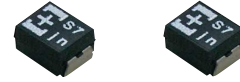


# TPB Series Standard Products (B2 Size)

## Feature

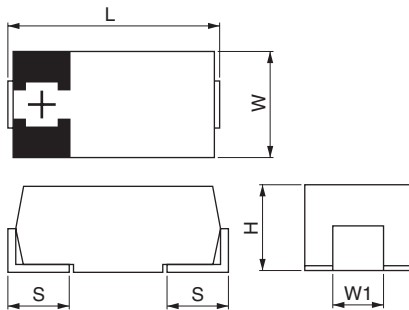
B2 size is the miniaturized version of TPB series.



## Specifications

| Items                                          | Condition                                                                                                        | Characteristics                             |                                       |            |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------|------------|
| Operating Temperature range                    | —                                                                                                                | -55 to +105 (°C)                            |                                       |            |
| Rated capacitance range                        | 120Hz/20°C                                                                                                       | 33 to 220 (μF)                              |                                       |            |
| Capacitance tolerance                          | 120Hz/20°C                                                                                                       | M:±20%                                      |                                       |            |
| Rated voltage                                  | —                                                                                                                | 2.5 to 10 (V.DC)                            |                                       |            |
| Dissipation Factor (D.F.)                      | 120Hz/20°C                                                                                                       | ≤ 8.0 (%)                                   |                                       |            |
| Leakage current                                | Rated voltage applied, after 5 minutes                                                                           | Please see the attached characteristic list |                                       |            |
| Equivalent series resistance (E.S.R. mΩmax.)   | 100kHz/20°C                                                                                                      | Please see the attached characteristic list |                                       |            |
| Temperature characteristics of Impedance ratio | 100kHz/+20°C                                                                                                     | -55°C                                       | Z/Z <sub>20°C</sub>                   | 1.0 to 2.0 |
|                                                |                                                                                                                  | +105°C                                      | Z/Z <sub>20°C</sub>                   | 0.6 to 1.0 |
| Endurance                                      | 105°C, 1000h, rated voltage applied<br>*Rated temp. 85°C products: 85°C, 1000h, 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+40%, -20% of the initial value |            |
|                                                |                                                                                                                  | D.F.                                        | ≤ 1.5 times the initial limit         |            |
|                                                |                                                                                                                  | L.C.                                        | ≤ 3 times the initial limit           |            |
| Surge                                          | 105°C, 1000 cycles, 1kΩ discharge resistance, surge voltage applied<br>*6TPB100MA, 4TPB150MA, 2R5TPB220MA : 85°C | ΔC/C                                        | Within±5% of the initial value        |            |
|                                                |                                                                                                                  | D.F.                                        | ≤ The initial limit                   |            |
|                                                |                                                                                                                  | L.C.                                        | ≤ 3 times the initial limit           |            |

## Dimensions



(unit: mm)

| Size code | L (±0.2) | W (±0.2) | H (±0.1) | S (±0.2) | W1 (±0.1) |
|-----------|----------|----------|----------|----------|-----------|
| B2        | 3.5      | 2.8      | 1.9      | 0.8      | 2.2       |

## Size List

| μF \ RV (SV) | 2.5 (3.2) | 4.0 (5.0) | 6.3 (8.0) | 8.0 (10.0) | 10.0 (13.0) |
|--------------|-----------|-----------|-----------|------------|-------------|
| 33           |           |           |           | B2         | B2          |
| 47           |           |           | B2        | B2         | B2          |
| 68           |           | B2        | B2        |            |             |
| 100          | B2        | B2        | B2        |            |             |
| 150          |           | B2        |           |            |             |
| 220          | B2        |           |           |            |             |

## Characteristics List

| 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 (mArms) 100kHz*1 | MSL                  |                      |
|-----------|-------------------|-------------------|------------------------|------------------------|----------------------|---------------------------|--------------|----------------------|-----------------------------|---------------------------------------------------|----------------------|----------------------|
|           |                   |                   |                        |                        |                      |                           |              |                      |                             |                                                   | Reflow Temp. ≤ 260°C | Reflow Temp. ≤ 250°C |
| B2        | 10TPB47M          | 10.0              | 105                    | 47                     | 10.0                 | 105                       | 8.0          | 47.0                 | 70                          | 1100                                              | 3                    | 3                    |
|           | 10TPB33M          | 10.0              | 105                    | 33                     | 10.0                 | 105                       | 8.0          | 33.0                 | 70                          | 1100                                              |                      |                      |
|           | 8TPB47M           | 8.0               | 105                    | 47                     | 8.0                  | 105                       | 8.0          | 37.6                 | 70                          | 1100                                              |                      |                      |
|           | 8TPB33M           | 8.0               | 105                    | 33                     | 8.0                  | 105                       | 8.0          | 26.4                 | 70                          | 1100                                              |                      |                      |
|           | 6TPB100MA         | 6.3               | 85                     | 100                    | 5.0                  | 105                       | 8.0          | 63.0                 | 55                          | 1200                                              |                      |                      |
|           | 6TPB100MAV        | 6.3               | 85                     | 100                    | 5.0                  | 105                       | 8.0          | 63.0                 | 45                          | 1400                                              |                      |                      |
|           | 6TPB68M           | 6.3               | 105                    | 68                     | 6.3                  | 105                       | 8.0          | 42.8                 | 70                          | 1100                                              |                      |                      |
|           | 6TPB47M           | 6.3               | 105                    | 47                     | 6.3                  | 105                       | 8.0          | 29.6                 | 70                          | 1100                                              |                      |                      |
|           | 4TPB150MA         | 4.0               | 85                     | 150                    | 3.2                  | 105                       | 8.0          | 60.0                 | 70                          | 1100                                              |                      |                      |
|           | 4TPB100M          | 4.0               | 105                    | 100                    | 4.0                  | 105                       | 8.0          | 40.0                 | 70                          | 1100                                              |                      |                      |
|           | 4TPB100MV         | 4.0               | 105                    | 100                    | 4.0                  | 105                       | 8.0          | 40.0                 | 45                          | 1300                                              |                      |                      |
|           | 4TPB68M           | 4.0               | 105                    | 68                     | 4.0                  | 105                       | 8.0          | 27.2                 | 70                          | 1100                                              |                      |                      |
|           | 2R5TPB220MA       | 2.5               | 85                     | 220                    | 2.0                  | 105                       | 8.0          | 55.0                 | 55                          | 1200                                              |                      |                      |
|           | 2R5TPB100M        | 2.5               | 105                    | 100                    | 2.5                  | 105                       | 8.0          | 25.0                 | 70                          | 1100                                              |                      |                      |

\*1 100k to 500kHz, 45°C