

## Surface Mount Type

## POSCAP

Series : TH



### Features

- Guaranteed at 125 °C, 1000h
- RoHS compliance, Halogen free

### Specifications

| Size code                   | D2E                                             | D2                                       | D3L                  | D4                   |
|-----------------------------|-------------------------------------------------|------------------------------------------|----------------------|----------------------|
| Category temperature range  | -55 °C to +125 °C                               |                                          |                      |                      |
| Rated voltage range         | 2.5 V.DC to 6.3 V.DC                            | 2.5 V.DC to 10 V.DC                      | 4 V.DC to 6.3 V.DC   | 6.3 V.DC to 10 V.DC  |
| Category voltage range      | 1.6 V.DC to 4.0 V.DC                            | 1.6 V.DC to 6.3 V.DC                     | 2.5 V.DC to 4.0 V.DC | 4.0 V.DC to 6.3 V.DC |
| Rated capacitance range     | 150 µF to 330 µF                                | 68 µF to 220 µF                          | 220 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                   | +125 °C 1000h, category voltage applied         |                                          |                      |                      |
|                             | Capacitance change                              | Within ±20 % of the initial value        |                      |                      |
|                             | tan δ                                           | ≤ 2 times of the initial limit           |                      |                      |
|                             | DC leakage current                              | ≤ 2 times of the initial limit           |                      |                      |
| Damp heat<br>(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

| D2E, D3L Size     |     |     |     |    | D2, D4 Size |  |  |  |  |
|-------------------|-----|-----|-----|----|-------------|--|--|--|--|
|                   |     |     |     |    |             |  |  |  |  |
| R. Voltage (V.DC) | 2.5 | 4.0 | 6.3 | 10 |             |  |  |  |  |
| Code              | e   | g   | j   | A  |             |  |  |  |  |

### Dimensions (not to scale)

|                                                                            |         |       |         |       |        | Unit : mm |
|----------------------------------------------------------------------------|---------|-------|---------|-------|--------|-----------|
| Size code                                                                  | L±0.3*1 | W±0.2 | H±0.1*2 | S±0.2 | W1±0.1 |           |
| D2E                                                                        | 7.3     | 4.3   | 1.8     | 1.3   | 2.4    |           |
| D2                                                                         | 7.3     | 4.3   | 1.9     | 1.3   | 2.4    |           |
| D3L                                                                        | 7.3     | 4.3   | 2.8     | 1.3   | 2.4    |           |
| D4                                                                         | 7.3     | 4.3   | 3.8     | 1.3   | 2.4    |           |
| *1 Externals of figure are the reference. *2 1 ±0.2 : D2 *2 ±0.2 : D3L, D4 |         |       |         |       |        |           |

### 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 |
| THB    | 4.0                  | 105              | 2.5                     | 125                 | 330                    | 7.3            | 4.3 | 2.8 | D3L       | 2000                         | 40               | 0.10    | 132.0      | 4THB330ML   | 2500                     | -                  | 5                  |
|        |                      | 105              | 4.0                     | 125                 | 220                    | 7.3            | 4.3 | 2.8 |           | 2000                         | 40               | 0.10    | 138.6      | 6THB220ML   | 2500                     |                    |                    |
|        | 6.3                  | 105              | 4.0                     | 125                 | 330                    | 7.3            | 4.3 | 3.8 | D4        | 3000                         | 40               | 0.10    | 207.9      | 6THB330M    | 2000                     |                    |                    |
|        |                      | 105              | 4.0                     | 125                 | 470                    | 7.3            | 4.3 | 3.8 |           | 3000                         | 35               | 0.10    | 296.1      | 6THB470M    | 2000                     |                    |                    |
|        | 10                   | 105              | 6.3                     | 125                 | 220                    | 7.3            | 4.3 | 3.8 |           | 3000                         | 40               | 0.10    | 220.0      | 10THB220M   | 2000                     |                    |                    |
|        |                      | 105              | 6.3                     | 125                 | 330                    | 7.3            | 4.3 | 3.8 |           | 3000                         | 35               | 0.10    | 330.0      | 10THB330M   | 2000                     |                    |                    |
| THC    | 2.5                  | 105              | 1.6                     | 125                 | 220                    | 7.3            | 4.3 | 1.9 | D2        | 1700                         | 45               | 0.10    | 55.0       | 2R5THC220M  | 3000                     |                    |                    |
|        | 6.3                  | 105              | 4.0                     | 125                 | 150                    | 7.3            | 4.3 | 1.9 |           | 1900                         | 40               | 0.10    | 94.5       | 6THC150M    | 3000                     |                    |                    |
|        | 10                   | 105              | 6.3                     | 125                 | 68                     | 7.3            | 4.3 | 1.9 |           | 1700                         | 45               | 0.10    | 68.0       | 10THC68M    | 3000                     |                    |                    |
| THE    | 2.5                  | 105              | 1.6                     | 125                 | 330                    | 7.3            | 4.3 | 1.8 | D2E       | 3100                         | 15               | 0.10    | 82.5       | 2R5THE330MF | 3000                     |                    |                    |
|        |                      | 105              | 1.6                     | 125                 |                        | 7.3            | 4.3 | 1.8 |           | 2800                         | 18               | 0.10    | 82.5       | 2R5THE330MI | 3000                     |                    |                    |
|        |                      | 105              | 1.6                     | 125                 |                        | 7.3            | 4.3 | 1.8 |           | 2400                         | 25               | 0.10    | 82.5       | 2R5THE330M  | 3000                     |                    |                    |
|        | 4.0                  | 105              | 2.5                     | 125                 | 220                    | 7.3            | 4.3 | 1.8 |           | 3100                         | 15               | 0.10    | 88.0       | 4THE220MF   | 3000                     |                    |                    |
|        |                      | 105              | 2.5                     | 125                 |                        | 7.3            | 4.3 | 1.8 |           | 2800                         | 18               | 0.10    | 88.0       | 4THE220MI   | 3000                     |                    |                    |
|        |                      | 105              | 2.5                     | 125                 |                        | 7.3            | 4.3 | 1.8 |           | 2400                         | 25               | 0.10    | 88.0       | 4THE220M    | 3000                     |                    |                    |
|        | 6.3                  | 105              | 4.0                     | 125                 | 150                    | 7.3            | 4.3 | 1.8 |           | 2800                         | 18               | 0.10    | 94.5       | 6THE150MI   | 3000                     |                    |                    |
|        |                      | 105              | 4.0                     | 125                 |                        | 7.3            | 4.3 | 1.8 |           | 2400                         | 25               | 0.10    | 94.5       | 6THE150M    | 3000                     |                    |                    |
|        |                      |                  |                         |                     |                        |                |     |     |           |                              |                  |         |            |             |                          |                    |                    |

\*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".

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