### **Surface Mount Type**

## POSCAP



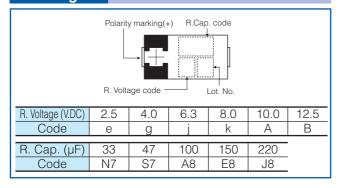
Series: TPG

#### Features\_

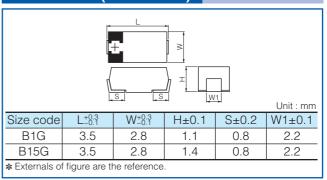
- Small size, Low profile (L3.5 × W 2.8 × H 1.1 mm)
- Large capacitance (220 µF max.)
- RoHS compliance, Halogen free

| Specifications                     |  |   |                      |  |  |  |  |  |
|------------------------------------|--|---|----------------------|--|--|--|--|--|
| Size code                          |  | B1G   | B15G                 |  |  |  |  |  |
| Category temperature range         | −55 °C to +105 °C                                      |   |                      |  |  |  |  |  |
| Rated voltage range                | 2.5 V.DC   | to 12.5 V.DC                                      | 2.5 V.DC to 6.3 V.DC |  |  |  |  |  |
| Category voltage range             | 2.0 V.DC   | to 10.0 V.DC                                      | 2.0 V.DC to 5.0 V.DC |  |  |  |  |  |
| Rated capacitance range            | 33 µF  | to 220 μF   | 150 μF to 220 μF     |  |  |  |  |  |
| Capacitance tolerance              | ±20 % (120 Hz / + 20 °C)                               |   |                      |  |  |  |  |  |
| Leakage current                    | Please see the attached characteristics list           |   |                      |  |  |  |  |  |
| Dissipation factor (tan $\delta$ ) | Please see the attached characteristics list           |   |                      |  |  |  |  |  |
| Surge voltage (V.DC)               | Rated voltage × 1.15                                   |   |                      |  |  |  |  |  |
| Endurance                          | +85 °C, 1000 h rated voltage applied                   |   |                      |  |  |  |  |  |
|                                    | Capacitance change   Within ±20 % of the initial value |   |                      |  |  |  |  |  |
|                                    | tan $\delta$   | an $\delta$ $\leq$ 1.5 times of the initial limit |                      |  |  |  |  |  |
|                                    | DC leakage current Within the initial limit            |   |                      |  |  |  |  |  |
|                                    | +60 °C, 90 % to 95 %, 500 h, No-applied voltage        |   |                      |  |  |  |  |  |
| Damp heat                          | Capacitance change                                     | Nithin +40 %, -20 % of the initial value          |                      |  |  |  |  |  |
| (Steady State)                     | tan $\delta$   | ≤ 1.5 times of the initial limit                  |                      |  |  |  |  |  |
|                                    | DC leakage current ≤ 3 times of the initial limit      |   |                      |  |  |  |  |  |

#### Marking



#### **Dimensions (not to scale)**



#### **Characteristics list**

|     |                      |       |                               |                |                              | 0    |                |     | 0: ::: +: - : - |                                   |                     | Ot                |              |              |                                 |                           |                           |
|-----|----------------------|-------|-------------------------------|----------------|------------------------------|------|----------------|-----|-----------------|-----------------------------------|---------------------|-------------------|--------------|--------------|---------------------------------|---------------------------|---------------------------|
| _   | Rated voltage (V.DC) | Rated | Category<br>voltage<br>(V.DC) | Category temp. | Rated<br>capacitance<br>(µF) | Case | Case size (mm) |     | 0.              | Specifications                    |                     |                   | Standard     |              | Floor life                      |                           |                           |
|     |                      | temp. |                               |                |                              | L    | W              | Н   | Size            | Ripple*1<br>current<br>(mAr.m.s.) | ESR *2<br>(mΩ max.) | tan $\delta^{*3}$ | LC*4<br>(µA) | Part number  | Min.<br>Packaging Q'ty<br>(pcs) | Reflow<br>Temp<br>≤ 260°C | Reflow<br>Temp<br>≤ 250°C |
| TPG | 2.5                  | 85    | 2.0                           | 105            | 220                          | 3.5  | 2.8            | 1.1 | B1G             | 1000                              | 70                  | 0.10              | 55.0         | 2R5TPG220M   | 2500                            |                           | 3                         |
|     |                      | 85    | 2.0                           | 105            |                              | 3.5  | 2.8            | 1.4 | HB15(3          | 1400                              | 30/300 kHz          | 0.10              | 110.0        | 2R5TPG220MUG | 2500                            |                           |                           |
|     | 4                    | 85    | 3.2                           | 105            | 220                          | 3.5  | 2.8            | 1.4 |                 | 1000                              | 70                  | 0.10              | 88.0         | 4TPG220M     | 2500                            |                           |                           |
|     | 6.3                  | 85    | 5.0                           | 105            | 100                          | 3.5  | 2.8            | 1.1 | B1G             | 1000                              | 70                  | 0.10              | 63.0         | 6TPG100M     | 2500                            |                           |                           |
|     |                      | 85    | 5.0                           | 105            |                              | 3.5  | 2.8            | 1.1 |                 | 1100                              | 55                  | 0.10              | 63.0         | 6TPG100MG    | 2500                            |                           |                           |
|     |                      | 85    | 5.0                           | 105            |                              | 3.5  | 2.8            | 1.1 |                 | 1200                              | 35/300 kHz          | 0.10              | 126.0        | 6TPG100MZGD  | 2500                            | 3                         |                           |
|     |                      | 85    | 5.0                           | 105            | 1 75() F                     | 3.5  | 2.8            | 1.4 | HB15(3)         | 1000                              | 70                  | 0.10              | 94.5         | 6TPG150M     | 2500                            |                           |                           |
|     |                      | 85    | 5.0                           | 105            |                              | 3.5  | 2.8            | 1.4 |                 | 1200                              | 35/300 kHz          | 0.10              | 189.0        | 6TPG150MZG   | 2500                            |                           |                           |
|     | 8                    | 85    | 6.3                           | 105            | 47                           | 3.5  | 2.8            | 1.1 | B1G             | 1000                              | 70                  | 0.10              | 37.6         | 8TPG47M      | 2500                            |                           |                           |
|     | 10                   | 85    | 8.0                           | 105            | 47                           | 3.5  | 2.8            | 1.1 |                 | 1000                              | 70                  | 0.10              | 47.0         | 10TPG47M     | 2500                            |                           |                           |
|     | 12.5                 | 85    | 10.0                          | 105            | 33                           | 3.5  | 2.8            | 1.1 |                 | 1000                              | 70                  | 0.10              | 41.3         | 12TPG33M     | 2500                            | )                         |                           |

- \*1 Ripple current (100 kHz/ +45 °C ), \*2 ESR (100 kHz/ +20 °C) \*3  $\tan \delta$  (120 Hz/ +20 °C) \*4 After 5 minutes
- ♦ Please refer to each page in this catarog for "Reflow conditions" and "Taping specifications".



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