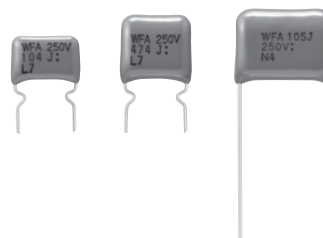


## Metallized Polypropylene Film Capacitor

Type : **ECWF(A)**

Non-inductive construction using metallized polypropylene film with flame retardant epoxy resin coating.



### Features

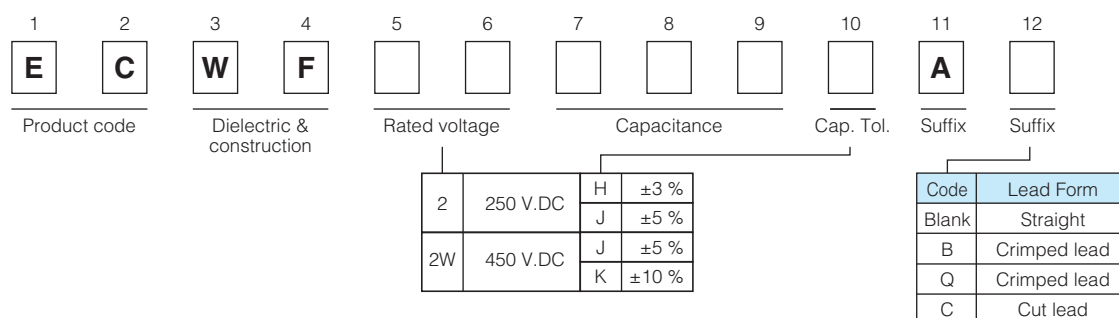
- Small size
- Excellent frequency characteristics
- Low loss
- Low Hum Sound Noise
- 85 degree C , 85 %RH , 500 V.DC , 500 hours (630 V.DC)
- RoHS directive compliant

### Recommended applications

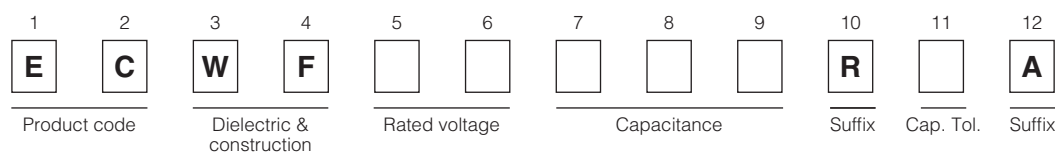
- 250 V.DC, 630 V.DC : High frequency and high current circuits
- 450 V.DC : Active filter circuits

### Explanation of part number

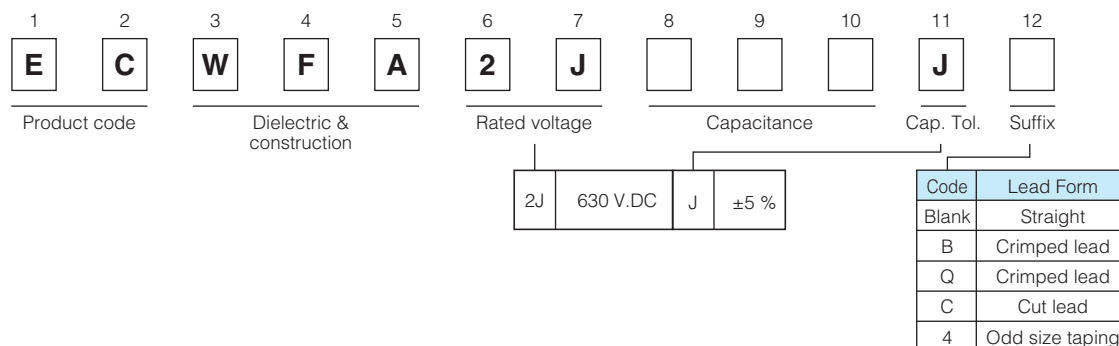
- 250 V.DC, 450 V.DC (Bulk)



- 250 V.DC, 450 V.DC (Odd size taping)



- 630 V.DC (Bulk, Odd size taping)

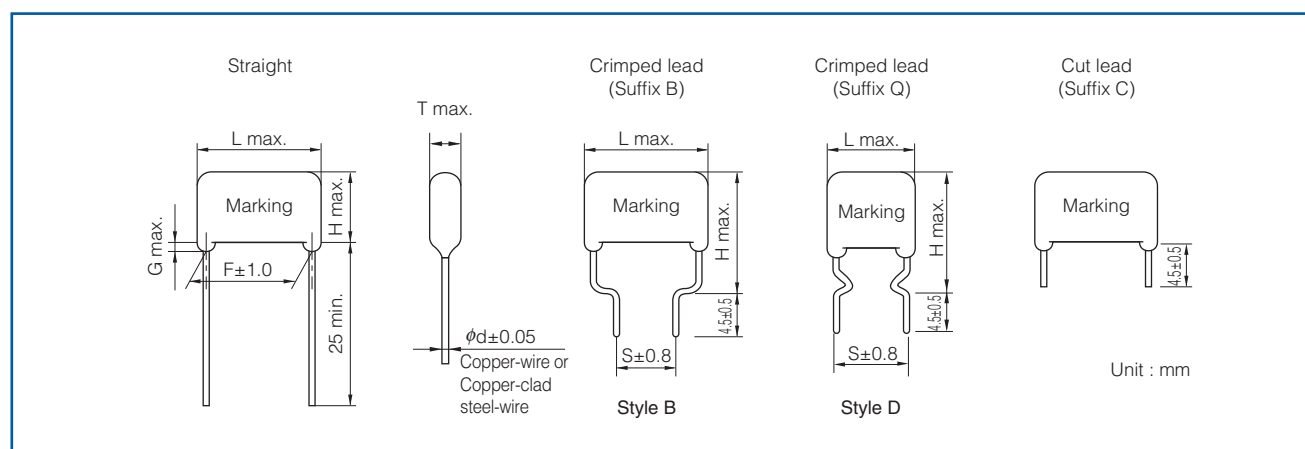


## Specifications

|                                                                      |                                                                                                                                                                                                           |                                                                                                                  |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Category temp. range<br>(Including temperature-rise on unit surface) | - 40 °C to +105 °C                                                                                                                                                                                        |                                                                                                                  |
| Rated voltage                                                        | 250 V.DC                                                                                                                                                                                                  |                                                                                                                  |
|                                                                      | 450 V.DC (Derating of rated voltage by 1.25%/°C at more than 85 °C)<br>Peak to peak voltage applied on the capacitor should be less than 240 Vp-p, and zero to peak voltage should be less than 450 Vo-p. |                                                                                                                  |
|                                                                      | 630 V.DC (Derating of rated voltage by 1.0%/°C at more than 85 °C)                                                                                                                                        |                                                                                                                  |
| Capacitance range                                                    | 250 V.DC                                                                                                                                                                                                  | 0.1 µF to 6.8 µF                                                                                                 |
|                                                                      | 450 V.DC                                                                                                                                                                                                  | 0.1 µF to 4.7 µF                                                                                                 |
|                                                                      | 630 V.DC                                                                                                                                                                                                  | 0.1 µF to 2.2 µF                                                                                                 |
| Capacitance tolerance                                                | 250 V.DC                                                                                                                                                                                                  | ±3 % (H), ±5 % (J)                                                                                               |
|                                                                      | 450 V.DC                                                                                                                                                                                                  | ±5 % (J), ±10 % (K)                                                                                              |
|                                                                      | 630 V.DC                                                                                                                                                                                                  | ±5 % (J)                                                                                                         |
| Dissipation factor (tan δ)                                           | tan δ ≤ 0.1 % (20 °C, 1 kHz)                                                                                                                                                                              |                                                                                                                  |
| Withstand voltage                                                    | Between terminals : Rated volt. (V.DC) × 150 %, 60 s                                                                                                                                                      |                                                                                                                  |
| Insulation resistance (IR)                                           | 250 V.DC                                                                                                                                                                                                  | $C \leq 0.33 \mu\text{F}$ : IR ≥ 9000 MΩ<br>$C > 0.33 \mu\text{F}$ : IR ≥ 3000 MΩ · µF (20 °C, 100 V.DC, 60 s)   |
|                                                                      | 450 V.DC                                                                                                                                                                                                  | $C \leq 0.33 \mu\text{F}$ : IR ≥ 30000 MΩ<br>$C > 0.33 \mu\text{F}$ : IR ≥ 10000 MΩ · µF (20 °C, 100 V.DC, 60 s) |
|                                                                      | 630 V.DC                                                                                                                                                                                                  | $C \leq 0.33 \mu\text{F}$ : IR ≥ 9000 MΩ<br>$C > 0.33 \mu\text{F}$ : IR ≥ 3000 MΩ · µF (20 °C, 500 V.DC, 60 s)   |

\* In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of "Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage".

## Dimensions

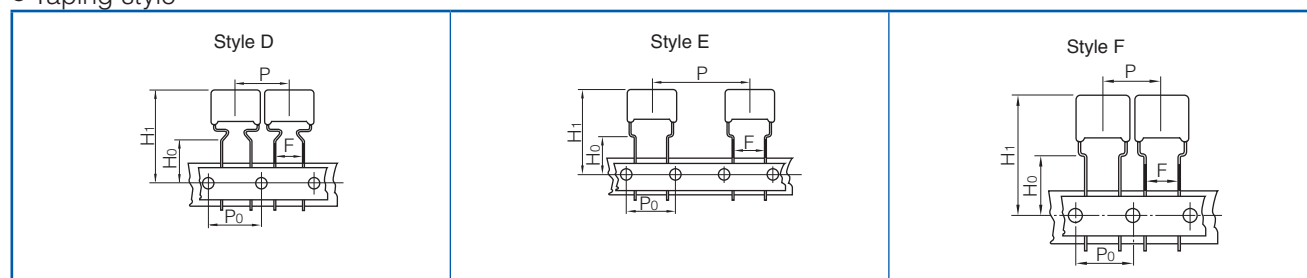


## Packaging specifications for bulk package

- Packing quantity : 100 pcs./bag

## Taping specifications for automatic insertion

### ● Taping style



\* Refer to the page of taping specifications.

### ● Packaging specifications

| Type    | Rated voltage<br>(V.DC) | Capacitance range<br>(μF) | Taping style |    |   |   |   |   |   | Packing | suffix |
|---------|-------------------------|---------------------------|--------------|----|---|---|---|---|---|---------|--------|
|         |                         |                           | AD           | AS | B | C | D | E | F |         |        |
| ECWF(A) | 250                     | 0.10 to 0.47              |              |    |   |   | ○ |   |   | Ammo    | R( ) A |
|         |                         | 0.56 to 3.9               |              |    |   |   |   | ○ |   |         |        |
|         | 450                     | 0.10 to 0.47              |              |    |   |   |   |   | ○ |         |        |
|         |                         | 0.56 to 2.2               |              |    |   |   |   | ○ |   |         |        |
|         | 630                     | 0.10 to 0.68              |              |    |   |   |   | ○ |   |         |        |
|         |                         |                           |              |    |   |   |   |   |   |         |        |

### ● Lead spacing

| Style | Lead spacing |
|-------|--------------|
| D     | 7.5 mm       |
| E     | 7.5 mm       |
| F     | 7.5 mm       |

## Rating · Dimensions · Quantity

● Rated voltage : 250 V.DC, Capacitance tolerance : ± 3 % (H), ± 5 % (J)

| Part No.      | Cap. (μF) | Dimensions (mm) |        |          |                         |                         |      |                         |                         |        |     | Min. order Q'ty |      |
|---------------|-----------|-----------------|--------|----------|-------------------------|-------------------------|------|-------------------------|-------------------------|--------|-----|-----------------|------|
|               |           | L max.          | T max. | H max.   |                         |                         | F    | S                       |                         | G max. | φd  | Taping 7.5 mm   | Bulk |
|               |           |                 |        | Straight | Crimped lead (Suffix B) | Crimped lead (Suffix Q) |      | Crimped lead (Suffix B) | Crimped lead (Suffix Q) |        |     |                 |      |
| ECWF2104□A( ) | 0.10      | 13.0            | 5.0    |          | 14.1                    | 14.1                    |      | 7.5                     | 10.0                    |        | 0.6 | 1300            | 500  |
| ECWF2124□A( ) | 0.12      | 13.0            | 5.3    |          | 14.4                    | 14.4                    |      | 7.5                     | 10.0                    |        | 0.6 | 1200            |      |
| ECWF2154□A( ) | 0.15      | 13.0            | 5.6    |          | 14.7                    | 14.7                    |      | 7.5                     | 10.0                    |        | 0.6 | 1100            |      |
| ECWF2184□A( ) | 0.18      | 13.0            | 5.9    |          | 15.1                    | 15.1                    |      | 7.5                     | 10.0                    |        | 0.6 | 1000            |      |
| ECWF2224□A( ) | 0.22      | 13.0            | 6.3    |          | 15.4                    | 15.4                    |      | 7.5                     | 10.0                    |        | 0.6 | 900             |      |
| ECWF2274□A( ) | 0.27      | 13.0            | 6.8    |          | 15.9                    | 15.9                    |      | 7.5                     | 10.0                    |        | 0.6 | 800             |      |
| ECWF2334□A( ) | 0.33      | 13.0            | 7.3    |          | 16.4                    | 16.4                    |      | 7.5                     | 10.0                    |        | 0.6 | 700             |      |
| ECWF2394□A( ) | 0.39      | 13.0            | 7.8    |          | 16.9                    | 16.9                    |      | 7.5                     | 10.0                    |        | 0.6 | 600             |      |
| ECWF2474□A( ) | 0.47      | 13.0            | 8.4    |          | 17.6                    | 17.6                    |      | 7.5                     | 10.0                    |        | 0.6 | 500             |      |
| ECWF2564□A( ) | 0.56      | 18.1            | 6.9    |          | 16.4                    | 18.4                    |      | 7.5                     | 15.0                    |        | 0.8 | 400             |      |
| ECWF2684□A( ) | 0.68      | 18.1            | 7.4    |          | 17.0                    | 19.0                    |      | 7.5                     | 15.0                    |        | 0.8 | 300             |      |
| ECWF2824□A( ) | 0.82      | 18.1            | 8.0    |          | 17.6                    | 19.6                    |      | 7.5                     | 15.0                    |        | 0.8 | 200             |      |
| ECWF2105□A( ) | 1.0       | 18.1            | 8.5    | 13.3     | 18.3                    | 20.3                    | 15.0 | 7.5                     | 15.0                    | 1.5    | 0.8 | 100             |      |
| ECWF2125□A( ) | 1.2       | 18.8            | 9.5    | 14.6     | 19.6                    | 21.6                    | 15.0 | 7.5                     | 15.0                    | 1.5    | 0.8 | 80              |      |
| ECWF2155□A( ) | 1.5       | 18.8            | 10.5   | 15.6     | 20.6                    | 22.6                    | 15.0 | 7.5                     | 15.0                    | 1.5    | 0.8 | 60              |      |
| ECWF2185□A( ) | 1.8       | 18.8            | 11.4   | 16.5     | 21.5                    | 23.5                    | 15.0 | 7.5                     | 15.0                    | 1.5    | 0.8 | 40              |      |
| ECWF2225□A( ) | 2.2       | 18.8            | 12.6   | 17.6     | 22.6                    | 24.6                    | 15.0 | 7.5                     | 15.0                    | 1.5    | 0.8 | 30              |      |
| ECWF2275□A( ) | 2.7       | 23.8            | 11.4   | 17.2     | 22.2                    | 24.2                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 20              |      |
| ECWF2335□A( ) | 3.3       | 23.8            | 12.5   | 18.3     | 23.3                    | 25.3                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 15              |      |
| ECWF2395□A( ) | 3.9       | 23.8            | 13.5   | 19.3     | 24.3                    | 26.3                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 10              |      |
| ECWF2475□A( ) | 4.7       | 23.8            | 14.8   | 20.6     | 25.6                    | 27.6                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 5               |      |
| ECWF2565□A( ) | 5.6       | 23.8            | 16.2   | 21.9     | 26.9                    | 28.9                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 3               |      |
| ECWF2685□A( ) | 6.8       | 23.8            | 17.8   | 23.5     | 28.5                    | 30.5                    | 20.0 | 12.5                    | 20.0                    | 1.5    | 0.8 | 2               |      |

\* □ : Capacitance tolerance code  
( ) : Suffix for lead crimped

## Rating · Dimensions · Quantity

● Rated voltage : 450 V.DC, Capacitance tolerance :  $\pm 5\%$ (J),  $\pm 10\%$ (K)

| Part No.       | Cap.<br>(μF) | Dimensions (mm) |        |          |                            |                            |      |                            |                            |        |     | Min. order Q'ty |      |
|----------------|--------------|-----------------|--------|----------|----------------------------|----------------------------|------|----------------------------|----------------------------|--------|-----|-----------------|------|
|                |              | L max.          | T max. | H max.   |                            |                            | F    | S                          |                            | G max. | ød  | Taping          | Bulk |
|                |              |                 |        | Straight | Crimped lead<br>(Suffix B) | Crimped lead<br>(Suffix Q) |      | Crimped lead<br>(Suffix B) | Crimped lead<br>(Suffix Q) |        |     | 7.5 mm          |      |
| ECWF2W104□A( ) | 0.10         | 13.0            | 5.1    | —        | 14.3                       | 14.3                       | —    | 7.5                        | 10.0                       | 1.5    | 0.6 | 1200            | 500  |
| ECWF2W124□A( ) | 0.12         | 13.0            | 5.4    |          | 14.5                       | 14.5                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 | 1000            |      |
| ECWF2W154□A( ) | 0.15         | 13.0            | 5.7    |          | 14.9                       | 14.9                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 |                 |      |
| ECWF2W184□A( ) | 0.18         | 13.0            | 6.1    |          | 15.2                       | 15.2                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 |                 |      |
| ECWF2W224□A( ) | 0.22         | 13.0            | 6.5    |          | 15.6                       | 15.6                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 | 800             |      |
| ECWF2W274□A( ) | 0.27         | 13.0            | 7.0    |          | 16.1                       | 16.1                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 |                 |      |
| ECWF2W334□A( ) | 0.33         | 13.0            | 7.6    |          | 16.7                       | 16.7                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 |                 |      |
| ECWF2W394□A( ) | 0.39         | 13.0            | 8.1    |          | 17.2                       | 17.2                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 | 600             |      |
| ECWF2W474□A( ) | 0.47         | 13.0            | 8.7    |          | 17.9                       | 17.9                       |      | 7.5                        | 10.0                       | 1.5    | 0.6 |                 |      |
| ECWF2W564□A( ) | 0.56         | 18.1            | 7.0    | 11.5     | 16.5                       | 18.5                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 | 400             |      |
| ECWF2W684□A( ) | 0.68         | 18.1            | 7.5    | 12.1     | 17.1                       | 19.1                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 |                 |      |
| ECWF2W824□A( ) | 0.82         | 18.1            | 8.2    | 12.7     | 17.7                       | 19.7                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 |                 |      |
| ECWF2W105□A( ) | 1.0          | 18.1            | 9.3    | 12.6     | 17.6                       | 19.6                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 | 300             |      |
| ECWF2W125□A( ) | 1.2          | 18.8            | 9.7    | 14.7     | 19.7                       | 21.7                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 |                 |      |
| ECWF2W155□A( ) | 1.5          | 18.8            | 10.7   | 15.8     | 20.8                       | 22.8                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 |                 |      |
| ECWF2W185□A( ) | 1.8          | 18.8            | 11.6   | 16.7     | 21.7                       | 23.7                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 | 200             |      |
| ECWF2W225□A( ) | 2.2          | 18.8            | 12.8   | 17.9     | 22.9                       | 24.9                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.8 |                 |      |
| ECWF2W275□A( ) | 2.7          | 26.3            | 10.6   | 16.5     | 21.5                       | 23.5                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 | —               |      |
| ECWF2W335□A( ) | 3.3          | 26.3            | 11.7   | 17.5     | 22.5                       | 24.5                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |      |
| ECWF2W395□A( ) | 3.9          | 26.3            | 12.6   | 18.4     | 23.4                       | 25.4                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |      |
| ECWF2W475□A( ) | 4.7          | 26.3            | 13.8   | 19.6     | 24.6                       | 26.6                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |      |

\* □ : Capacitance tolerance code  
( ) : Suffix for lead crimped

● Rated voltage : 630 V.DC, Capacitance tolerance :  $\pm 5\%$ (J)

| Part No.       | Cap.<br>(μF) | Dimensions (mm) |        |          |                            |                            |      |                            |                            |        |     | Min. order Q'ty |          |              |     |
|----------------|--------------|-----------------|--------|----------|----------------------------|----------------------------|------|----------------------------|----------------------------|--------|-----|-----------------|----------|--------------|-----|
|                |              | L max.          | T max. | H max.   |                            |                            | F    | S                          |                            | G max. | ϕd  | Taping          | Bulk     |              |     |
|                |              |                 |        | Straight | Crimped lead<br>(Suffix B) | Crimped lead<br>(Suffix Q) |      | Crimped lead<br>(Suffix B) | Crimped lead<br>(Suffix Q) |        |     | 7.5 mm          | Straight | Crimped lead |     |
| ECWFA2J104J( ) | 0.10         | 18.2            | 5.2    | 10.4     | 15.4                       | 15.4                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 | 600             | 1000     | 1000         |     |
| ECWFA2J124J( ) | 0.12         | 18.2            | 5.5    | 10.8     | 15.8                       | 15.8                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J154J( ) | 0.15         | 18.2            | 6.0    | 11.2     | 16.2                       | 16.2                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 | 500             |          |              |     |
| ECWFA2J184J( ) | 0.18         | 18.2            | 6.5    | 11.7     | 16.7                       | 16.7                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J224J( ) | 0.22         | 18.2            | 7.1    | 12.3     | 17.3                       | 17.3                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 | 400             |          |              |     |
| ECWFA2J274J( ) | 0.27         | 18.2            | 7.8    | 12.9     | 17.9                       | 17.9                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J334J( ) | 0.33         | 18.2            | 8.5    | 13.6     | 18.6                       | 18.6                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 | 300             |          |              |     |
| ECWFA2J394J( ) | 0.39         | 18.2            | 9.2    | 14.3     | 19.3                       | 19.3                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J474J( ) | 0.47         | 18.2            | 10.0   | 15.1     | 20.1                       | 20.1                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J564J( ) | 0.56         | 18.2            | 10.9   | 16.0     | 21.0                       | 21.0                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 | 200             | 800      | 1000         |     |
| ECWFA2J684J( ) | 0.68         | 18.2            | 12.0   | 17.1     | 22.1                       | 22.1                       | 15.0 | 7.5                        | 15.0                       | 1.5    | 0.6 |                 |          |              |     |
| ECWFA2J824J( ) | 0.82         | 26.0            | 10.1   | 15.3     | 20.3                       | 22.3                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 | -               |          |              | 600 |
| ECWFA2J105J( ) | 1.0          | 26.0            | 11.1   | 16.2     | 21.2                       | 23.2                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |          |              |     |
| ECWFA2J125J( ) | 1.2          | 26.0            | 12.1   | 17.2     | 22.2                       | 24.2                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |          |              |     |
| ECWFA2J155J( ) | 1.5          | 26.0            | 13.5   | 18.6     | 23.6                       | 25.6                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 | 500      |              |     |
| ECWFA2J185J( ) | 1.8          | 26.0            | 14.8   | 19.8     | 24.8                       | 26.8                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |          |              |     |
| ECWFA2J225J( ) | 2.2          | 26.0            | 16.3   | 21.4     | 26.4                       | 28.4                       | 22.5 | 15.0                       | 22.5                       | 1.5    | 0.8 |                 |          |              | 400 |

\* ( ) : Suffix for lead crimped