

## Surface Mount Type

# SP-Cap

Series: **SL**

**Old series**



### ■ Features

- Low-ESR (9 mΩ)
- Excellent Noise-absorbent Characteristics
- High Ripple Current
- RoHS directive compliant

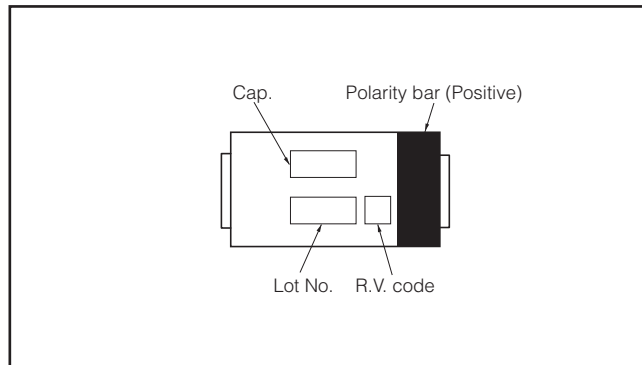
### [Our Requests]

Since this series is old, we don't recommend you to adopt it but SX series for your new design.

### ■ Specifications

| Series & Size Code    | SL  |                                    |            |            |
|-----------------------|---|------------------------------------|------------|------------|
| Category Temp. Range  | -40 °C to +105 °C   |                                    |            |            |
| Rated Voltage Range   | 2 V.DC to 6.3 V.DC  |                                    |            |            |
| Nominal Cap. Range    | 56 μF to 220 μF   |                                    |            |            |
| Capacitance Tolerance | ±20 %   |                                    |            |            |
| DC Leakage Current    | Reflow 240 °C : I ≤ 0.04 CV (μA) 2 minutes (6.3 V.DC)<br>Reflow 260 °C : I ≤ 0.1 CV (μA) 2 minutes  |                                    |            |            |
| tan δ                 | ≤ 0.06 (120 Hz/+20 °C)  |                                    |            |            |
| Surge Voltage         | Rated Voltage × 1.25 (15 °C to 35 °C)   |                                    |            |            |
| Endurance             | After applying rated voltage for 1000 hours at 105 °C±2 °C, and then being stabilized at +20 °C, capacitor shall meet the following limits. |                                    |            |            |
|                       | Capacitance change  | ±10% of initial measured value     |            |            |
|                       | tan δ   | ≤ Initial specified value          |            |            |
|                       | DC leakage current  | ≤ Initial specified value          |            |            |
| Moisture resistance   | After storing for 500 hours at 60 °C, 90 %  |                                    |            |            |
|                       | Capacitance change of initial measured value  | 2, 2.5 V.DC                        | 4 V.DC     | 6.3 V.DC   |
|                       |   | +70, -20 %                         | +60, -20 % | +50, -20 % |
|                       | tan δ   | ≤ 200 % of initial specified value |            |            |
|                       | DC leakage current  | ≤ Initial specified value          |            |            |

### ■ Marking



### ■ Dimensions in mm(not to scale)

(Unit : mm)

| Series & Size Code | L±0.2 | W1±0.2 | W2±0.1 | H       | P±0.3 |
|--------------------|-------|--------|--------|---------|-------|
| SL                 | 7.3   | 4.3    | 2.4    | 1.8±0.1 | 1.3   |

\* Externals of figure are the reference.

### ■ Low ESR Products

| Series & Size Code | Rated Voltage (V.DC) | Capacitance (±20 %) (μF) | Case Size |        |        | Specification                          |                             | Part number  | Reflow <sup>*3</sup> |        | Min. Packaging Q'ty (pcs) |
|--------------------|----------------------|--------------------------|-----------|--------|--------|--|-----------------------------|--------------|----------------------|--------|---------------------------|
|                    |                      |                          | L (mm)    | W (mm) | H (mm) | Ripple current <sup>*1</sup> (Ar.m.s.) | ESR <sup>*2</sup> (mΩ max.) |              | 240 °C <sup>*4</sup> | 260 °C |                           |
| SL                 | 2                    | 100                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0D101ER | —                    | ○      | 3500                      |
|                    |                      | 120                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0D121ER | —                    | ○      | 3500                      |
|                    |                      | 150                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0D151ER | —                    | ○      | 3500                      |
|                    |                      | 180                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0D181ER | —                    | ○      | 3500                      |
|                    |                      | 220                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0D221ER | —                    | ○      | 3500                      |
|                    | 2.5                  | 100                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0E101ER | —                    | ○      | 3500                      |
|                    |                      | 120                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0E121ER | —                    | ○      | 3500                      |
|                    |                      | 150                      | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0E151ER | —                    | ○      | 3500                      |
|                    | 4                    | 82                       | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0G820ER | —                    | ○      | 3500                      |
|                    | 6.3                  | 56                       | 7.3       | 4.3    | 1.8    | 3.0                                    | 9                           | EEFSL0J560R  | ○                    | —      | 3500                      |

\*1: Ripple current (100 kHz/ +20 to +105 °C), \*2: ESR (100 kHz/+20 °C)

\*3: Please refer to the page of "Mounting Specifications".

\*4: Please contact Panasonic for details of allowable 240 °C reflow condition.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

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