

## Surface Mount Type

## POSCAP

Series : TPH



### Features

- Small size, Low profile (L3.2 × W 1.6 × H 0.9 mm)
- Face down terminal type
- RoHS compliance, Halogen free

### Specifications

| Size code                  | A09  | A14   |
|----------------------------|--|---|
| Category temperature range | -55 °C to +105 °C / -55 °C to +85 °C (Rated temp. +85 °C)  |   |
| Rated voltage range        | 2.5 V.DC to 10 V.DC  | 2.5 V.DC to 6.3 V.DC  |
| Category voltage range     | 2.5 V.DC to 10 V.DC  | 2.5 V.DC to 6.3 V.DC  |
| Rated capacitance range    | 33 μF to 100 μF  | 100 μF to 220 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, 1000 h rated voltage applied<br>* Rated temp, +85 °C Products : +85 °C, 1000 h, rated voltage applied |   |
|                            | Capacitance change   | Within ±20 % of the initial value   |
|                            | tan δ  | ≤ 1.5 times of the initial limit  |
|                            | DC leakage current   | Within the initial limit  |
| Damp heat (Steady State)   | +60 °C, 90 % to 95 %, 500 h, No-applied voltage  |   |
|                            | Capacitance change   | Within +50 %, -20 % of the initial value (ETPH220MABC)<br>Within +40 %, -20 % of the initial value (Except for above model) |
|                            | tan δ  | ≤ 1.5 times of the initial limit  |
|                            | DC leakage current   | ≤ 3 times of the initial limit  |

### Marking

| A09/A14 Size      |     | A09 Size (6TPH100MAEA) |     |      |     |     |
|-------------------|-----|------------------------|-----|------|-----|-----|
|                   |     |                        |     |      |     |     |
| R. Voltage (V.DC) | 2.5 | 4.0                    | 6.3 | 10.0 |     |     |
| Code              | e   | g                      | j   | A    |     |     |
| R. Cap. (μF)      | 33  | 47                     | 68  | 100  | 150 | 220 |
| Code              | N7  | S7                     | W7  | A8   | E8  | J8  |

### Dimensions (not to scale)

| A09/A14 Size |       | A09 Size (6TPH100MAEA) |       |       |        |
|--------------|-------|------------------------|-------|-------|--------|
|              |       |                        |       |       |        |
| Size code    | L±0.2 | W±0.2                  | H±0.1 | S±0.2 | W1±0.1 |
| A09          | 3.2   | 1.6                    | 0.9   | 0.8   | 1.2    |
| A14          | 3.2   | 1.6                    | 1.4   | 0.8   | 1.2    |

Unit : mm

\* Externals of figure are the reference.

### 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    |                          |
|--------|----------------------|------------------|-------------------------|---------------------|------------------------|----------------|-----|-----|-----------|---------------------------|------------------|----------|------------|-------------|--------------------------|
|        |                      |                  |                         |                     |                        | L              | W   | H   |           | Ripple current (mAr.m.s.) | ESR *2 (mΩ max.) | tan δ *3 | LC *4 (μA) | Part number | Min. Packaging Qty (pcs) |
| TPH    | 2.5                  | 105              | 2.5                     | 105                 | 100                    | 3.2            | 1.6 | 0.9 | A09       | 510                       | 150              | 0.10     | 25.0       | ETPH100MHA  | 3000                     |
|        |                      | 85               | 2.5                     | 85                  | 220                    | 3.2            | 1.6 | 1.4 | A14       | 740                       | 70               | 0.10     | 110.0      | ETPH220MABC | 2500                     |
|        | 4                    | 105              | 4.0                     | 105                 | 68                     | 3.2            | 1.6 | 0.9 | A09       | 510                       | 150              | 0.10     | 27.2       | 4TPH68MHA   | 3000                     |
|        |                      | 85               | 4.0                     | 85                  | 150                    | 3.2            | 1.6 | 1.4 | A14       | 740                       | 70               | 0.10     | 120.0      | 4TPH150MABC | 2500                     |
|        | 6.3                  | 105              | 6.3                     | 105                 | 47                     | 3.2            | 1.6 | 0.9 | A09       | 510                       | 150              | 0.10     | 29.6       | 6TPH47MHA   | 3000                     |
|        |                      | 85               | 6.3                     | 85                  | 100                    | 3.2            | 1.6 | 0.9 |           | 670                       | 100              | 0.10     | 63.0       | 6TPH100MAEA | 3000                     |
|        |                      | 85               | 6.3                     | 85                  | 100                    | 3.2            | 1.6 | 1.4 |           | A14                       | 740              | 70       | 0.10       | 126.0       | 6TPH100MABC              |
|        | 10                   | 85               | 10.0                    | 85                  | 33                     | 3.2            | 1.6 | 0.9 | A09       | 510                       | 150              | 0.10     | 33.0       | ATPH33MAHA  | 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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