

### Radial Lead Type

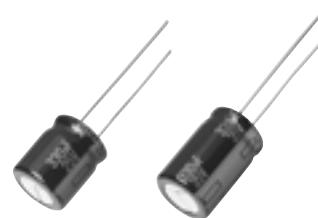
Series: **FR**      Type: **A**

#### ■ Features

- Low ESR (Same as FM Series)
- Endurance : 5000 h to 10000 h at +105 °C
- RoHS directive compliant

#### ■ Country of origin

Malaysia



#### ■ Attention

Not applicable for automotive

#### ■ Specifications

|   |  |                                  |      |      |      |      |      |      |      |
|---|--|----------------------------------|------|------|------|------|------|------|------|
| Category  | Temp. Range  | -40 °C to +105 °C                |      |      |      |      |      |      |      |
| Rated W.V. Range                                      |  | 6.3 V.DC to 100 V.DC             |      |      |      |      |      |      |      |
| Nominal Cap. Range                                    |  | 4.7 µF to 8200 µF                |      |      |      |      |      |      |      |
| Capacitance Tolerance                                 |  | ±20 % (120 Hz/+20 °C)            |      |      |      |      |      |      |      |
| DC Leakage Current                                    |  | I ≤ 0.01 CV (µA) After 2 minutes |      |      |      |      |      |      |      |
| tan δ   | W.V.   | 6.3                              | 10   | 16   | 25   | 35   | 50   | 63   | 100  |
|   | tan δ  | 0.22                             | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |
| Add 0.02 per 1000 µF for products of 1000 µF or more. |  |                                  |      |      |      |      |      |      |      |
| Endurance   | After following life test with DC voltage and +105 °C±2 °C ripple current value applied. (The sum of DC and ripple peak voltage shall not exceed the rated working voltage) when the capacitors are restored to 20 °C, the capacitors shall meet the limits specified below. |                                  |      |      |      |      |      |      |      |
|   | Duration<br>φ5×11/ φ6.3×11.2 : 5000 hours<br>φ8×11.5/ φ10×12.5 : 6000 hours (* Only EEUFR1V331U (φ10×12.5) 5000 hours)<br>φ8×15/ φ10×16 : 8000 hours, φ8×20 : 9000 hours<br>φ10×20 to φ10×25/ φ12.5×20 to φ12.5×35/ φ16×20 to φ16×25 : 10000 hours                           |                                  |      |      |      |      |      |      |      |
|   | Capacitance change   ±25 % of initial measured value (6.3 V to 10 V : ±30 %)   |                                  |      |      |      |      |      |      |      |
|   | tan δ   ≤ 200 % of initial specified value   |                                  |      |      |      |      |      |      |      |
| Shelf Life  | After storage for 1000 hours at +105 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)  |                                  |      |      |      |      |      |      |      |

#### ■ Frequency correction factor for ripple current

| W.V.(V.DC) | Cap (µF)     | Frequency (Hz) |      |      |      |       |
|------------|--------------|----------------|------|------|------|-------|
|            |              | 60             | 120  | 1 k  | 10 k | 100 k |
| 6.3 to 100 | 4.7 to 33    | 0.45           | 0.55 | 0.75 | 0.90 | 1.00  |
|            | 47 to 330    | 0.60           | 0.70 | 0.85 | 0.95 | 1.00  |
|            | 390 to 1000  | 0.65           | 0.75 | 0.90 | 0.98 | 1.00  |
|            | 1200 to 8200 | 0.75           | 0.80 | 0.95 | 1.00 | 1.00  |

#### ■ Dimensions in mm (not to scale)

(Unit : mm)

|                          |        |         |         |        |            |          |
|--------------------------|--------|---------|---------|--------|------------|----------|
| Pressure relief<br>φ6.3≤ | Sleeve | φd±0.05 | 14 min. | 3 min. | ≤φ8        | φ10≤     |
|                          |        |         |         |        | φD±0.5     | F±0.5    |
|                          |        |         |         |        | φD±0.5     | φD±0.5   |
| * L≤16 : L±1.5           |        |         |         |        |            |          |
| L≥20 : L±2.0             |        |         |         |        |            |          |
| Body Dia. φD             | 5      | 6.3     | 8       | 10     | 12.5       |          |
| Body Length L            | —      | —       | —       | —      | 12.5 to 25 | 30 to 35 |
| Lead Dia. φd             | 0.5    | 0.5     | 0.6     | 0.6    | 0.6        | 0.8      |
| Lead space F             | 2.0    | 2.5     | 3.5     | 5.0    | 5.0        |          |

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.

06 Nov. 2014

### ■ Case size/Impedance/Ripple current

| W.V.(V.DC) | 6.3 V to 35 V            |        |                                       | 50 V                     |        |                                       |
|------------|--------------------------|--------|---------------------------------------|--------------------------|--------|---------------------------------------|
|            | Impedance<br>(Ω/100 kHz) |        | Ripple Current<br>(mA r.m.s./100 kHz) | Impedance<br>(Ω/100 kHz) |        | Ripple Current<br>(mA r.m.s./100 kHz) |
|            | +20 °C                   | -10 °C | +105 °C                               | +20 °C                   | -10 °C | +105 °C                               |
| 5 × 11     | 0.300                    | 1.000  | 280                                   | 0.340                    | 1.130  | 250                                   |
| 6.3 × 11.2 | 0.130                    | 0.430  | 455                                   | 0.140                    | 0.460  | 405                                   |
| 8 × 11.5   | 0.056                    | 0.168  | 950                                   | 0.061                    | 0.183  | 870                                   |
| 8 × 15     | 0.041                    | 0.123  | 1240                                  | 0.045                    | 0.135  | 1140                                  |
| 8 × 20     | 0.030                    | 0.090  | 1560                                  | 0.033                    | 0.099  | 1430                                  |
| 10 × 12.5  | 0.043                    | 0.114  | 1290                                  | 0.042                    | 0.126  | 1170                                  |
| 10 × 16    | 0.028                    | 0.078  | 1790                                  | 0.030                    | 0.090  | 1650                                  |
| 10 × 20    | 0.020                    | 0.057  | 2180                                  | 0.023                    | 0.069  | 1890                                  |
| 10 × 25    | 0.018                    | 0.054  | 2470                                  | 0.022                    | 0.066  | 2150                                  |
| 12.5 × 20  | 0.018                    | 0.045  | 2600                                  | 0.022                    | 0.055  | 2260                                  |
| 12.5 × 25  | 0.015                    | 0.038  | 3190                                  | 0.018                    | 0.045  | 2660                                  |
| 12.5 × 30  | 0.013                    | 0.033  | 3630                                  | 0.016                    | 0.040  | 3160                                  |
| 12.5 × 35  | 0.012                    | 0.030  | 3750                                  | 0.014                    | 0.035  | 3270                                  |
| 16 × 20    | 0.017                    | 0.043  | 3300                                  | 0.019                    | 0.048  | 2870                                  |
| 16 × 25    | 0.014                    | 0.035  | 3820                                  | 0.016                    | 0.040  | 3320                                  |

| W.V.(V.DC) | 63 V                     |        |                                       |
|------------|--------------------------|--------|---------------------------------------|
|            | Impedance<br>(Ω/100 kHz) |        | Ripple Current<br>(mA r.m.s./100 kHz) |
|            | +20 °C                   | -10 °C | +105 °C                               |
| 5 × 11     | 0.510                    | 2.040  | 175                                   |
| 6.3 × 11.2 | 0.210                    | 0.840  | 284                                   |
| 8 × 11.5   | 0.092                    | 0.368  | 566                                   |
| 8 × 15     | 0.068                    | 0.272  | 741                                   |
| 8 × 20     | 0.050                    | 0.200  | 930                                   |
| 10 × 12.5  | 0.063                    | 0.252  | 761                                   |
| 10 × 16    | 0.045                    | 0.180  | 1073                                  |
| 10 × 20    | 0.035                    | 0.140  | 1229                                  |
| 10 × 25    | 0.033                    | 0.132  | 1500                                  |
| 12.5 × 20  | 0.033                    | 0.125  | 1582                                  |
| 12.5 × 25  | 0.027                    | 0.092  | 1995                                  |
| 12.5 × 30  | 0.024                    | 0.082  | 2528                                  |
| 12.5 × 35  | 0.021                    | 0.071  | 2780                                  |
| 16 × 20    | 0.029                    | 0.093  | 2153                                  |
| 16 × 25    | 0.024                    | 0.074  | 2988                                  |

| W.V.(V.DC) | 100 V                    |        |                                       |
|------------|--------------------------|--------|---------------------------------------|
|            | Impedance<br>(Ω/100 kHz) |        | Ripple Current<br>(mA r.m.s./100 kHz) |
|            | +20 °C                   | -10 °C | +105 °C                               |
| 10 × 20    | 0.084                    | 0.336  | 1500                                  |

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Should a safety concern arise regarding this product, please be sure to contact us immediately.

06 Nov. 2014

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20 %)<br>(μF) | Case size    |                | Specification                               |   |                           | Lead Length          |                  |                      |                      | Part No.       | Min. Packaging Q'ty        |                 |  |
|-------------|-------------------------|--------------|----------------|---|---|---------------------------|----------------------|------------------|----------------------|----------------------|----------------|----------------------------|-----------------|--|
|             |                         | Dia.<br>(mm) | Length<br>(mm) | Ripple<br>Current<br>(100 kHz)<br>(+105 °C) | Imped-<br>ance<br>(100 kHz)<br>(+20 °C) | Endur-<br>ance<br>(hours) | Lead<br>Dia.<br>(mm) | Lead Space       |                      |                      |                | Straight<br>Leads<br>(pcs) | Taping<br>(pcs) |  |
|             |                         |              |                | (mA r.m.s.)                                 | (Ω)                                     |                           |                      | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*H<br>(mm) |                |                            |                 |  |
| 6.3         | 150                     | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR0J151( )  | 200                        | 2000            |  |
|             | 220                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR0J221( )  | 200                        | 2000            |  |
|             | 330                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR0J331( )  | 200                        | 2000            |  |
|             | 470                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR0J471( )  | 200                        | 2000            |  |
|             | 820                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR0J821( )  | 200                        | 1000            |  |
|             | 1000                    | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR0J102( )  | 200                        | 1000            |  |
|             | 1200                    | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR0J122L( ) | 200                        | 1000            |  |
|             |                         | 10           | 12.5           | 1290  | 0.043                                   | 6000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J122( )  | 200                        | 500             |  |
|             | 1500                    | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR0J152L( ) | 200                        | 1000            |  |
|             | 1800                    | 10           | 16             | 1790  | 0.028                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J182( )  | 200                        | 500             |  |
|             | 2200                    | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J222( )  | 200                        | 500             |  |
|             | 2700                    | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J272L( ) | 200                        | 500             |  |
|             | 3300                    | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J332L( ) | 200                        | 500             |  |
|             | 3900                    | 12.5         | 20             | 2600  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J392( )  | 200                        | 500             |  |
|             | 4700                    | 12.5         | 25             | 3190  | 0.015                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR0J472( )  | 200                        | 500             |  |
|             | 5600                    | 12.5         | 30             | 3630  | 0.013                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR0J562L    | 100                        |                 |  |
|             | 6800                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR0J682L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR0J682S( ) | 100                        | 250             |  |
|             | 8200                    | 16           | 25             | 3820  | 0.014                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR0J822( )  | 100                        | 250             |  |
| 10          | 100                     | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1A101( )  | 200                        | 2000            |  |
|             | 150                     | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1A151( )  | 200                        | 2000            |  |
|             | 220                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1A221( )  | 200                        | 2000            |  |
|             | 270                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1A271( )  | 200                        | 2000            |  |
|             | 470                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1A471( )  | 200                        | 1000            |  |
|             | 680                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1A681( )  | 200                        | 1000            |  |
|             | 820                     | 10           | 12.5           | 1290  | 0.043                                   | 6000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A821( )  | 200                        | 500             |  |
|             | 1000                    | 10           | 16             | 1790  | 0.028                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A102( )  | 200                        | 500             |  |
|             |                         | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1A102L( ) | 200                        | 1000            |  |
|             | 1500                    | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1A152L( ) | 200                        | 1000            |  |
|             |                         | 10           | 16             | 1790  | 0.028                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A152( )  | 200                        | 500             |  |
|             | 1800                    | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A182( )  | 200                        | 500             |  |
|             | 2200                    | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A222L( ) | 200                        | 500             |  |
|             | 3300                    | 12.5         | 20             | 2600  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A332( )  | 200                        | 500             |  |
|             | 3900                    | 12.5         | 25             | 3190  | 0.015                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1A392( )  | 200                        | 500             |  |
|             | 4700                    | 12.5         | 30             | 3630  | 0.013                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1A472L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1A472S( ) | 100                        | 250             |  |
|             | 5600                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1A562L    | 100                        |                 |  |
|             | 6800                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1A682L    | 100                        |                 |  |
|             |                         | 16           | 25             | 3820  | 0.014                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1A682( )  | 100                        | 250             |  |

· When requesting taped product, please put the letter "B" or "H" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm, H=2.5 mm.  
 · Please refer to the page of "Taping Dimensions".

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20 %)<br>(μF) | Case size    |                | Specification                               |   |                           | Lead Length          |                  |                      |                      | Part No.       | Min. Packaging Q'ty        |                 |  |
|-------------|-------------------------|--------------|----------------|---|---|---------------------------|----------------------|------------------|----------------------|----------------------|----------------|----------------------------|-----------------|--|
|             |                         | Dia.<br>(mm) | Length<br>(mm) | Ripple<br>Current<br>(100 kHz)<br>(+105 °C) | Imped-<br>ance<br>(100 kHz)<br>(+20 °C) | Endur-<br>ance<br>(hours) | Lead<br>Dia.<br>(mm) | Lead Space       |                      |                      |                | Straight<br>Leads<br>(pcs) | Taping<br>(pcs) |  |
|             |                         |              |                | (mA r.m.s.)                                 | (Ω)                                     |                           |                      | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*H<br>(mm) |                |                            |                 |  |
| 16          | 68                      | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1C680( )  | 200                        | 2000            |  |
|             | 100                     | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1C101( )  | 200                        | 2000            |  |
|             | 120                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1C121( )  | 200                        | 2000            |  |
|             | 220                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1C221( )  | 200                        | 2000            |  |
|             | 470                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1C471( )  | 200                        | 1000            |  |
|             | 680                     | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1C681L( ) | 200                        | 1000            |  |
|             |                         | 10           | 12.5           | 1290  | 0.043                                   | 6000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C681( )  | 200                        | 500             |  |
|             | 1000                    | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1C102L( ) | 200                        | 1000            |  |
|             |                         | 10           | 16             | 1790  | 0.028                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C102( )  | 200                        | 500             |  |
|             | 1500                    | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C152( )  | 200                        | 500             |  |
|             |                         | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C152L( ) | 200                        | 500             |  |
|             | 1800                    | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C182L( ) | 200                        | 500             |  |
|             | 2200                    | 12.5         | 20             | 2600  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C222( )  | 200                        | 500             |  |
|             | 2700                    | 12.5         | 25             | 3190  | 0.015                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1C272( )  | 200                        | 500             |  |
|             | 3300                    | 12.5         | 30             | 3630  | 0.013                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1C332L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1C332S( ) | 100                        | 250             |  |
|             | 3900                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1C392L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1C392S( ) | 100                        | 250             |  |
|             | 4700                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1C472L    | 100                        |                 |  |
|             |                         | 16           | 25             | 3820  | 0.014                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1C472( )  | 100                        | 250             |  |
|             | 5600                    | 16           | 25             | 3820  | 0.014                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1C562( )  | 100                        | 250             |  |
| 25          | 47                      | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1E470( )  | 200                        | 2000            |  |
|             | 68                      | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1E680( )  | 200                        | 2000            |  |
|             | 100                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1E101( )  | 200                        | 2000            |  |
|             | 150                     | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1E151( )  | 200                        | 2000            |  |
|             | 220                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E221( )  | 200                        | 1000            |  |
|             | 330                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E331( )  | 200                        | 1000            |  |
|             | 390                     | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E391L( ) | 200                        | 1000            |  |
|             | 470                     | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E471Y( ) | 200                        | 1000            |  |
|             |                         | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E471L( ) | 200                        | 1000            |  |
|             | 560                     | 10           | 12.5           | 1290  | 0.043                                   | 6000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E471( )  | 200                        | 500             |  |
|             |                         | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E561L( ) | 200                        | 1000            |  |
|             | 680                     | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1E681L( ) | 200                        | 1000            |  |
|             |                         | 10           | 16             | 1790  | 0.028                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E681( )  | 200                        | 500             |  |
|             | 820                     | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E821( )  | 200                        | 500             |  |
|             | 1000                    | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E102( )  | 200                        | 500             |  |
|             |                         | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E102L( ) | 200                        | 500             |  |
|             | 1200                    | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E122L( ) | 200                        | 500             |  |
|             | 1500                    | 12.5         | 20             | 2600  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E152( )  | 200                        | 500             |  |
|             | 1800                    | 12.5         | 25             | 3190  | 0.015                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1E182( )  | 200                        | 500             |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1E182S( ) | 100                        | 250             |  |
|             | 2200                    | 12.5         | 30             | 3630  | 0.013                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1E222L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1E222S( ) | 100                        | 250             |  |
|             | 2700                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1E272L    | 100                        |                 |  |
|             |                         | 16           | 20             | 3300  | 0.017                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1E272S( ) | 100                        | 250             |  |
|             | 3300                    | 16           | 25             | 3820  | 0.014                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1E332( )  | 100                        | 250             |  |

· When requesting taped product, please put the letter "B" or "H" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm, H=2.5 mm.  
 · Please refer to the page of "Taping Dimensions".

### ■ Standard Products

| W.V.<br>(V) | Cap.<br>(±20 %)<br>(μF) | Case size    |                | Specification                               |   |                           | Lead Length          |                  |                      | Part No.             | Min. Packaging Q'ty |                            |                 |
|-------------|-------------------------|--------------|----------------|---|---|---------------------------|----------------------|------------------|----------------------|----------------------|---------------------|----------------------------|-----------------|
|             |                         | Dia.<br>(mm) | Length<br>(mm) | Ripple<br>Current<br>(100 kHz)<br>(+105 °C) | Imped-<br>ance<br>(100 kHz)<br>(+20 °C) | Endur-<br>ance<br>(hours) | Lead<br>Dia.<br>(mm) | Lead Space       |                      |                      |                     | Straight<br>Leads<br>(pcs) | Taping<br>(pcs) |
|             |                         |              |                | (mA r.m.s.)                                 | (Ω)                                     |                           |                      | Straight<br>(mm) | Taping<br>*B<br>(mm) | Taping<br>*H<br>(mm) |                     |                            |                 |
| 35          | 33                      | 5            | 11             | 280   | 0.300                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1V330( )       | 200                        | 2000            |
|             | 68                      | 6.3          | 11.2           | 455   | 0.130                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1V680( )       | 200                        | 2000            |
|             | 100                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V101( )       | 200                        | 1000            |
|             | 180                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V181( )       | 200                        | 1000            |
|             | 220                     | 8            | 11.5           | 950   | 0.056                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V221( )       | 200                        | 1000            |
|             | 270                     | 8            | 15             | 1240  | 0.041                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V271L( )      | 200                        | 1000            |
|             | 10                      | 12.5         | 1290           | 0.043                                       | 6000                                    | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1V271( )       | 200                        | 500             |
|             | 330                     | 10           | 12.5           | 1330  | 0.043                                   | 5000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V331U( )      | 200                        | 500             |
|             | 390                     | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V391L( )      | 200                        | 1000            |
|             | 470                     | 8            | 20             | 1560  | 0.030                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1V471L( )      | 200                        | 1000            |
|             | 10                      | 16           | 1790           | 0.028                                       | 8000                                    | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1V471( )       | 200                        | 500             |
|             | 560                     | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V561( )       | 200                        | 500             |
|             | 680                     | 10           | 20             | 2180  | 0.020                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V681( )       | 200                        | 500             |
|             | 10                      | 25           | 2470           | 0.018                                       | 10000                                   | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1V681L( )      | 200                        | 500             |
|             | 820                     | 10           | 25             | 2470  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V821L( )      | 200                        | 500             |
|             | 1000                    | 12.5         | 20             | 2600  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V102( )       | 200                        | 500             |
|             | 1200                    | 12.5         | 25             | 3190  | 0.015                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1V122( )       | 200                        | 500             |
|             | 1500                    | 12.5         | 30             | 3630  | 0.013                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1V152L         | 100                        |                 |
|             | 16                      | 20           | 3300           | 0.017                                       | 10000                                   | 0.8                       | 7.5                  | 7.5              |                      |                      | EEUFR1V152S( )      | 100                        | 250             |
|             | 1800                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1V182L         | 100                        |                 |
|             | 16                      | 25           | 3820           | 0.014                                       | 10000                                   | 0.8                       | 7.5                  | 7.5              |                      |                      | EEUFR1V182( )       | 100                        | 250             |
|             | 2200                    | 12.5         | 35             | 3750  | 0.012                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1V222L         | 100                        |                 |
|             | 16                      | 25           | 3820           | 0.014                                       | 10000                                   | 0.8                       | 7.5                  | 7.5              |                      |                      | EEUFR1V222( )       | 100                        | 250             |
| 50          | 4.7                     | 5            | 11             | 185   | 0.620                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1H4R7( )       | 200                        | 2000            |
|             | 10                      | 5            | 11             | 250   | 0.340                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1H100( )       | 200                        | 2000            |
|             | 22                      | 5            | 11             | 250   | 0.340                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1H220( )       | 200                        | 2000            |
|             | 47                      | 6.3          | 11.2           | 405   | 0.140                                   | 5000                      | 0.5                  | 2.5              | 5.0                  |                      | EEUFR1H470( )       | 200                        | 2000            |
|             | 56                      | 6.3          | 11.2           | 405   | 0.140                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1H560( )       | 200                        | 2000            |
|             | 100                     | 8            | 11.5           | 870   | 0.061                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1H101( )       | 200                        | 1000            |
|             | 120                     | 8            | 15             | 1140  | 0.045                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1H121L( )      | 200                        | 1000            |
|             | 150                     | 10           | 12.5           | 1170  | 0.042                                   | 6000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H151( )       | 200                        | 500             |
|             | 180                     | 8            | 20             | 1430  | 0.033                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1H181L( )      | 200                        | 1000            |
|             | 220                     | 10           | 16             | 1650  | 0.030                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H221( )       | 200                        | 500             |
|             | 270                     | 10           | 20             | 1890  | 0.023                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H271( )       | 200                        | 500             |
|             | 330                     | 10           | 25             | 2150  | 0.022                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H331L( )      | 200                        | 500             |
|             | 470                     | 12.5         | 20             | 2260  | 0.022                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H471( )       | 200                        | 500             |
|             | 560                     | 12.5         | 25             | 2660  | 0.018                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1H561( )       | 200                        | 500             |
|             | 680                     | 12.5         | 30             | 3160  | 0.016                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1H681L         | 100                        |                 |
|             | 820                     | 12.5         | 35             | 3270  | 0.014                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1H821L         | 100                        |                 |
|             | 16                      | 20           | 2870           | 0.019                                       | 10000                                   | 0.8                       | 7.5                  | 7.5              |                      |                      | EEUFR1H821S( )      | 100                        | 250             |
|             | 1000                    | 16           | 25             | 3320  | 0.016                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1H102( )       | 100                        | 250             |
| 63          | 18                      | 5            | 11             | 175   | 0.510                                   | 5000                      | 0.5                  | 2.0              | 5.0                  | 2.5                  | EEUFR1J180( )       | 200                        | 2000            |
|             | 47                      | 6.3          | 11.2           | 284   | 0.210                                   | 5000                      | 0.5                  | 2.5              | 5.0                  | 2.5                  | EEUFR1J470( )       | 200                        | 2000            |
|             | 82                      | 8            | 11.5           | 566   | 0.092                                   | 6000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1J820( )       | 200                        | 1000            |
|             | 100                     | 8            | 15             | 741   | 0.068                                   | 8000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1J101L( )      | 200                        | 1000            |
|             | 10                      | 12.5         | 761            | 0.063                                       | 6000                                    | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1J101( )       | 200                        | 500             |
|             | 120                     | 8            | 20             | 930   | 0.050                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1J121L( )      | 200                        | 1000            |
|             | 10                      | 16           | 1073           | 0.045                                       | 8000                                    | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1J121( )       | 200                        | 500             |
|             | 150                     | 8            | 20             | 930   | 0.050                                   | 9000                      | 0.6                  | 3.5              | 5.0                  |                      | EEUFR1J151L( )      | 200                        | 1000            |
|             | 150                     | 10           | 16             | 1073  | 0.045                                   | 8000                      | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J151( )       | 200                        | 500             |
|             | 180                     | 10           | 20             | 1229  | 0.035                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J181( )       | 200                        | 500             |
|             | 220                     | 10           | 25             | 1500  | 0.033                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J221L( )      | 200                        | 500             |
|             | 10                      | 20           | 1229           | 0.035                                       | 10000                                   | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1J271U( )      | 200                        | 500             |
|             | 270                     | 10           | 25             | 1500  | 0.033                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J271L( )      | 200                        | 500             |
|             | 12.5                    | 20           | 1582           | 0.033                                       | 10000                                   | 0.6                       | 5.0                  | 5.0              |                      |                      | EEUFR1J271( )       | 200                        | 500             |
|             | 330                     | 12.5         | 20             | 1582  | 0.033                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J331( )       | 200                        | 500             |
|             | 390                     | 12.5         | 25             | 1995  | 0.027                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J391( )       | 200                        | 500             |
|             | 470                     | 12.5         | 25             | 1995  | 0.027                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR1J471( )       | 200                        | 500             |
|             | 560                     | 12.5         | 30             | 2528  | 0.024                                   | 10000                     | 0.8                  | 5.0              |                      |                      | EEUFR1J561L         | 100                        |                 |
|             | 680                     | 16           | 20             | 2153  | 0.029                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1J561S( )      | 100                        | 250             |
|             | 820                     | 16           | 25             | 2988  | 0.024                                   | 10000                     | 0.8                  | 7.5              | 7.5                  |                      | EEUFR1J821( )       | 100                        | 250             |
|             | 100                     | 100          | 20             | 1500  | 0.084                                   | 10000                     | 0.6                  | 5.0              | 5.0                  |                      | EEUFR2A101( )       | 200                        | 500             |

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 Please refer to the page of "Taping Dimensions".

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