

## Surface Mount Type **POSCAP**

Series : **TPB**



### Features

- Standard
- RoHS compliance, Halogen free

### Specifications

| Size code                  | B2   | D3L                                      | D4                  |
|----------------------------|--|--|---------------------|
| Category temperature range | -55 °C to +105 °C                                      |  |                     |
| Rated voltage range        | 4 V.DC to 10 V.DC                                      |  | 6.3 V.DC to 10 V.DC |
| Category voltage range     | 4 V.DC to 10 V.DC                                      |  | 6.3 V.DC to 10 V.DC |
| Rated capacitance range    | 33 μF to 68 μF   | 150 μF to 330 μF                         | 220 μF to 470 μF    |
| Capacitance tolerance      | ±20 % (120 Hz / + 20 °C)                               |  |                     |
| Leakage current            | Please see the attached characteristics list           |  |                     |
| Dissipation factor (tan δ) | Please see the attached characteristics list           |  |                     |
| Surge voltage (V.DC)       | Rated voltage × 1.15                                   |  |                     |
| Endurance                  | +105 °C 2000h, (B2 size : 1000h) rated voltage applied |  |                     |
|                            | * Rated temp. +85 °C 1000h rated voltage applied       |  |                     |
|                            | Capacitance change                                     | Within ±20 % of the initial value        |                     |
|                            | tan δ  | ≤ 1.5 times of the initial limit         |                     |
| Damp heat (Steady State)   | +60 °C, 90 % to 95 %, 500 h, No-applied voltage        |  |                     |
|                            | Capacitance change                                     | Within +40 %, -20 % of the initial value |                     |
|                            | tan δ  | ≤ 1.5 times of the initial limit         |                     |
|                            | DC leakage current                                     | ≤ 3 times of the initial limit           |                     |

### Marking

**B2 Size**

**D4 Size**

**D3L Size**

| R. Voltage (V.DC) | 4.0 | 6.3 | 10.0 |
|-------------------|-----|-----|------|
| Code              | g   | j   | A    |

| R. Cap. (μF) | 33 | 47 | 68 |
|--------------|----|----|----|
| Code         | N7 | S7 | W7 |

### Dimensions (not to scale)

Unit : mm

| Size code | L±0.3*1 | W±0.2 | H±0.2*2 | S±0.2 | W1±0.1 |
|-----------|---------|-------|---------|-------|--------|
| B2        | 3.5     | 2.8   | 1.9     | 0.8   | 2.2    |
| D3L       | 7.3     | 4.3   | 2.8     | 1.3   | 2.4    |
| D4        | 7.3     | 4.3   | 3.8     | 1.3   | 2.4    |

\* Externals of figure are the reference.  
 \* 1 ±0.2 : B2 \* 2 ±0.1 : B2

### Characteristics list

| Series | Rated voltage (V.DC) | Rated temp. (°C) | Category voltage (V.DC) | Category temp. (°C) | Rated capacitance (μF) | Case size (mm) |     |     | Size code | Specifications               |                 |         |           | Standard    |                          | Floor life         |                    |      |
|--------|----------------------|------------------|-------------------------|---------------------|------------------------|----------------|-----|-----|-----------|------------------------------|-----------------|---------|-----------|-------------|--------------------------|--------------------|--------------------|------|
|        |                      |                  |                         |                     |                        | L              | W   | H   |           | Ripple*1 current (mA r.m.s.) | ESR*2 (mΩ max.) | tan δ*3 | LC*4 (μA) | Part number | Min. Packaging Qty (pcs) | Reflow Temp ≤260°C | Reflow Temp ≤250°C |      |
| TPB    | 4.0                  | 105              | 4.0                     | 105                 | 68                     | 3.5            | 2.8 | 1.9 | B2        | 1100                         | 70              | 0.08    | 27.2      | 4TPB68M     | 2000                     | 3                  | 3                  |      |
|        |                      |                  |                         |                     |                        |                |     |     | D3L       | 2000                         | 40              | 0.10    | 132.0     | 4TPB330ML   | 2500                     |                    | 2a                 |      |
|        | 6.3                  | NEW 105          | 6.3                     | 105                 | 33                     | 3.5            | 2.8 | 1.9 | B2        | 1100                         | 70              | 0.08    | 20.7      | 6TPB33M     | 2000                     |                    | 3                  |      |
|        |                      |                  |                         |                     |                        |                |     |     | B2        | 1100                         | 70              | 0.08    | 42.8      | 6TPB68M     | 2000                     |                    | 3                  |      |
|        |                      | 105              | 6.3                     | 105                 | 220                    | 7.3            | 4.3 | 2.8 | 2.8       | D3L                          | 2000            | 40      | 0.10      | 138.6       | 6TPB220ML                |                    | 2500               | 2a   |
|        |                      |                  |                         |                     |                        |                |     |     |           | D3L                          | 2000            | 40      | 0.10      | 207.9       | 6TPB330MAL               |                    | 2500               |      |
|        |                      |                  |                         |                     |                        |                |     |     |           | D3L                          | 2000            | 40      | 0.10      | 207.9       | 6TPB330ML                |                    | 2500               |      |
|        |                      |                  |                         |                     |                        |                |     |     |           | D4                           | 3000            | 40      | 0.10      | 207.9       | 6TPB330M                 |                    | 2000               |      |
|        | 10                   | 105              | 6.3                     | 105                 | 470                    | 7.3            | 4.3 | 3.8 | D4        | 3000                         | 35              | 0.15    | 296.1     | 6TPB470M    | 2000                     |                    | 2a                 |      |
|        |                      |                  |                         |                     |                        |                |     |     | B2        | 1100                         | 70              | 0.08    | 33.0      | 10TPB33M    | 2000                     |                    |                    |      |
|        |                      |                  |                         |                     |                        |                |     |     |           | B2                           | 1100            | 70      | 0.08      | 47.0        | 10TPB47M                 |                    |                    | 2000 |
|        |                      |                  |                         |                     |                        |                |     |     | D3L       | 2000                         | 40              | 0.10    | 150.0     | 10TPB150ML  | 2500                     |                    |                    |      |
|        |                      |                  |                         |                     |                        |                |     |     |           | 2000                         | 40              | 0.10    | 220.0     | 10TPB220ML  | 2500                     |                    |                    |      |
|        |                      |                  |                         |                     |                        |                |     |     |           | 3000                         | 40              | 0.10    | 220.0     | 10TPB220M   | 2000                     |                    |                    |      |
| 3000   | 35                   | 0.10             | 330.0                   | 10TPB330M           | 2000                   |                |     |     |           |                              |                 |         |           |             |                          |                    |                    |      |

\*1 Ripple current (100 kHz/ +45 °C), \*2 ESR (100 kHz/+20 °C) \*3 tan δ (120 Hz/+20 °C) \*4 After 5 minutes

◆ Please refer to each page in this catalog for "Reflow conditions" and "Taping specifications".