

# TXH Series

- Endurance with ripple current : 10,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

TXH

Longer life  
LXM



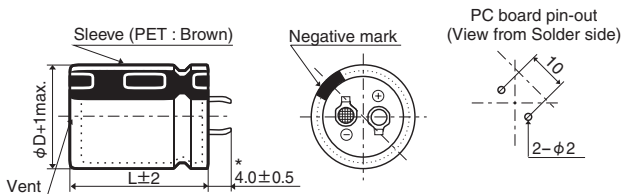
## SPECIFICATIONS

| Items  | Characteristics   |                                       |      |
|--|---|---------------------------------------|------|
| Category   | -25 to +105°C   |                                       |      |
| Temperature Range                                      | -25 to +105°C   |                                       |      |
| Rated Voltage Range                                    | 200 to 450V <sub>dc</sub>   |                                       |      |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)   |                                       |      |
| Leakage Current  | I ≤ 3√CV<br>Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes)   |                                       |      |
| Dissipation Factor (tan δ)                             | Rated voltage (V <sub>dc</sub> )  | 200 to 400V                           | 450V |
|  | tan δ (Max.)  | 0.15                                  | 0.20 |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )  | 200 to 400V                           | 450V |
|  | Z (-25°C)/Z (+20°C)   | 4                                     | 8    |
| Endurance  | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 10,000 hours at 105°C.  |                                       |      |
|  | Capacitance change  | ≤ ±20% of the initial value           |      |
|  | D.F. (tan δ)  | ≤ 200% of the initial specified value |      |
|  | Leakage current   | ≤ The initial specified value         |      |
| Shelf Life   | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |                                       |      |
|  | Capacitance change  | ≤ ±15% of the initial value           |      |
|  | D.F. (tan δ)  | ≤ 150% of the initial specified value |      |
|  | Leakage current   | ≤ The initial specified value         |      |

## DIMENSIONS [mm]

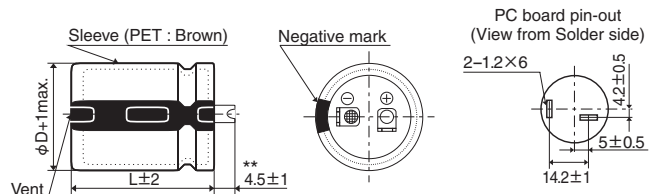
Terminal Code : VS (φ30 to φ40) : Standard

Terminal Code : LI (φ35, φ40)



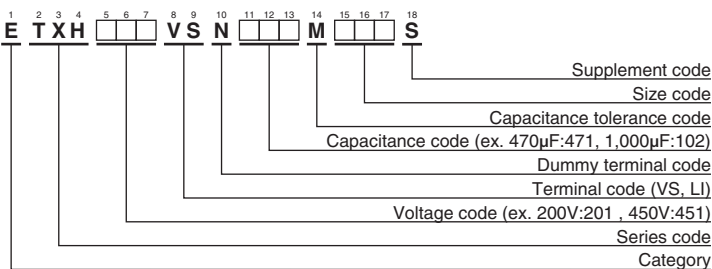
\* φD=40mm : 3.5±0.5mm

The standard design has no plastic disc.



\*\* φD=40mm : 4.0±1

## PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No.           | WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|----------|--------------------|-------|--|--------------------|
| 200                   | 560      | 30 × 30            | 0.15  | 1.50                                     | ETXH201VSN561MR30S | 400                   | 220      | 30 × 35            | 0.15  | 1.00                                     | ETXH401VSN221MR35S |
|                       | 680      | 30 × 35            | 0.15  | 1.70                                     | ETXH201VSN681MR35S |                       | 270      | 30 × 40            | 0.15  | 1.15                                     | ETXH401VSN271MR40S |
|                       | 820      | 30 × 40            | 0.15  | 2.00                                     | ETXH201VSN821MR40S |                       | 270      | 35 × 30            | 0.15  | 1.13                                     | ETXH401VSN271MA30S |
|                       | 820      | 35 × 30            | 0.15  | 2.00                                     | ETXH201VSN821MA30S |                       | 330      | 30 × 45            | 0.15  | 1.29                                     | ETXH401VSN331MR45S |
|                       | 1,000    | 30 × 45            | 0.15  | 2.20                                     | ETXH201VSN102MR45S |                       | 330      | 35 × 35            | 0.15  | 1.26                                     | ETXH401VSN331MA35S |
|                       | 1,000    | 35 × 35            | 0.15  | 2.20                                     | ETXH201VSN102MA35S |                       | 330      | 40 × 30            | 0.15  | 1.28                                     | ETXH401VSN331MB30S |
|                       | 1,000    | 40 × 30            | 0.15  | 2.17                                     | ETXH201VSN102MB30S |                       | 390      | 30 × 50            | 0.15  | 1.44                                     | ETXH401VSN391MR50S |
|                       | 1,200    | 35 × 40            | 0.15  | 2.40                                     | ETXH201VSN122MA40S |                       | 390      | 35 × 40            | 0.15  | 1.43                                     | ETXH401VSN391MA40S |
|                       | 1,200    | 40 × 35            | 0.15  | 2.45                                     | ETXH201VSN122MB35S |                       | 470      | 35 × 45            | 0.15  | 1.60                                     | ETXH401VSN471MA45S |
|                       | 1,500    | 35 × 50            | 0.15  | 2.81                                     | ETXH201VSN152MA50S |                       | 470      | 40 × 35            | 0.15  | 1.58                                     | ETXH401VSN471MB35S |
|                       | 1,500    | 40 × 40            | 0.15  | 2.79                                     | ETXH201VSN152MB40S |                       | 560      | 35 × 50            | 0.15  | 1.79                                     | ETXH401VSN561MA50S |
|                       | 1,800    | 40 × 50            | 0.15  | 3.24                                     | ETXH201VSN182MB50S |                       | 560      | 40 × 40            | 0.15  | 1.78                                     | ETXH401VSN561MB40S |
| 250                   | 390      | 30 × 30            | 0.15  | 1.30                                     | ETXH251VSN391MR30S | 680                   | 40 × 50  | 0.15               | 2.05  | ETXH401VSN681MB50S                       |                    |
|                       | 470      | 30 × 35            | 0.15  | 1.42                                     | ETXH251VSN471MR35S | 820                   | 40 × 60  | 0.15               | 2.36  | ETXH401VSN821MB60S                       |                    |
|                       | 560      | 35 × 30            | 0.15  | 1.58                                     | ETXH251VSN561MA30S | 450                   | 220      | 30 × 40            | 0.20  | 1.04                                     | ETXH451VSN221MR40S |
|                       | 680      | 30 × 45            | 0.15  | 1.80                                     | ETXH251VSN681MR45S |                       | 220      | 35 × 30            | 0.20  | 1.02                                     | ETXH451VSN221MA30S |
|                       | 680      | 35 × 35            | 0.15  | 1.76                                     | ETXH251VSN681MA35S |                       | 270      | 30 × 45            | 0.20  | 1.19                                     | ETXH451VSN271MR45S |
|                       | 820      | 30 × 50            | 0.15  | 2.03                                     | ETXH251VSN821MR50S |                       | 270      | 35 × 35            | 0.20  | 1.16                                     | ETXH451VSN271MA35S |
|                       | 820      | 35 × 40            | 0.15  | 2.01                                     | ETXH251VSN821MA40S |                       | 330      | 30 × 50            | 0.20  | 1.33                                     | ETXH451VSN331MR50S |
|                       | 820      | 40 × 30            | 0.15  | 1.96                                     | ETXH251VSN821MB30S |                       | 330      | 35 × 40            | 0.20  | 1.32                                     | ETXH451VSN331MA40S |
|                       | 1,000    | 35 × 45            | 0.15  | 2.30                                     | ETXH251VSN102MA45S |                       | 390      | 35 × 45            | 0.20  | 1.48                                     | ETXH451VSN391MA45S |
|                       | 1,000    | 40 × 35            | 0.15  | 2.27                                     | ETXH251VSN102MB35S |                       | 470      | 35 × 50            | 0.20  | 1.64                                     | ETXH451VSN471MA50S |
|                       | 1,200    | 35 × 50            | 0.15  | 2.55                                     | ETXH251VSN122MA50S |                       | 560      | 40 × 60            | 0.20  | 1.98                                     | ETXH451VSN561MB60S |
|                       | 1,200    | 40 × 40            | 0.15  | 2.53                                     | ETXH251VSN122MB40S |                       |          |                    |       |  |                    |
| 1,500                 | 40 × 50  | 0.15               | 2.96  | ETXH251VSN152MB50S                       |                    |                       |          |                    |       |  |                    |
| 1,800                 | 40 × 60  | 0.15               | 3.39  | ETXH251VSN182MB60S                       |                    |                       |          |                    |       |  |                    |

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Frequency(Hz)           | 50   | 120  | 300  | 1k   | 10k  | 50k  |
|-------------------------|------|------|------|------|------|------|
| 200, 250V <sub>dc</sub> | 0.81 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50 |
| 400, 450V <sub>dc</sub> | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.