

## UPT

Miniature Sized, High Ripple Current, Long Life



- High ripple current.
- Suited for ballast application.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).



### Specifications

| Item                          | Performance Characteristics   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
|-------------------------------|---|--------------------|--|-------|---|-----------------|---|-----|------------------------|-----------------|------|------|------|------|------|---|
| Category Temperature Range    | -25 to +105°C   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Rated Voltage Range           | 200 to 450V   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Rated Capacitance Range       | 15 to 820µF   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Leakage Current               | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.06CV+10 (µA)  |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
|                               | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>220</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.12</td> <td>0.12</td> <td>0.12</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </table>  | Rated voltage (V)  | 200  | 220   | 250   | 400             | 420   | 450 | tan δ (MAX.)           | 0.12            | 0.12 | 0.12 | 0.15 | 0.20 | 0.20 |   |
| Rated voltage (V)             | 200   | 220                | 250  | 400   | 420   | 450             |   |     |                        |                 |      |      |      |      |      |   |
| tan δ (MAX.)                  | 0.12  | 0.12               | 0.12   | 0.15  | 0.20  | 0.20            |   |     |                        |                 |      |      |      |      |      |   |
| Stability at Low Temperature  | Measurement frequency : 120Hz   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
|                               | <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>220</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> </tr> <tr> <td>Impedance ratio (MAX.)</td> <td colspan="2">Z-25°C / Z+20°C</td> <td>3</td> <td>3</td> <td>3</td> <td>8</td> <td>8</td> <td>8</td> </tr> </table>   | Rated voltage (V)  | 200  | 220   | 250   | 400             | 420   | 450 | Impedance ratio (MAX.) | Z-25°C / Z+20°C |      | 3    | 3    | 3    | 8    | 8 |
| Rated voltage (V)             | 200   | 220                | 250  | 400   | 420   | 450             |   |     |                        |                 |      |      |      |      |      |   |
| Impedance ratio (MAX.)        | Z-25°C / Z+20°C   |                    | 3  | 3     | 3   | 8               | 8   | 8   |                        |                 |      |      |      |      |      |   |
| Endurance                     | <p>The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 5000 hours at 105°C, the peak voltage shall not exceed the rated voltage.</p> <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±20% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table> | Capacitance change | Within ±20% of the initial capacitance value | tan δ | 200% or less than the initial specified value | Leakage current | Less than or equal to the initial specified value |     |                        |                 |      |      |      |      |      |   |
| Capacitance change            | Within ±20% of the initial capacitance value  |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| tan δ                         | 200% or less than the initial specified value   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Leakage current               | Less than or equal to the initial specified value   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |
| Marking                       | Printed with white color letter on dark brown sleeve.   |                    |  |       |   |                 |   |     |                        |                 |      |      |      |      |      |   |

### Radial Lead Type



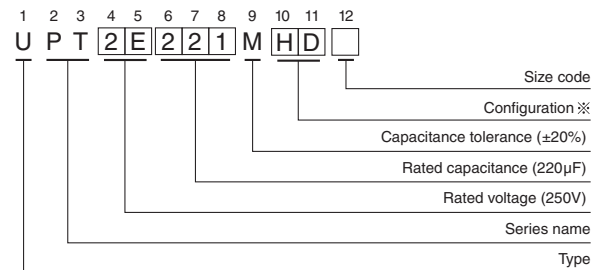
|    | (mm) |      |     |     |      |      |      |
|----|------|------|-----|-----|------|------|------|
| φD | 10   | 12.5 | 16  | 18  | 20   | 22   | 25   |
| P  | 5.0  | 5.0  | 7.5 | 7.5 | 10.0 | 10.0 | 12.5 |
| φd | 0.6  | 0.6* | 0.8 | 0.8 | 1.0  | 1.0  | 1.0  |
| β  | 0.5  | 0.5  | 0.5 | 0.5 | 0.5  | 1.0  | 1.0  |

\*: In case L > 25 for the φ12.5 dia. unit, lead dia. φ d = 0.8mm.

|   |                |
|---|----------------|
| α | (φD < 20): 1.5 |
|   | (φD ≥ 20): 2.0 |

• Please refer to page 20 about the end seal configuration.

### Type numbering system (Example : 250V 220µF)



※ Configuration

| φ D        | Pb-free leadwire<br>Pb-free PET sleeve |
|------------|--|
| 10         | PD                                     |
| 12.5 to 18 | HD                                     |
| 20 to 25   | RD                                     |

Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

● Dimension table in next page.

## UPT

### ■ Dimensions

| Cap.( $\mu$ F) | V<br>Code | 200         |      | 220         |      | 250         |      | 400         |      | 420         |      | 450                           |      |
|----------------|-----------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------------------------|------|
|                |           | 2D          |      | 2P          |      | 2E          |      | 2G          |      | W6          |      | 2W                            |      |
| 15             | 150       |             |      |             |      |             |      |             |      |             |      | 10 × 31.5                     | 0.15 |
| 18             | 180       |             |      |             |      |             |      |             |      | 10 × 31.5   | 0.17 | 12.5 × 25                     | 0.18 |
| 22             | 220       |             |      |             |      |             |      | 10 × 31.5   | 0.21 | 12.5 × 25   | 0.20 | 12.5 × 31.5                   | 0.22 |
| 27             | 270       |             |      |             |      |             |      | 12.5 × 25   | 0.24 | 12.5 × 31.5 | 0.24 | 12.5 × 31.5                   | 0.25 |
| 33             | 330       |             |      |             |      |             |      | 12.5 × 31.5 | 0.29 | 12.5 × 31.5 | 0.27 | 12.5 × 35.5                   | 0.28 |
| 39             | 390       |             |      |             |      |             |      | 12.5 × 31.5 | 0.32 | 12.5 × 35.5 | 0.31 | 12.5 × 40                     | 0.32 |
| 47             | 470       |             |      |             |      | 10 × 31.5   | 0.27 | 12.5 × 35.5 | 0.37 | 12.5 × 40   | 0.36 | 16 × 31.5                     | 0.38 |
| 56             | 560       |             |      | 10 × 31.5   | 0.29 | 12.5 × 25   | 0.31 | 12.5 × 40   | 0.42 | 16 × 31.5   | 0.43 | 16 × 35.5                     | 0.44 |
| 68             | 680       | 10 × 31.5   | 0.35 | 12.5 × 25   | 0.34 | 12.5 × 31.5 | 0.36 | 16 × 31.5   | 0.46 | 16 × 35.5   | 0.51 | 16 × 40                       | 0.49 |
|                |           |             |      |             |      |             |      |             |      | ▲ 18 × 31.5 | 0.51 | ▲ 18 × 31.5                   | 0.48 |
| 82             | 820       | 12.5 × 25   | 0.41 | 12.5 × 31.5 | 0.39 | 12.5 × 31.5 | 0.40 | 16 × 31.5   | 0.50 | 16 × 40     | 0.57 | 18 × 35.5                     | 0.55 |
|                |           |             |      |             |      |             |      |             |      | ▲ 18 × 31.5 | 0.57 |                               |      |
| 100            | 101       | 12.5 × 31.5 | 0.48 | 12.5 × 31.5 | 0.43 | 12.5 × 35.5 | 0.46 | 16 × 35.5   | 0.58 | 18 × 35.5   | 0.61 | 18 × 40                       | 0.65 |
|                |           |             |      |             |      |             |      | ▲ 18 × 31.5 | 0.58 |             |      |                               |      |
| 120            | 121       | 12.5 × 31.5 | 0.53 | 12.5 × 35.5 | 0.49 | 12.5 × 40   | 0.53 | 16 × 40     | 0.66 | 18 × 40     | 0.66 | 22 × 40                       | 0.77 |
|                |           |             |      |             |      |             |      | ▲ 18 × 35.5 | 0.67 |             |      |                               |      |
| 150            | 151       | 12.5 × 35.5 | 0.62 | 12.5 × 40   | 0.58 | 16 × 31.5   | 0.62 | 18 × 40     | 0.77 | 22 × 40     | 0.80 | 22 × 50                       | 0.92 |
|                |           |             |      |             |      |             |      |             |      |             |      | ▲ 25 × 40                     | 0.92 |
| 180            | 181       | 12.5 × 40   | 0.70 | 16 × 31.5   | 0.67 | 16 × 35.5   | 0.72 | 22 × 40     | 0.85 | 22 × 50     | 0.95 | 25 × 50                       | 1.10 |
|                |           |             |      |             |      | ▲ 18 × 31.5 | 0.72 |             |      | ▲ 25 × 40   | 0.95 |                               |      |
| 220            | 221       | 16 × 31.5   | 0.76 | 16 × 35.5   | 0.77 | 16 × 40     | 0.83 |             |      |             |      |                               |      |
|                |           | ▲ 18 × 31.5 | 0.81 | ▲ 18 × 31.5 | 0.77 | ▲ 18 × 35.5 | 0.83 |             |      |             |      |                               |      |
| 270            | 271       | 16 × 35.5   | 0.88 | 16 × 40     | 0.88 | 18 × 40     | 0.95 | 22 × 50     | 1.30 | 25 × 50     | 1.20 |                               |      |
|                |           | ▲ 18 × 31.5 | 0.87 | ▲ 18 × 35.5 | 0.88 |             |      | ▲ 25 × 40   | 1.30 |             |      |                               |      |
| 330            | 331       | 18 × 35.5   | 1.01 | 18 × 40     | 1.01 | 22 × 40     | 1.05 | 25 × 50     | 1.40 |             |      |                               |      |
| 390            | 391       | 18 × 40     | 1.13 | 22 × 40     | 1.15 |             |      |             |      |             |      |                               |      |
| 470            | 471       | 22 × 40     | 1.20 |             |      | 22 × 50     | 1.45 |             |      |             |      |                               |      |
|                |           |             |      |             |      | ▲ 25 × 40   | 1.45 |             |      |             |      |                               |      |
| 560            | 561       |             |      | 22 × 50     | 1.50 | 25 × 50     | 1.55 |             |      |             |      |                               |      |
|                |           |             |      | ▲ 25 × 40   | 1.50 |             |      |             |      |             |      |                               |      |
| 680            | 681       | 22 × 50     | 1.50 | 25 × 50     | 1.60 |             |      |             |      |             |      |                               |      |
|                |           | ▲ 25 × 40   | 1.50 |             |      |             |      |             |      |             |      |                               |      |
| 820            | 821       | 25 × 50     | 1.60 |             |      |             |      |             |      |             |      | Case size<br>$\phi$ D × L(mm) | ※    |

※: Rated ripple current (Arms) at 105°C 120Hz

▲: In this case, 6 will be put at 12th digit of type numbering system.

### • Frequency coefficient of rated ripple current

| Frequency   | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz or more |
|-------------|------|-------|-------|------|---------------|
| Coefficient | 0.80 | 1.00  | 1.25  | 1.40 | 1.60          |



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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