

TPL/TPLF Series Low ESR · Low ESL Products Face Down Terminal Type

Feature

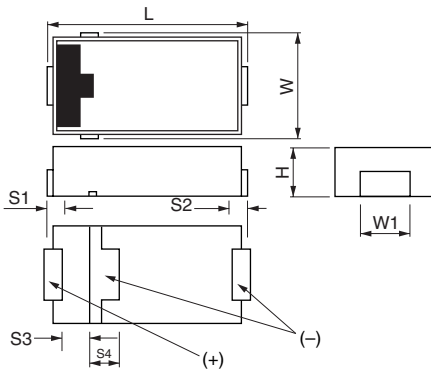
TPL series has a low ESL and low ESR advantage using an unique face down terminal structure.



Specifications

| Items | Condition | Characteristics | | |
|--|--|--|---------------------------------------|------------|
| Operating Temperature range | — | -55 to +105 (°C) | | |
| Rated capacitance range | 120Hz/20°C | 220 to 470 (μF) | | |
| Capacitance tolerance | 120Hz/20°C | M:±20% | | |
| Rated voltage | — | 2.0 to 2.5 (V.DC) | | |
| Dissipation Factor (D.F.) | 120Hz/20°C | ≤ 10.0 (%) | | |
| Leakage current | Rated voltage applied, after 5 minutes | Please see the attached characteristics list | | |
| Equivalent series resistance (E.S.R. mΩmax.) | 100kHz/20°C | Please see the attached characteristics list | | |
| Temperature characteristics of Impedance ratio | 100kHz/+20°C | -55°C | Z/Z _{20°C} | 1.0 to 2.0 |
| | | +105°C | Z/Z _{20°C} | 0.6 to 1.0 |
| Endurance | 105°C, 2000h, rated voltage applied | ΔC/C | Within±20% of the initial value | |
| | | D.F. | ≤ 1.5 times the initial limit | |
| | | L.C. | ≤ The initial limit | |
| Damp heat (Steady state) | 60°C, 90 to 95%RH, 500h, No voltage applied | ΔC/C | Within+50%, -20% of the initial value | |
| | | D.F. | ≤ 1.5 times the initial limit | |
| | | L.C. | ≤ 3 times the initial limit | |
| Surge | 105°C, 1000 times, 1kΩ discharge resistance, Surge voltage applied | ΔC/C | Within±5% of the initial value | |
| | | D.F. | ≤ The initial limit | |
| | | L.C. | ≤ 3 times the initial limit | |

Dimensions



Size List

| RV (SV) | 2.0 (2.6) | 2.5 (3.2) |
|---------|-----------|-----------|
| μF | | |
| 220 | D2T | D2T |
| 330 | D2T | D2T |
| 470 | D2T | D2T |

(unit: mm)

| Size code | L (±0.3) | W (±0.2) | H (±0.1) | S1/S2 (±0.2) | S3 (±0.1) | S4 (±0.2) | W1 (±0.1) |
|-----------|----------|----------|----------|--------------|-----------|-----------|-----------|
| D2T | 7.3 | 4.3 | 1.8 | 1.1 | 1.1 | 2.3 | 2.8 |

Characteristics List

(TPL)

| Size code | SANYO Part number | Rated Voltage (V) | Rated Temperature (°C) | Rated Capacitance (μF) | Category Voltage (V) | Category Temperature (°C) | D.F. (%max.) | L.C. (μA) max./5min. | E.S.R. (mΩmax.) 100kHz/20°C | Maximum allowable ripple current (mA _{RMS})*1 100kHz | MSL | |
|-----------|-------------------|-------------------|------------------------|------------------------|----------------------|---------------------------|--------------|----------------------|-----------------------------|--|----------------------|----------------------|
| | | | | | | | | | | | Reflow Temp. ≤ 260°C | Reflow Temp. ≤ 250°C |
| D2T | 2R5TPL470MC | 2.5 | 105 | 470 | 2.5 | 105 | 10.0 | 117.5 | 12 | 3400 | 3 | 2a |
| | 2R5TPL470M9 | | | | | | | | 9 | 3900 | | |
| | 2R5TPL470M8 | | | | | | | 235.0 | 8 | 4100 | | |
| | 2R5TPL470M7*2 | | | | | | | | 7 | 4400 | | |
| | 2R5TPL330MC | 2.5 | 105 | 330 | 2.5 | 105 | 10.0 | 82.5 | 12 | 3400 | | |
| | 2R5TPL330M9 | | | | | | | | 9 | 3900 | | |
| | 2R5TPL330M8 | | | | | | | 165.0 | 8 | 4100 | | |
| | 2R5TPL330M7*2 | | | | | | | | 7 | 4400 | | |
| | 2R5TPL220MC | 2.5 | 105 | 220 | 2.5 | 105 | 10.0 | 55.0 | 12 | 3400 | | |

*1 100k to 500kHz,45°C *2 Under development

(TPLF)

| Size code | SANYO Part number | Rated Voltage (V) | Rated Temperature (°C) | Rated Capacitance (μF) | Category Voltage (V) | Category Temperature (°C) | D.F. (%max.) | L.C. (μA) max./5min. | E.S.R. (mΩmax.) 100kHz/20°C | Maximum allowable ripple current (mA _{RMS})*1 100kHz | MSL | |
|-----------|-------------------|-------------------|------------------------|------------------------|----------------------|---------------------------|--------------|----------------------|-----------------------------|--|----------------------|----------------------|
| | | | | | | | | | | | Reflow Temp. ≤ 260°C | Reflow Temp. ≤ 250°C |
| D2T | 2TPLF470M7 | 2.0 | 105 | 470 | 2.0 | 105 | 10.0 | 188.0 | 7 | 4400 | 3 | 2a |
| | 2TPLF470M6 | | | | | | | | 6 | 4700 | | |
| | 2TPLF330M7 | | | 330 | | | | 132.0 | 7 | 4400 | | |
| | 2TPLF330M6 | | | | | | | | 6 | 4700 | | |
| | 2TPLF220M7 | | | 220 | | | | 88.0 | 7 | 4400 | | |
| | 2TPLF220M6 | | | | | | | | 6 | 4700 | | |

*1 100k to 500kHz,45°C