

## Surface Mount Type

## SP-Cap

Series: **FD, CD, CX, UD, UE**



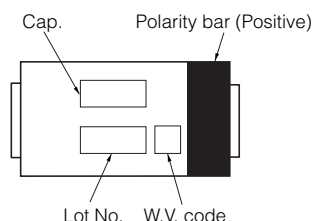
### ■ Features

- Low ESR
- Excellent Noise-absorbent Characteristics
- RoHS directive compliant

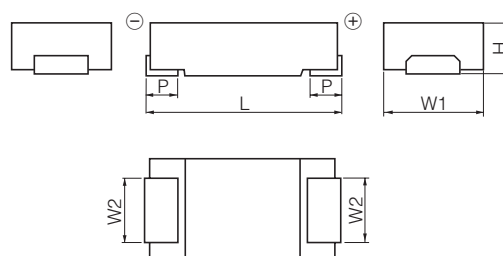
### ■ Specifications

| Series & Size Code    | FD                                                                                                                                                                                            | CD                                 | CX                 | UD                    | UE                |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|-----------------------|-------------------|
| Category Temp. Range  | -40 °C to +105 °C                                                                                                                                                                             |                                    |                    |                       |                   |
| Rated W.V.Range       | 2 V.DC to 12.5 V.DC                                                                                                                                                                           | 2 V.DC to 16 V.DC                  | 2 V.DC to 6.3 V.DC | 2 V.DC to 8 V.DC      | 2 V.DC to 8 V.DC  |
| Nominal Cap.Range     | 15 μF to 68 μF                                                                                                                                                                                | 2.2 μF to 220 μF                   | 100 μF to 560 μF   | 68 μF to 470 μF       | 100 μF to 560 μF  |
| Capacitance Tolerance | ±20 %                                                                                                                                                                                         |                                    |                    |                       |                   |
| DC Leakage Current    | Reflow 240 °C : I ≤ 0.06 CV (μA) 2minutes (2 V.DC to 4 V.DC)<br>I ≤ 0.04 CV or 3 (μA) 2 minutes (6.3 V.DC to 16 V.DC) (Whichever is greater)<br><br>Reflow 260 °C : I ≤ 0.1 CV (μA) 2 minutes |                                    |                    |                       |                   |
| tan δ                 | ≤ 0.06 (120 Hz/+20 °C)                                                                                                                                                                        |                                    |                    | ≤0.10 (120 Hz/+20 °C) |                   |
| Surge Voltage         | Rated Working Voltage × 1.25 (15 °C to 35 °C)                                                                                                                                                 |                                    |                    |                       |                   |
| Endurance             | After applying rated working 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 measurd value                                                                                                                                                   | 2, 2.5 V.DC                        | 4 V.DC             | 6.3 V.DC              | 8 V.DC to 16 V.DC |
|                       |                                                                                                                                                                                               | +70, -20 %                         | +60, -20 %         | +50, -20 %            | +40, -20 %        |
|                       | tan δ                                                                                                                                                                                         | ≤ 200 % of initial specified value |                    |                       |                   |
|                       | DC leakage current                                                                                                                                                                            | ≤ Initial specified value          |                    |                       |                   |

### ■ Marking



### ■ Dimensions in mm(not to scale)



| Series & Size Code | L±0.2 | W1±0.2 | W2±0.1 | H       | P±0.3 |
|--------------------|-------|--------|--------|---------|-------|
| FD                 | 7.3   | 4.3    | 2.4    | 1.1±0.1 | 1.3   |
| CD                 | 7.3   | 4.3    | 2.4    | 1.8±0.1 | 1.3   |
| CX                 | 7.3   | 4.3    | 2.4    | 1.9±0.2 | 1.3   |
| UD                 | 7.3   | 4.3    | 2.4    | 2.8±0.2 | 1.3   |
| UE                 | 7.3   | 4.3    | 2.4    | 4.2±0.1 | 1.3   |

\* Externals of figure are the reference.

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.

01 Feb. 2012

## ■ Standard Products

| Series &<br>Size Code | Rated<br>W.V.<br>(V.DC) | Capaci-<br>tance<br>(±20 %) (μF) | Case Size |           |           | Specification                        |                    | Part number                     |                                               | Min.<br>Packaging<br>Q'ty<br>(pcs) |
|-----------------------|-------------------------|----------------------------------|-----------|-----------|-----------|--------------------------------------|--------------------|---------------------------------|-----------------------------------------------|------------------------------------|
|                       |                         |                                  | L<br>(mm) | W<br>(mm) | H<br>(mm) | *1<br>Ripple<br>current<br>(Ar.m.s.) | ESR*2<br>(mΩ max.) | Reflow condition : 240 °C<br>*3 | Reflow condition : 260 °C<br>[Proposal]<br>*3 |                                    |
| FD                    | 2                       | 68                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0D680R                     | —                                             | 3500                               |
|                       | 2.5                     | 56                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0E560R                     | —                                             | 3500                               |
|                       | 4                       | 39                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0G390R                     | —                                             | 3500                               |
|                       |                         | 47                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0G470R                     | —                                             | 3500                               |
|                       | 6.3                     | 33                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0J330R                     | —                                             | 3500                               |
|                       | 8                       | 22                               | 7.3       | 4.3       | 1.1       | 2.0                                  | 28                 | EEFFD0K220R                     | —                                             | 3500                               |
| CD                    | 12.5                    | 15                               | 7.3       | 4.3       | 1.1       | 1.4                                  | 40                 | EEFFD1B150R                     | —                                             | 3500                               |
|                       | 2                       | 100                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0D101R                     | EEFCD0D101ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0D101XR                    | EEFCD0D101XE                                  | 3500                               |
|                       |                         | 120                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0D121R                     | EEFCD0D121ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0D121XR                    | EEFCD0D121XE                                  | 3500                               |
|                       |                         | 150                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0D151R                     | EEFCD0D151ER                                  | 3500                               |
| CD                    | 2.5                     | 180                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0D181R                     | EEFCD0D181ER                                  | 3500                               |
|                       |                         | 220                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0D221R                     | EEFCD0D221ER                                  | 3500                               |
|                       |                         | 82                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0E820R                     | EEFCD0E820ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0E820XR                    | EEFCD0E820XE                                  | 3500                               |
|                       |                         | 100                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0E101R                     | EEFCD0E101ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0E101XR                    | EEFCD0E101XE                                  | 3500                               |
| CD                    | 4                       | 120                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0E121R                     | EEFCD0E121ER                                  | 3500                               |
|                       |                         | 150                              | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0E151R                     | EEFCD0E151ER                                  | 3500                               |
|                       |                         | 56                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0G560R                     | EEFCD0G560ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0G560XR                    | EEFCD0G560XE                                  | 3500                               |
|                       |                         | 68                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0G680R                     | EEFCD0G680ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0G680XR                    | EEFCD0G680XE                                  | 3500                               |
| CD                    | 6.3                     | 82                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0G820R                     | EEFCD0G820ER                                  | 3500                               |
|                       |                         | 100                              | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0G820XR                    | EEFCD0G820XE                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0G101R                     | EEFCD0G101ER                                  | 3500                               |
|                       |                         | 10                               | 7.3       | 4.3       | 1.8       | 1.4                                  | 55                 | EEFCD0J100R                     | EEFCD0J100ER                                  | 3500                               |
|                       |                         | 22                               | 7.3       | 4.3       | 1.8       | 1.6                                  | 40                 | EEFCD0J220R                     | EEFCD0J220ER                                  | 3500                               |
|                       |                         | 33                               | 7.3       | 4.3       | 1.8       | 2.0                                  | 28                 | EEFCD0J330R                     | EEFCD0J330ER                                  | 3500                               |
| CD                    | 8                       | 47                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0J470R                     | EEFCD0J470ER                                  | 3500                               |
|                       |                         | 68                               | 7.3       | 4.3       | 1.8       | 2.7                                  | 15                 | EEFCD0J470XR                    | EEFCD0J470XE                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0J680R                     | EEFCD0J680ER                                  | 3500                               |
|                       |                         | 8.2                              | 7.3       | 4.3       | 1.8       | 1.4                                  | 55                 | EEFCD0K8R2R                     | EEFCD0K8R2ER                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.8       | 1.6                                  | 40                 | EEFCD0K150R                     | EEFCD0K150ER                                  | 3500                               |
|                       |                         | 22                               | 7.3       | 4.3       | 1.8       | 2.0                                  | 28                 | EEFCD0K220R                     | EEFCD0K220ER                                  | 3500                               |
| CD                    | 10                      | 33                               | 7.3       | 4.3       | 1.8       | 2.5                                  | 18                 | EEFCD0K330R                     | EEFCD0K330ER                                  | 3500                               |
|                       |                         | 47                               | 7.3       | 4.3       | 1.8       | 1.8                                  | 25                 | EEFCD0K470R                     | EEFCD0K470ER                                  | 3500                               |
|                       |                         | 22                               | 7.3       | 4.3       | 1.8       | 1.6                                  | 30                 | —                               | EEFCD1A220R                                   | 3500                               |
|                       |                         | 33                               | 7.3       | 4.3       | 1.8       | 1.8                                  | 25                 | —                               | EEFCD1A330R                                   | 3500                               |
|                       |                         | 39                               | 7.3       | 4.3       | 1.8       | 1.8                                  | 25                 | —                               | EEFCD1A390R                                   | 3500                               |
|                       |                         | 4.7                              | 7.3       | 4.3       | 1.8       | 1.0                                  | 80                 | EEFCD1B4R7R                     | —                                             | 3500                               |
| CD                    | 12.5                    | 10                               | 7.3       | 4.3       | 1.8       | 1.0                                  | 60                 | EEFCD1B100R                     | —                                             | 3500                               |
|                       |                         | 15                               | 7.3       | 4.3       | 1.8       | 1.3                                  | 50                 | EEFCD1B150R                     | —                                             | 3500                               |
|                       |                         | 22                               | 7.3       | 4.3       | 1.8       | 1.6                                  | 30                 | EEFCD1B220R                     | —                                             | 3500                               |
|                       |                         | 2.2                              | 7.3       | 4.3       | 1.8       | 1.0                                  | 110                | EEFCD1C2R2R                     | —                                             | 3500                               |
|                       |                         | 4.7                              | 7.3       | 4.3       | 1.8       | 1.0                                  | 80                 | EEFCD1C4R7R                     | —                                             | 3500                               |
|                       |                         | 6.8                              | 7.3       | 4.3       | 1.8       | 1.0                                  | 70                 | EEFCD1C6R8R                     | —                                             | 3500                               |
| CD                    | 16                      | 8.2                              | 7.3       | 4.3       | 1.8       | 1.3                                  | 45                 | EEFCD1C8R2R                     | —                                             | 3500                               |
|                       | 2                       | 220                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0D221R                                   | 3500                               |
|                       |                         | 270                              | 7.3       | 4.3       | 1.9       | 3.0                                  | 12                 | —                               | EEFCX0D271XR                                  | 3500                               |
|                       |                         | 330                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0D331R                                   | 3500                               |
|                       |                         | 390                              | 7.3       | 4.3       | 1.9       | 3.0                                  | 12                 | —                               | EEFCX0D391XR                                  | 3500                               |
|                       |                         | 470                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0D471R                                   | 3500                               |
| CX                    | 2.5                     | 560                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0D561R                                   | 3500                               |
|                       |                         | 220                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0E221R                                   | 3500                               |
|                       |                         | 330                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0E331R                                   | 3500                               |
|                       |                         | 390                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0E391R                                   | 3500                               |
|                       |                         | 470                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0E471R                                   | 3500                               |
|                       |                         | 150                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0G151R                                   | 3500                               |
| CX                    | 4                       | 180                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0G181R                                   | 3500                               |
|                       |                         | 220                              | 7.3       | 4.3       | 1.9       | 3.0                                  | 12                 | —                               | EEFCX0G181XR                                  | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0G221R                                   | 3500                               |
|                       |                         | 270                              | 7.3       | 4.3       | 1.9       | 3.0                                  | 12                 | —                               | EEFCX0G221XR                                  | 3500                               |
|                       |                         | 270                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0G271R                                   | 3500                               |
|                       |                         | 100                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0J101R                                   | 3500                               |
| CX                    | 6.3                     | 120                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0J121R                                   | 3500                               |
|                       |                         | 150                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0J151R                                   | 3500                               |
|                       |                         |                                  | 7.3       | 4.3       | 1.9       | 3.0                                  | 12                 | —                               | EEFCX0J151XR                                  | 3500                               |
|                       |                         | 180                              | 7.3       | 4.3       | 1.9       | 2.7                                  | 15                 | —                               | EEFCX0J181R                                   | 3500                               |

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

\*3: Please confirm EE25 in detail of the Mounting Specifications.

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.

## ■ Standard Products

| Series & Size Code | Rated W.V. (V.DC) | Capacitance (±20 %) (μF) | Case Size |        |        | Specification                          |                             | Part number                             |                                                    | 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.) | Reflow condition : 240 °C <sup>*3</sup> | Reflow condition : 260 °C <sup>*3</sup> [Proposal] |                           |
| UD                 | 2                 | 330                      | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0D331R <sup>*4</sup>               | EEFUD0D331ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.3                                    | 12                          | EEFUD0D331XR <sup>*4</sup>              | EEFUD0D331XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0D331LR <sup>*4</sup>              | EEFUD0D331LE <sup>*4</sup>                         | 2000                      |
|                    |                   | 390                      | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0D391R <sup>*4</sup>               | EEFUD0D391ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0D391LR <sup>*4</sup>              | EEFUD0D391LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0D471LR <sup>*4</sup>              | EEFUD0D471LE <sup>*4</sup>                         | 2000                      |
|                    | 2.5               | 220                      | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0E221R <sup>*4</sup>               | EEFUD0E221ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.3                                    | 12                          | EEFUD0E221XR <sup>*4</sup>              | EEFUD0E221XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0E221LR <sup>*4</sup>              | EEFUD0E221LE <sup>*4</sup>                         | 2000                      |
|                    |                   | 270                      | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0E271R <sup>*4</sup>               | EEFUD0E271ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0E271LR <sup>*4</sup>              | EEFUD0E271LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0G121R <sup>*4</sup>               | EEFUD0G121ER <sup>*4</sup>                         | 2000                      |
|                    | 4                 | 120                      | 7.3       | 4.3    | 2.8    | 3.4                                    | 12                          | EEFUD0G121XR <sup>*4</sup>              | EEFUD0G121XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0G151R <sup>*4</sup>               | EEFUD0G151ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.3                                    | 12                          | EEFUD0G151XR <sup>*4</sup>              | EEFUD0G151XE <sup>*4</sup>                         | 2000                      |
|                    |                   | 150                      | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0G151LR <sup>*4</sup>              | EEFUD0G151LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 2.5                                    | 18                          | EEFUD0G181R <sup>*4</sup>               | EEFUD0G181ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0G181LR <sup>*4</sup>              | EEFUD0G181LE <sup>*4</sup>                         | 2000                      |
|                    | 6.3               | 100                      | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0J101R <sup>*4</sup>               | EEFUD0J101ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.3                                    | 12                          | EEFUD0J101XR <sup>*4</sup>              | EEFUD0J101XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0J121R <sup>*4</sup>               | EEFUD0J121ER <sup>*4</sup>                         | 2000                      |
|                    |                   | 120                      | 7.3       | 4.3    | 2.8    | 3.3                                    | 12                          | EEFUD0J121XR <sup>*4</sup>              | EEFUD0J121XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0J121LR <sup>*4</sup>              | —                                                  | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 2.5                                    | 18                          | EEFUD0J151R <sup>*4</sup>               | EEFUD0J151ER <sup>*4</sup>                         | 2000                      |
|                    | 8                 | 68                       | 7.3       | 4.3    | 2.8    | 3.4                                    | 9                           | EEFUD0J151LR <sup>*4</sup>              | —                                                  | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 3.0                                    | 15                          | EEFUD0K680R                             | EEFUD0K680ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 2.8    | 2.5                                    | 18                          | EEFUD0K101R                             | EEFUD0K101ER                                       | 2000                      |
| UE                 | 2                 | 270                      | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0D271R <sup>*4</sup>               | EEFUE0D271ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0D271XR <sup>*4</sup>              | EEFUE0D271XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0D331R <sup>*4</sup>               | EEFUE0D331ER <sup>*4</sup>                         | 2000                      |
|                    |                   | 330                      | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0D331XR <sup>*4</sup>              | EEFUE0D331XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0D391R <sup>*4</sup>               | EEFUE0D391ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0D391XR <sup>*4</sup>              | EEFUE0D391XE <sup>*4</sup>                         | 2000                      |
|                    |                   | 390                      | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0D391LR <sup>*4</sup>              | EEFUE0D391LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0D471R <sup>*4</sup>               | EEFUE0D471ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0D471XR <sup>*4</sup>              | EEFUE0D471XE <sup>*4</sup>                         | 2000                      |
|                    |                   | 470                      | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0D471LR <sup>*4</sup>              | EEFUE0D471LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0D561R                             | EEFUE0D561ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0D561LR                            | EEFUE0D561LE                                       | 2000                      |
|                    | 2.5               | 220                      | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0E221R <sup>*4</sup>               | EEFUE0E221ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0E221XR <sup>*4</sup>              | EEFUE0E221XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0E271R <sup>*4</sup>               | EEFUE0E271ER <sup>*4</sup>                         | 2000                      |
|                    |                   | 270                      | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0E271XR <sup>*4</sup>              | EEFUE0E271XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0E331R <sup>*4</sup>               | EEFUE0E331ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0E331XR <sup>*4</sup>              | EEFUE0E331XE <sup>*4</sup>                         | 2000                      |
|                    |                   | 330                      | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0E331LR <sup>*4</sup>              | EEFUE0E331LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0E391R <sup>*4</sup>               | EEFUE0E391ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0E391LR <sup>*4</sup>              | EEFUE0E391LE <sup>*4</sup>                         | 2000                      |
|                    |                   | 390                      | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0E471R                             | EEFUE0E471ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0E471LR                            | EEFUE0E471LE                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0G181R <sup>*4</sup>               | EEFUE0G181ER <sup>*4</sup>                         | 2000                      |
|                    | 4                 | 180                      | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0G181XR <sup>*4</sup>              | EEFUE0G181XE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0G221R <sup>*4</sup>               | EEFUE0G221ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0G221XR <sup>*4</sup>              | EEFUE0G221XE <sup>*4</sup>                         | 2000                      |
|                    |                   | 220                      | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0G221LR <sup>*4</sup>              | EEFUE0G221LE <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0G271R                             | EEFUE0G271ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0G271LR                            | EEFUE0G271LE                                       | 2000                      |
|                    |                   | 270                      | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0G331R                             | EEFUE0G331ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0J151R <sup>*4</sup>               | EEFUE0J151ER <sup>*4</sup>                         | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0J151XR <sup>*4</sup>              | EEFUE0J151XE <sup>*4</sup>                         | 2000                      |
|                    | 6.3               | 150                      | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0J181R                             | EEFUE0J181ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.5                                    | 10                          | EEFUE0J181XR                            | EEFUE0J181XE                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0J181LR                            | —                                                  | 2000                      |
|                    |                   | 180                      | 7.3       | 4.3    | 4.2    | 3.0                                    | 15                          | EEFUE0J221R                             | EEFUE0J221ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.7                                    | 7                           | EEFUE0J221LR                            | —                                                  | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.3                                    | 12                          | EEFUE0K101R <sup>*4</sup>               | EEFUE0K101ER <sup>*4</sup>                         | 2000                      |
|                    |                   | 220                      | 7.3       | 4.3    | 4.2    | 3.0                                    | 15                          | EEFUE0K151R                             | EEFUE0K151ER                                       | 2000                      |
|                    |                   |                          | 7.3       | 4.3    | 4.2    | 3.0                                    | 15                          | EEFUE0K151R                             | EEFUE0K151ER                                       | 2000                      |

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

\*3: Please confirm EE25 in detail of the Mounting Specifications.

\*4: Please use proposal part number of EE12, 13 when examining it.

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.