



## Specifications

| Items  | Condition  | Specifications                               |                     |  |
|--|--|--|---------------------|--|
| Rated voltage (V)  | —  | 2.0  | 2.5                 |  |
| Surge voltage (V)  | —  | 2.3  | 2.9                 |  |
| Category temperature range (°C)                                | —  | -55 to +105                                  |                     |  |
| Capacitance tolerance (%)                                      | 120Hz/20°C   | M: ±20                                       |                     |  |
| Rated capacitance range (μF)                                   | 120Hz/20°C   | 200 to 270                                   |                     |  |
| Dissipation Factor (DF)  | 120Hz/20°C   | Please see the attached characteristics list |                     |  |
| Leakage current  | Rated voltage applied, after 5 minutes   | Please see the attached characteristics list |                     |  |
| Equivalent series resistance (ESR)                             | 100kHz/20°C  | Please see the attached characteristics list |                     |  |
| Characteristics of impedance ratio at high temp. and low temp. | 100kHz/+20°C   | -55°C  | Z/Z <sub>20°C</sub> | 0.6 to 2.0                             |
|  |  | +105°C                                       | Z/Z <sub>20°C</sub> | 0.6 to 2.0                             |
| Endurance  | 105°C, 1,000h, rated voltage applied<br>※Rated temp, 85°C Products: 85°C, 1,000h, rated voltage applied  | ΔC/C   |                     | Within ±20% of the initial value       |
|  |  | DF   |                     | ≤ 1.5 times of the initial limit       |
|  |  | LC   |                     | Within the initial limit               |
| Damp heat (Steady State)                                       | 60°C, 90 to 95%RH, 500h, No-applied voltage  | ΔC/C   |                     | Within +40%, -20% of the initial value |
|  |  | DF   |                     | ≤ 1.5 times of the initial limit       |
|  |  | LC   |                     | ≤ 3 times of the initial limit         |
| Surge  | 105°C, 1,000 cycles, 1kΩ discharge resistance, surge voltage applied<br>※Rated temp, 85°C Products: 85°C | ΔC/C   |                     | Within ±5% of the initial value        |
|  |  | DF   |                     | Within the initial limit               |
|  |  | LC   |                     | ≤ 3 times of the initial limit         |

## Marking and dimensions

※1 The rated voltage is as follows.

|      |     |     |
|------|-----|-----|
| R.V. | 2.0 | 2.5 |
| Mark | d   | e   |

※2 Lot.No.shows roughly manufacturing date.

※3 The rated capacitance is as follows.

|                 |     |     |
|-----------------|-----|-----|
| Capacitance(μF) | 200 | 270 |
| Mark            | H8  | L8  |

| Size code | L ±0.2 | W ±0.2 | H ±0.1 | S ±0.3 | W1 ±0.1 |
|-----------|--------|--------|--------|--------|---------|
| B2S       | 3.5    | 2.8    | 1.9    | 0.8    | 2.2     |

(unit: mm)

## Recommended land pattern dimension of PWB

| Size code | a   | b   | c   |
|-----------|-----|-----|-----|
| B2S       | 1.6 | 2.7 | 1.4 |

(unit: mm)

## Size list

| μF  | RV:Rated voltage |     |
|-----|------------------|-----|
|     | 2.0              | 2.5 |
| 270 | B2S              | B2S |

## TPSF series characteristics list

| Size code | Part number           | Rated voltage (V) | Rated temperature (°C) | Rated capacitance (μF) | Category voltage (V) | Category temperature (°C) | DF (% max) | LC (μA) max/5min. | ESR (mΩmax) 100kHz/20°C | ESL (nHmax) *Typical value | Maximum allowable ripple current (mA rms) 100kHz※1 | MSL                  |                      |
|-----------|-----------------------|-------------------|------------------------|------------------------|----------------------|---------------------------|------------|-------------------|-------------------------|----------------------------|--|----------------------|----------------------|
|           |                       |                   |                        |                        |                      |                           |            |                   |                         |                            |  | Reflow temp. ≤ 260°C | Reflow temp. ≤ 250°C |
| B2S       | <b>ETPSF270M6E</b> ※2 | 2.5               | 105                    | 270                    | 2.5                  | 105                       | 10         | 135               | 6/500kHz                | 0.7                        | 3200   | 3                    | 3                    |
|           | 2TPSF270M9G           | 2.0               | 105                    | 270                    | 2.0                  | 105                       | 8.0        | 108.0             | 9/300kHz                | 0.7                        | 2400   | 3                    | 3                    |
|           | 2TPSF270M6E           | 2.0               | 105                    | 270                    | 2.0                  | 105                       | 8.0        | 108.0             | 6/500kHz                | 0.7                        | 3200   | 5                    | 5                    |

※1 100k~500kHz,45°C ※2 Under development