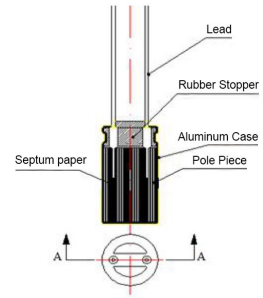


# TS12-HB

## STRUCTURE

- This product adopts the shape of a cylindrical capacitor. The interior is a wound structure, and the positive and negative electrodes are separated by a separator and impregnated with electrolyte components; the aluminum casing is sealed with a rubber stopper, the lead-out method is wire lead-out, and the lead-out pole is on the same side of the product.



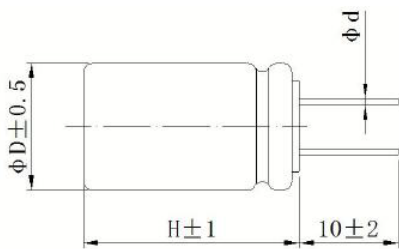
## APPLICATIONS

- Smart meter: smart electricity meter, smart water meter, smart gas meter
- Car electronics: car audio, ETC system, driving recorder
- IoT 5G: smart TV, smart refrigerator, smart electronic door, anti-theft system, 5G terminal
- Backup power supply: communication equipment, wireless transmission, RAM, UPS, small household appliances, small energy storage devices, green energy, solar street lights

| S                               | P | E  | C | I | F | I | C | A | T | I | O | N | S |
|---------------------------------|---|--|---|---|---|---|---|---|---|---|---|---|---|
| Operating Voltage Range         |   | 2.5V~3.8V  |   |   |   |   |   |   |   |   |   |   |   |
| Surge Voltage                   |   | 4.2V   |   |   |   |   |   |   |   |   |   |   |   |
| Cut-off discharge voltage       |   | 2.5V   |   |   |   |   |   |   |   |   |   |   |   |
| Cap. Tolerance                  |   | -20%~+20%  |   |   |   |   |   |   |   |   |   |   |   |
| Self Discharge (3months)        |   | 3.0V   |   |   |   |   |   |   |   |   |   |   |   |
| Cycle life Expectancy           |   | Normal temperature cycle life: 250,000times.   $\Delta C/C \leq 30\%$ , $ESR \leq 2$ times the specified value                       |   |   |   |   |   |   |   |   |   |   |   |
| High temperature load           |   | +65°C rated voltage, or +85°C 3.5V voltage, after 1000h,   $\Delta C/C \leq 30\%$ , $ESR \leq 2$ times the specified value           |   |   |   |   |   |   |   |   |   |   |   |
| High temperature without load   |   | +65°C, after 1000h,   $\Delta C/C \leq 30\%$ , $ESR \leq 2$ times the specified value  |   |   |   |   |   |   |   |   |   |   |   |
| Temperature characteristics     |   | +70°C   $\Delta C/C \leq 30\%$ , $ESR \leq$ specified value; -20°C   $\Delta C/C \leq 50\%$ , $ESR \leq 4$ times the specified value |   |   |   |   |   |   |   |   |   |   |   |
| The steady state damp heat test |   | +40°C, 90--95%RH, 240h,   $\Delta C/C \leq 30\%$ , $ESR \leq 2$ times the specified value  |   |   |   |   |   |   |   |   |   |   |   |

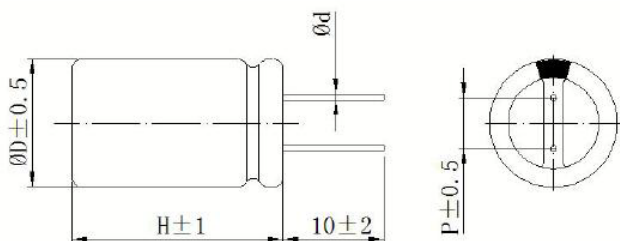
## DIMENSIONS (mm)

Fig 1



| $\Phi D$ | P   | $\Phi d$ |
|----------|-----|----------|
| 6.3      | 2.5 | 0.5±0.05 |
| 8        | 3.5 | 0.6±0.1  |
| 10       | 5.0 | 0.6±0.1  |
| 12.5     | 5.0 | 0.6±0.1  |

Fig 2



| $\Phi D$ | P   | $\Phi d$ |
|----------|-----|----------|
| 16       | 7.5 | 0.8±0.05 |
| 18       | 7.5 | 0.8±0.05 |

Note: Specification are subject to change without notice. For more detail and update, please visit our website.

# TS12-HB

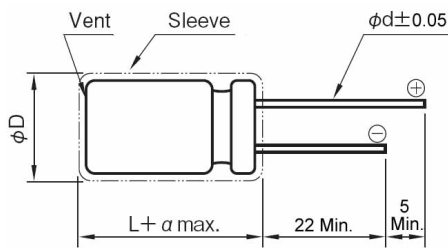
## STANDARD RATINGS

| Rated Cap.<br>(F)  | Size φDxH<br>(mm) | ESR DC<br>(mΩ) | ESR AC (1KHz)<br>(mΩ) | Rated Current<br>(A) | Pulse Current<br>(A) | Leakage Current<br>(μA) | Dimensions<br>(mm) |
|--|-------------------|----------------|-----------------------|----------------------|----------------------|-------------------------|--------------------|
| <b>Rated voltage: 3.8V; Operating Temp. : -20°C~60°C</b> |                   |                |                       |                      |                      |                         |                    |
| 6.5  | 6.3x10            | 7000           | 3500                  | 0.03                 | 0.20                 | 4.0                     | Fig 1              |
| 8  | 6.3x12.5          | 7000           | 3500                  | 0.04                 | 0.25                 | 4.0                     | Fig 1              |
| 10   | 8x13              | 2200           | 800                   | 0.06                 | 0.35                 | 5.0                     | Fig 1              |
| 15   | 6.3x22            | 2000           | 800                   | 0.08                 | 0.45                 | 5.5                     | Fig 1              |
| 20   | 8x16              | 1000           | 500                   | 0.10                 | 0.55                 | 6.0                     | Fig 1              |
| 30   | 8x20              | 900            | 300                   | 0.15                 | 0.9                  | 6.5                     | Fig 1              |
| 38   | 8x24              | 700            | 200                   | 0.20                 | 1.00                 | 7.0                     | Fig 1              |
| 40   | 8x20              | 600            | 200                   | 0.22                 | 1.00                 | 7.0                     | Fig 1              |
| 40   | 10x16             | 600            | 200                   | 0.22                 | 1.00                 | 7.0                     | Fig 1              |
| 50   | 10x20             | 600            | 200                   | 0.28                 | 1.40                 | 7.0                     | Fig 1              |
| 70   | 10x25             | 320            | 120                   | 0.40                 | 2.30                 | 9.0                     | Fig 1              |
| 80   | 10x20             | 320            | 120                   | 0.45                 | 2.50                 | 12.0                    | Fig 1              |
| 100  | 10x30             | 250            | 100                   | 0.60                 | 3.00                 | 13.0                    | Fig 1              |
| 120  | 12.5x21           | 250            | 100                   | 0.70                 | 3.50                 | 18.0                    | Fig 1              |
| 150  | 12.5x25           | 250            | 100                   | 0.80                 | 4.50                 | 20.0                    | Fig 1              |
| 250  | 12.5x34           | 200            | 70                    | 1.40                 | 7.50                 | 30.0                    | Fig 1              |
| 300  | 16x26             | 200            | 70                    | 1.60                 | 9.00                 | 40.0                    | Fig 2              |
| 500  | 16x34             | 150            | 50                    | 2.80                 | 16.00                | 65.0                    | Fig 2              |
| 800  | 18x41             | 80             | 30                    | 4.50                 | 26.00                | 110.0                   | Fig 2              |
| 1000   | 18x60             | 60             | 25                    | 5.50                 | 36.00                | 130.0                   | Fig 2              |

# TS12-HB

## DIMENSIONS (mm)

Fig 3



| ΦD   | P   | Φd  | α   |
|------|-----|-----|-----|
| 6.3  | 2.6 | 0.5 | 1.5 |
| 8    | 3.5 | 0.6 | 1.5 |
| 10   | 5.0 | 0.6 | 2.0 |
| 12.5 | 5.0 | 0.6 | 2.0 |
| 16   | 7.5 | 0.8 | 2.0 |
| 18   | 7.5 | 0.8 | 2.0 |

## STANDARD RATINGS

| Rated Cap. (F)                                    | Size φDxH (mm) | ESR DC (mΩ) | ESR AC (1KHz) (mΩ) | Rated Current (A) | Max. Current (≤3sec) (A) | Leakage Current (μA) | Dimensions (mm) |
|---|----------------|-------------|--------------------|-------------------|--------------------------|----------------------|-----------------|
| Rated voltage: 3.8V; Operating Temp. : -25°C~70°C |                |             |                    |                   |                          |                      |                 |
| 3   | 5*12           | 9000        | 4000               | 0.015             | 0.1                      | 1.8                  | Fig 3           |
| 8   | 6.3*12         | 2600        | 1200               | 0.04              | 0.25                     | 2.0                  | Fig 3           |
| 20  | 6.3*22         | 1000        | 450                | 0.11              | 0.7                      | 3.5                  | Fig 3           |
| 25  | 8*14           | 900         | 400                | 0.125             | 0.8                      | 2.5                  | Fig 3           |
| 40  | 8*20           | 550         | 250                | 0.2               | 1.2                      | 3.2                  | Fig 3           |
| 55  | 8*25           | 450         | 200                | 0.275             | 1.8                      | 5.0                  | Fig 3           |
| 50  | 10*16          | 450         | 200                | 0.275             | 1.8                      | 5.0                  | Fig 3           |
| 60  | 12.5*13        | 400         | 200                | 0.3               | 2.0                      | 8.0                  | Fig 3           |
| 80  | 10*20          | 250         | 120                | 0.425             | 3.5                      | 8.0                  | Fig 3           |
| 100   | 10*25          | 220         | 90                 | 0.55              | 4                        | 9.0                  | Fig 3           |
| 150   | 10*30          | 140         | 70                 | 0.75              | 6                        | 15.0                 | Fig 3           |
| 200   | 12.5*25        | 135         | 65                 | 1                 | 6                        | 18.0                 | Fig 3           |
| 300   | 12.5*35        | 100         | 50                 | 1.5               | 10                       | 30.0                 | Fig 3           |
| 350   | 12.5*40        | 90          | 45                 | 1.75              | 11                       | 35.0                 | Fig 3           |
| 400   | 12.5*45        | 80          | 45                 | 2                 | 12                       | 70.0                 | Fig 3           |
| 450   | 16*30          | 60          | 40                 | 2.25              | 15                       | 70.0                 | Fig 3           |
| 850   | 18*40          | 70          | 35                 | 4.25              | 28                       | 70.0                 | Fig 3           |
| 1000  | 18*50          | 65          | 30                 | 5                 | 30                       | 100.0                | Fig 3           |
| 1400  | 18*60          | 50          | 20                 | 7                 | 40                       | 120.0                | Fig 3           |