $L > 7$ |     |     |
| $\phi d \pm 0.05$  | 0.5        | 0.6     | 0.6 | 0.6 |
| P                  | 2.5        | 2.5     | 3.5 | 5.0 |
| $\alpha$ (max)     | 1.0        | 1.0     | 1.5 | 1.5 |

■ 品名コード体系 Part Numbering (例 example: 16V 470  $\mu$ F 8x12mm)

|                      |   |   |                       |   |                     |   |                                                  |   |                     |   |                 |   |  |
|----------------------|---|---|-----------------------|---|---------------------|---|--------------------------------------------------|---|---------------------|---|-----------------|---|--|
| U                    | P | T | 1                     | C | 4                   | 7 | 1                                                | M | 0                   | 8 | 1               | 2 |  |
| シリーズ名<br>Series Name |   |   | 定格電圧<br>Rated Voltage |   | 静電容量<br>Capacitance |   | 容量許容差<br>Capacitance<br>Tolerance ( $\pm 20\%$ ) |   | サイズコード<br>Size code |   | 包装<br>Packaging |   |  |

■ 寸法表 Standard Products Table

| 定格電圧<br>Rated<br>voltage (V.DC) | 静電容量範囲<br>Rated<br>Capacitance ( $\mu$ F) | ケースサイズ<br>Case Size<br>D x L (mm) | $\tan \delta$ | 漏れ電流<br>Leakage<br>Current ( $\mu$ A) | 等価直列抵抗 ESR<br>( $m\Omega$ max./ 20°C<br>100KHz to 300KHz) | 定格リップル電流<br>Rated ripple current<br>(mA <sub>rms</sub> /105°C,100KHz) | 品番<br>Part Number |
|---------------------------------|-------------------------------------------|-----------------------------------|---------------|---------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------|-------------------|
| 2.5<br>(0E)                     | 560                                       | 6.3 x 6                           | 0.10          | 500                                   | 10                                                        | 3,870                                                                 | UPT0E561M0606     |
|                                 | 820                                       | 6.3 x 8                           | 0.10          | 500                                   | 7                                                         | 3,500                                                                 | UPT0E821M0608     |
|                                 | 820                                       | 8 x 8                             | 0.10          | 410                                   | 7                                                         | 6,100                                                                 | UPT0E821M0808     |
|                                 | 1,500                                     | 8 x 8                             | 0.10          | 750                                   | 7                                                         | 6,100                                                                 | UPT0E152M0808     |
|                                 | 2,700                                     | 10 x 12                           | 0.10          | 1,350                                 | 10                                                        | 5,560                                                                 | UPT0E272M1012     |
| 6.3<br>(0J)                     | 220                                       | 6.3 x 6                           | 0.10          | 300                                   | 17                                                        | 3,160                                                                 | UPT0J221M0606     |
|                                 | 330                                       | 6.3 x 6                           | 0.10          | 592                                   | 17                                                        | 3,160                                                                 | UPT0J331M0606     |
|                                 | 470                                       | 6.3 x 8                           | 0.10          | 592                                   | 7                                                         | 3,500                                                                 | UPT0J471M0608     |
|                                 | 560                                       | 6.3 x 8                           | 0.10          | 706                                   | 7                                                         | 3,500                                                                 | UPT0J561M0608     |
|                                 | 560                                       | 8 x 8                             | 0.10          | 706                                   | 7                                                         | 5,700                                                                 | UPT0J561M0808     |
|                                 | 680                                       | 6.3 x 8                           | 0.10          | 857                                   | 8                                                         | 4,700                                                                 | UPT0J681M0608     |
|                                 | 820                                       | 6.3 x 8                           | 0.10          | 1,033                                 | 8                                                         | 4,700                                                                 | UPT0J821M0608     |
|                                 | 820                                       | 8 x 8                             | 0.10          | 1,033                                 | 9                                                         | 5,700                                                                 | UPT0J821M0808     |
|                                 | 1,000                                     | 8 x 8                             | 0.10          | 1,260                                 | 9                                                         | 5,700                                                                 | UPT0J102M0808     |
|                                 | 1,500                                     | 8 x 12                            | 0.10          | 1,890                                 | 9                                                         | 5,700                                                                 | UPT0J152M0812     |
|                                 | 1,500                                     | 10 x 12                           | 0.10          | 1,890                                 | 10                                                        | 6,100                                                                 | UPT0J152M1012     |
| 10<br>(1A)                      | 470                                       | 8 x 8                             | 0.10          | 940                                   | 15                                                        | 3,950                                                                 | UPT1A471M0808     |
|                                 | 680                                       | 8 x 12                            | 0.10          | 1,360                                 | 20                                                        | 5,700                                                                 | UPT1A681M0812     |
| 16<br>(1C)                      | 100                                       | 6.3 x 6                           | 0.10          | 320                                   | 24                                                        | 2,490                                                                 | UPT1C101M0606     |
|                                 | 180                                       | 8 x 8                             | 0.10          | 576                                   | 13                                                        | 5,000                                                                 | UPT1C181M0808     |
|                                 | 270                                       | 6.3 x 8                           | 0.10          | 864                                   | 15                                                        | 3,800                                                                 | UPT1C271M0608     |
|                                 | 270                                       | 8 x 8                             | 0.10          | 864                                   | 11                                                        | 4,520                                                                 | UPT1C271M0808     |
|                                 | 330                                       | 8 x 8                             | 0.10          | 1,056                                 | 11                                                        | 4,520                                                                 | UPT1C331M0808     |
|                                 | 470                                       | 8 x 8                             | 0.10          | 1,504                                 | 16                                                        | 4,000                                                                 | UPT1C471M0808     |
|                                 | 470                                       | 8 x 12                            | 0.10          | 1,504                                 | 11                                                        | 5,400                                                                 | UPT1C471M0812     |
|                                 | 470                                       | 10 x 12                           | 0.10          | 1,504                                 | 10                                                        | 6,100                                                                 | UPT1C471M1012     |
|                                 | 820                                       | 8 x 12                            | 0.10          | 2,624                                 | 11                                                        | 5,400                                                                 | UPT1C821M0812     |
|                                 | 820                                       | 10 x 12                           | 0.10          | 2,624                                 | 11                                                        | 6,100                                                                 | UPT1C821M1012     |
|                                 | 1,000                                     | 10 x 12                           | 0.10          | 3,200                                 | 11                                                        | 6,100                                                                 | UPT1C102M1012     |
|                                 | 1,200                                     | 10 x 12                           | 0.10          | 3,840                                 | 11                                                        | 6,100                                                                 | UPT1C122M1012     |
|                                 | 1,200                                     | 8 x 16                            | 0.10          | 3,840                                 | 11                                                        | 7,000                                                                 | UPT1C122M0816     |
|                                 | 1,500                                     | 8 x 21                            | 0.10          | 4,800                                 | 9                                                         | 7,500                                                                 | UPT1C152M0821     |
|                                 | 1,500                                     | 10 x 12                           | 0.10          | 4,800                                 | 11                                                        | 6,100                                                                 | UPT1C152M1012     |
|                                 | 1,800                                     | 8 x 21                            | 0.10          | 5,760                                 | 9                                                         | 7,500                                                                 | UPT1C182M0821     |
|                                 | 2,200                                     | 10 x 16                           | 0.10          | 7,000                                 | 11                                                        | 8,100                                                                 | UPT1C222M1017     |
|                                 | 3,300                                     | 10 x 21                           | 0.10          | 8,000                                 | 11                                                        | 10,000                                                                | UPT1C332M1021     |
| 25<br>(1E)                      | 10                                        | 6.3 x 6                           | 0.10          | 300                                   | 40                                                        | 2,100                                                                 | UPT1E100M0606     |
|                                 | 22                                        | 6.3 x 6                           | 0.10          | 300                                   | 40                                                        | 2,100                                                                 | UPT1E220M0606     |
|                                 | 47                                        | 6.3 x 6                           | 0.10          | 300                                   | 40                                                        | 2,100                                                                 | UPT1E470M0606     |
|                                 | 100                                       | 8 x 8                             | 0.10          | 500                                   | 30                                                        | 2,500                                                                 | UPT1E101M0808     |
|                                 | 180                                       | 8 x 8                             | 0.10          | 900                                   | 30                                                        | 3,770                                                                 | UPT1E181M0808     |
|                                 | 330                                       | 8 x 12                            | 0.10          | 1,650                                 | 17                                                        | 4,650                                                                 | UPT1E331M0812     |
|                                 | 330                                       | 10 x 12                           | 0.10          | 1,650                                 | 14                                                        | 5,000                                                                 | UPT1E331M1012     |
|                                 | 470                                       | 10 x 12                           | 0.10          | 2,350                                 | 14                                                        | 5,000                                                                 | UPT1E471M1012     |
|                                 | 680                                       | 10 x 12                           | 0.10          | 3,400                                 | 14                                                        | 5,000                                                                 | UPT1E681M1012     |
| 35 (1V)                         | 47                                        | 8 x 8                             | 0.10          | 329                                   | 30                                                        | 2,600                                                                 | UPT1V470M0808     |

■ 許容リップル電流の周波数係数 Frequency coefficient of allowable ripple current

| 周波数 Frequency  | 120 Hz $\leq f < 1$ KHz | 1 KHz $\leq f < 10$ KHz | 10 KHz $\leq f < 100$ KHz | 100 KHz $\leq f \leq 300$ KHz |
|----------------|-------------------------|-------------------------|---------------------------|-------------------------------|
| 係数 Coefficient | 0.05                    | 0.30                    | 0.70                      | 1.00                          |