



Part Number Instruction

|          |           |            |          |            |           |          |          |            |          |           |
|----------|-----------|------------|----------|------------|-----------|----------|----------|------------|----------|-----------|
| 1        | 2~3       | 4~6        | 7        | 8~10       | 11~12     | 13       | 14       | 15~17      | 18       | 19        |
| <u>E</u> | <u>GR</u> | <u>107</u> | <u>M</u> | <u>6R3</u> | <u>S1</u> | <u>A</u> | <u>1</u> | <u>C11</u> | <u>0</u> | <u>RH</u> |
| TYPE     | SERIES    | CAP        | TOL.     | VOLTAGE    | LEAD      | SPEC.    | SLEEVE   | CASE       | OTHERS   | RoHS      |

Code 1 Type

| Code | Model Type        |
|------|-------------------|
| E    | Standard Type     |
| V    | SMD (V-Chip) Type |
| L    | Snap-in Type      |

Code 2~3 Series Name (as content page 3&4)

Code 4~6 Capacitance

- 0.47  $\mu$ F = 474
- 4.7  $\mu$ F = 475
- 47  $\mu$ F = 476
- 470  $\mu$ F = 477
- 4700  $\mu$ F = 478

Code 7 Tolerance M =  $\pm$ 20% , K =  $\pm$ 10% , V = +20~ -10%

Code 8~10 Voltage

- 6.3V = 6R3
- 63V = 063
- 100V = 100
- 450V = 450

**Code 11~12 Lead Process**

Explanation for code 11° (also see Diagram below)

S : Standard      T : Ammo tape      R : Reel tape  
 C : Straight cut    K : Kink(Crimp)cut    F : Forming cut

|                       |   | Description   |
|-----------------------|---|---|
| <b>S</b>              | 0 | Standard SMD type   |
|                       | 1 | Standard Dip & Snap-in type                                   |
| <b>T</b>              | 1 | Standard ammo tape (pitch 5mm for dia. ~ 13mm)                |
|                       | 2 | Ammo tape with straight lead (available for dia. 4~8mm)       |
|                       | 4 | Ammo forming tape with pitch 2.5mm (available for dia.4~5mm)  |
| <b>R</b>              | 1 | Standard reel tape (pitch 5mm for dia.~ 10mm)                 |
|                       | 2 | Reel tape with straight lead (available for dia. 4~8mm)       |
|                       | 3 | Reel forming tape with pitch 2.5mm (available for dia.4~5mm ) |
| <b>Code 11&amp;12</b> |   | Description   |
| <b>C</b>              | 3 | Straight cut lead with L : 3.2+/-0.2mm                        |
|                       | 5 | Straight cut lead with L : 4.0+/-0.2mm                        |
|                       | 7 | Straight cut lead with L : 5.0+/-0.2mm                        |
| <b>K</b>              | 2 | Kink cut lead with L : 4.5+/-0.5mm                            |
| <b>F</b>              | 6 | Forming cut lead with L : 4.0+/-0.3 (Pitch : 5mm)             |

**Code 13 Special specification**

A : Standard                      D : Impedance  
 B : DF (tan δ)                  E : Ripple current  
 C : ESR                              F : Leakage current

**Code 14 Sleeve code**

| Code     | Series   | Color                           |
|----------|--|---------------------------------|
| <b>1</b> | GR,SR  | Royal blue with white printing  |
| <b>3</b> | LL,LX,SL,SH  | Orange with black printing      |
| <b>5</b> | SM,BM,LM,HM,FM,AM,SS,SX<br>SF,FX,RN,RX,SN,SP,BP,BX,TW,HW | Black with white printing       |
| <b>6</b> | LB,LH,LY,LZ  | Black with golden printing      |
| <b>H</b> | LW   | Royal blue with golden printing |
| <b>N</b> | DV,FV,GV,SV,RV,ZV  | (SMD standard pack)             |



Code 15-17 Case size code

For Dip & Snap-in type

| Code | Size (mm) | Code | Size (mm) | Code | Size (mm) | Code | Size (mm) | Code | Size (mm) | Code | Size (mm) |
|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|
| A05  | 3*5       | G09  | 8*9       | H25  | 10*25     | M32  | 16*32     | Q45  | 22*45     | S35  | 30*35     |
| B05  | 4*5       | G11  | 8*11      | H30  | 10*30     | M36  | 16*36     | Q50  | 22*50     | S40  | 30*40     |
| B07  | 4*7       | G14  | 8*14      | L13  | 13*13     | M40  | 16*40     | R25  | 25*25     | S45  | 30*45     |
| C05  | 5*5       | G16  | 8*16      | L16  | 13*16     | N32  | 18*32     | R30  | 25*30     | S50  | 30*50     |
| C07  | 5*7       | G20  | 8*20      | L20  | 13*20     | N36  | 18*36     | R35  | 25*35     | T25  | 35*25     |
| C11  | 5*11      | H1C  | 10*12.5   | L25  | 13*25     | N40  | 18*40     | R40  | 25*40     | T30  | 35*30     |
| E05  | 6.3*5     | H15  | 10*15     | L32  | 13*32     | Q25  | 22*25     | R45  | 25*45     | T35  | 35*35     |
| E07  | 6.3*7     | H16  | 10*16     | L36  | 13*36     | Q30  | 22*30     | R50  | 25*50     | T40  | 35*40     |
| E11  | 6.3*11    | H17  | 10*17     | M16  | 16*16     | Q35  | 22*35     | S25  | 30*25     | T45  | 35*45     |
| G07  | 8*7       | H20  | 10*20     | M26  | 16*26     | Q40  | 22*40     | S30  | 30*30     | T50  | 35*50     |

For SMD type

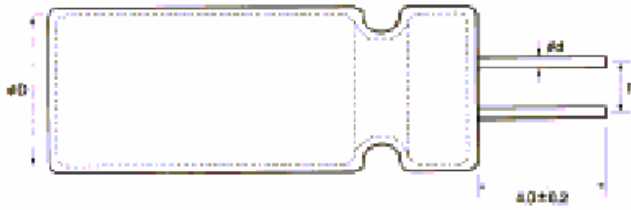
| Code      | A01   | B01   | C01   | E01     | G02   | G03    | H03     |
|-----------|-------|-------|-------|---------|-------|--------|---------|
| Size (mm) | 3*5.4 | 4*5.4 | 5*5.4 | 6.3*5.4 | 8*6.2 | 8*10.2 | 10*10.2 |

Code 18 Other special instruction (“ 0 ” for standard)

Code 19 Blank for Standard; “RH” for RoHS Compliant

Detailed Diagrams for Code 11-12

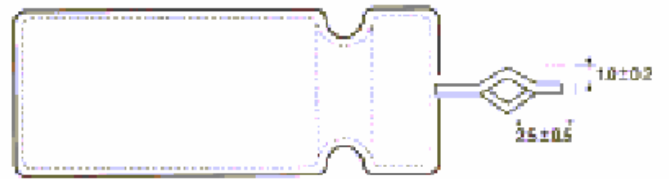
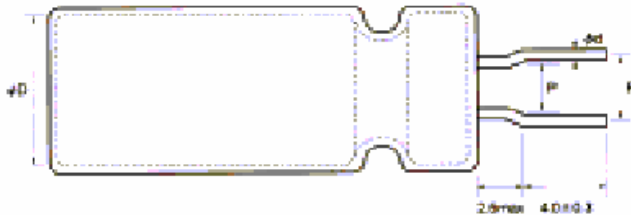
Code C5 : Straight Cut



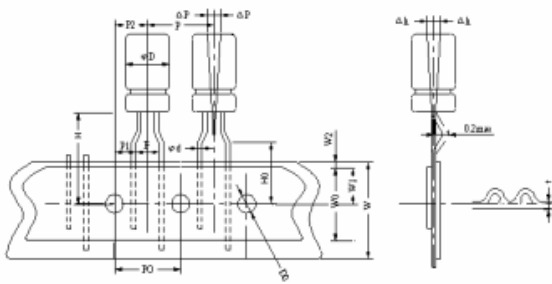
Code K2 : Kink cut, & Crimping



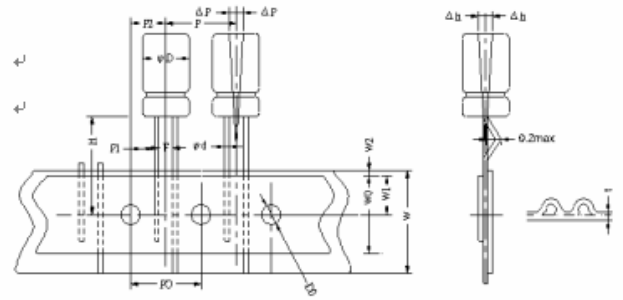
Code F6 : Forming Cut ( $\phi 4 - \phi 8$ )



Code T1/R1 : Ammo / Reel Tape ( $\phi 4 - \phi 8$ )



Code T1/R1 : Ammo / Reel Tape ( $\phi 10$ )

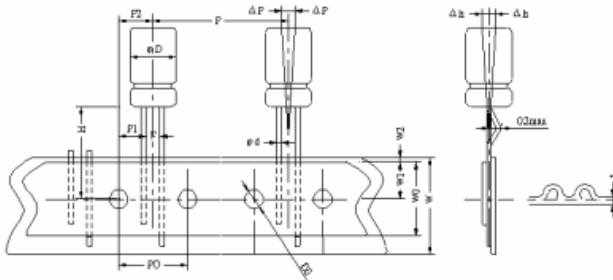


| SYMBOL     | CASE SIZE |             |           |         | TOLERANCE  |
|------------|-----------|-------------|-----------|---------|------------|
|            | 4x 5~7    | 5x 5~11     | 6.3x 5~11 | 8x 7~14 |            |
| $\phi d$   | 0.45      | 0.45 or 0.5 |           | 0.6     | $\pm 0.05$ |
| P          |           | 12.7        |           |         | $\pm 1.0$  |
| P0         |           | 12.7        |           |         | $\pm 0.3$  |
| P1         |           | 3.85        |           |         | $\pm 0.5$  |
| P2         |           | 6.35        |           |         | $\pm 1.0$  |
| F          |           | 5.0         |           |         | +0.6 -0.2  |
| W          |           | 18.0        |           |         | $\pm 0.5$  |
| W0         |           | 12.0 min    |           |         | -          |
| W1         |           | 9.0         |           |         | $\pm 0.5$  |
| W2         |           | 3.0 max     |           |         | -          |
| H          |           | 18.5 (20.0) |           |         | $\pm 0.75$ |
| H0         |           | 16.0        |           |         | $\pm 0.5$  |
| D0         |           | 4.0         |           |         | $\pm 0.3$  |
| $\Delta P$ |           | 0.2 max     |           |         | -          |
| $\Delta h$ |           | 0.2max      |           |         | -          |
| t          |           | 0.7         |           |         | $\pm 0.3$  |

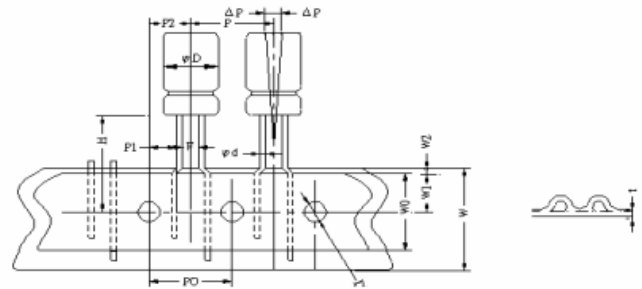
| SYMBOL     | CASE SIZE | TOLERANCE  |
|------------|-----------|------------|
|            | 10*12~20  |            |
| $\phi d$   | 0.6       | $\pm 0.05$ |
| P          | 12.7      | $\pm 1.0$  |
| P0         | 12.7      | $\pm 0.3$  |
| P1         | 3.85      | $\pm 0.5$  |
| P2         | 6.35      | $\pm 1.0$  |
| F          | 5.0       | +0.6 -0.2  |
| W          | 18.0      | $\pm 0.5$  |
| W0         | 12.0 min  | -          |
| W1         | 9.0       | $\pm 0.5$  |
| W2         | 3.0 max   | -          |
| H          | 18.5      | $\pm 0.75$ |
| D0         | 4.0       | $\pm 0.3$  |
| $\Delta P$ | 0.2 max   | -          |
| $\Delta h$ | 0.2max    | -          |
| t          | 1.0       | $\pm 0.3$  |

( ) : Code T6

Code T1/R1 : Ammo / Reel Tape ( $\phi$  13-  $\phi$  16)



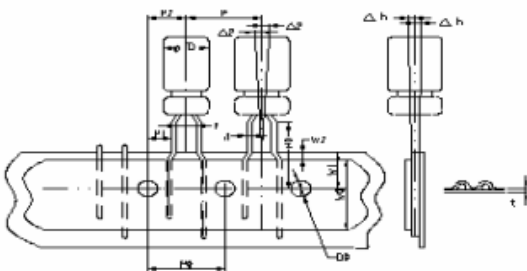
Code T2/R2 : Ammo / Reel Tape with straight lead<sup>⊕</sup>



| SYMBOL <sup>⊕</sup>     | CASE SIZE <sup>⊕</sup> |                       | TOLERANCE <sup>⊕</sup>  |
|-------------------------|------------------------|-----------------------|-------------------------|
|                         | 13*13~25 <sup>⊕</sup>  | 16*16~26 <sup>⊕</sup> |                         |
| $\phi$ d <sup>⊕</sup>   | 0.6 <sup>⊕</sup>       | 0.8 <sup>⊕</sup>      | $\pm$ 0.05 <sup>⊕</sup> |
| P <sup>⊕</sup>          | 30.0 <sup>⊕</sup>      |                       | $\pm$ 1.0 <sup>⊕</sup>  |
| P0 <sup>⊕</sup>         | 15.0 <sup>⊕</sup>      |                       | $\pm$ 0.3 <sup>⊕</sup>  |
| P1 <sup>⊕</sup>         | 5.0 <sup>⊕</sup>       | 3.75 <sup>⊕</sup>     | $\pm$ 0.7 <sup>⊕</sup>  |
| P2 <sup>⊕</sup>         | 7.5 <sup>⊕</sup>       |                       | $\pm$ 1.3 <sup>⊕</sup>  |
| F <sup>⊕</sup>          | 5.0 <sup>⊕</sup>       | 7.5 <sup>⊕</sup>      | +0.6 -0.2 <sup>⊕</sup>  |
| W <sup>⊕</sup>          | 18.0 <sup>⊕</sup>      |                       | $\pm$ 0.5 <sup>⊕</sup>  |
| W0 <sup>⊕</sup>         | 12.0 min <sup>⊕</sup>  |                       | - <sup>⊕</sup>          |
| W1 <sup>⊕</sup>         | 9.0 <sup>⊕</sup>       |                       | $\pm$ 0.5 <sup>⊕</sup>  |
| W2 <sup>⊕</sup>         | 3.0 max <sup>⊕</sup>   |                       | - <sup>⊕</sup>          |
| H <sup>⊕</sup>          | 18.5 <sup>⊕</sup>      |                       | $\pm$ 0.75 <sup>⊕</sup> |
| D0 <sup>⊕</sup>         | 4.0 <sup>⊕</sup>       |                       | $\pm$ 0.3 <sup>⊕</sup>  |
| $\Delta$ P <sup>⊕</sup> | 0.2 max <sup>⊕</sup>   |                       | - <sup>⊕</sup>          |
| $\Delta$ h <sup>⊕</sup> | 0.2max <sup>⊕</sup>    |                       | - <sup>⊕</sup>          |
| t <sup>⊕</sup>          | 1.0 <sup>⊕</sup>       |                       | $\pm$ 0.3 <sup>⊕</sup>  |

| SYMBOL <sup>⊕</sup>     | CASE SIZE <sup>⊕</sup> |                          |                       |                     | TOLERANCE <sup>⊕</sup>  |
|-------------------------|------------------------|--------------------------|-----------------------|---------------------|-------------------------|
|                         | 4*5~7 <sup>⊕</sup>     | 5*5~11 <sup>⊕</sup>      | 6.3*5~11 <sup>⊕</sup> | 8*7~14 <sup>⊕</sup> |                         |
| $\phi$ d <sup>⊕</sup>   | 0.45 <sup>⊕</sup>      | 0.45 or 0.5 <sup>⊕</sup> | 0.6 <sup>⊕</sup>      | 0.6 <sup>⊕</sup>    | $\pm$ 0.05 <sup>⊕</sup> |
| F <sup>⊕</sup>          | 1.5 <sup>⊕</sup>       | 2.0 <sup>⊕</sup>         | 2.5 <sup>⊕</sup>      | 3.5 <sup>⊕</sup>    | +0.6 -0.2 <sup>⊕</sup>  |
| P1 <sup>⊕</sup>         | 5.6 <sup>⊕</sup>       | 5.35 <sup>⊕</sup>        | 5.10 <sup>⊕</sup>     | 4.60 <sup>⊕</sup>   | $\pm$ 0.5 <sup>⊕</sup>  |
| P0 <sup>⊕</sup>         | 12.7 <sup>⊕</sup>      |                          |                       |                     | $\pm$ 0.3 <sup>⊕</sup>  |
| P <sup>⊕</sup>          | 12.7 <sup>⊕</sup>      |                          |                       |                     | $\pm$ 1.0 <sup>⊕</sup>  |
| P2 <sup>⊕</sup>         | 6.35 <sup>⊕</sup>      |                          |                       |                     | $\pm$ 1.0 <sup>⊕</sup>  |
| W <sup>⊕</sup>          | 18.0 <sup>⊕</sup>      |                          |                       |                     | $\pm$ 0.5 <sup>⊕</sup>  |
| W0 <sup>⊕</sup>         | 12.0min <sup>⊕</sup>   |                          |                       |                     | - <sup>⊕</sup>          |
| W1 <sup>⊕</sup>         | 9.0 <sup>⊕</sup>       |                          |                       |                     | $\pm$ 0.5 <sup>⊕</sup>  |
| W2 <sup>⊕</sup>         | 3.0max <sup>⊕</sup>    |                          |                       |                     | - <sup>⊕</sup>          |
| H <sup>⊕</sup>          | 18.5 <sup>⊕</sup>      |                          |                       |                     | $\pm$ 0.75 <sup>⊕</sup> |
| D0 <sup>⊕</sup>         | 4.0 <sup>⊕</sup>       |                          |                       |                     | $\pm$ 0.3 <sup>⊕</sup>  |
| $\Delta$ p <sup>⊕</sup> | 0.2max <sup>⊕</sup>    |                          |                       |                     | - <sup>⊕</sup>          |
| t <sup>⊕</sup>          | 0.7 <sup>⊕</sup>       |                          |                       |                     | $\pm$ 0.2 <sup>⊕</sup>  |

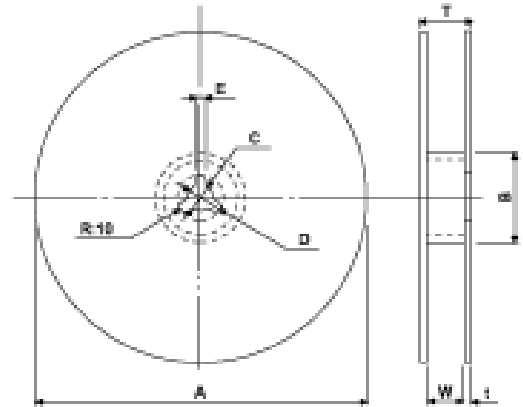
Code T4/R3 : Ammo / Reel Formed Tape ( $\phi$  4~ $\phi$  5 / pitch 2.5mm)<sup>⊕</sup>



| SYMBOL <sup>⊕</sup>     | Case Sizes <sup>⊕</sup> |                          | Tolerance <sup>⊕</sup>  |
|-------------------------|-------------------------|--------------------------|-------------------------|
|                         | 4x 5~4x 7 <sup>⊕</sup>  | 5x 5~5x 11 <sup>⊕</sup>  |                         |
| $\phi$ d <sup>⊕</sup>   | 0.45 <sup>⊕</sup>       | 0.45 or 0.5 <sup>⊕</sup> | $\pm$ 0.05 <sup>⊕</sup> |
| P <sup>⊕</sup>          | 12.7 <sup>⊕</sup>       |                          | $\pm$ 1.0 <sup>⊕</sup>  |
| P0 <sup>⊕</sup>         | 12.7 <sup>⊕</sup>       |                          | $\pm$ 0.3 <sup>⊕</sup>  |
| P1 <sup>⊕</sup>         | 5.10 <sup>⊕</sup>       |                          | $\pm$ 0.5 <sup>⊕</sup>  |
| P2 <sup>⊕</sup>         | 6.35 <sup>⊕</sup>       |                          | $\pm$ 1.0 <sup>⊕</sup>  |
| F <sup>⊕</sup>          | 2.5 <sup>⊕</sup>        |                          | +0.6 -0.2 <sup>⊕</sup>  |
| W <sup>⊕</sup>          | 18.0 <sup>⊕</sup>       |                          | $\pm$ 0.5 <sup>⊕</sup>  |
| W0 <sup>⊕</sup>         | 12.05 min <sup>⊕</sup>  |                          | - <sup>⊕</sup>          |
| W1 <sup>⊕</sup>         | 9.0 <sup>⊕</sup>        |                          | $\pm$ 0.5 <sup>⊕</sup>  |
| W2 <sup>⊕</sup>         | 2.0 max <sup>⊕</sup>    |                          | - <sup>⊕</sup>          |
| H <sup>⊕</sup>          | 18.5 <sup>⊕</sup>       |                          | $\pm$ 0.75 <sup>⊕</sup> |
| H0 <sup>⊕</sup>         | 17.9 <sup>⊕</sup>       |                          | $\pm$ 0.5 <sup>⊕</sup>  |
| D0 <sup>⊕</sup>         | 4.0 <sup>⊕</sup>        |                          | $\pm$ 0.3 <sup>⊕</sup>  |
| $\Delta$ P <sup>⊕</sup> | 0.2max <sup>⊕</sup>     |                          | - <sup>⊕</sup>          |
| $\Delta$ h <sup>⊕</sup> | 0.2 max <sup>⊕</sup>    |                          | - <sup>⊕</sup>          |
| t <sup>⊕</sup>          | 0.7 <sup>⊕</sup>        |                          | $\pm$ 0.2 <sup>⊕</sup>  |

V-chip Packaging Specifications

•Reel Dimensions in mm(not to scale)

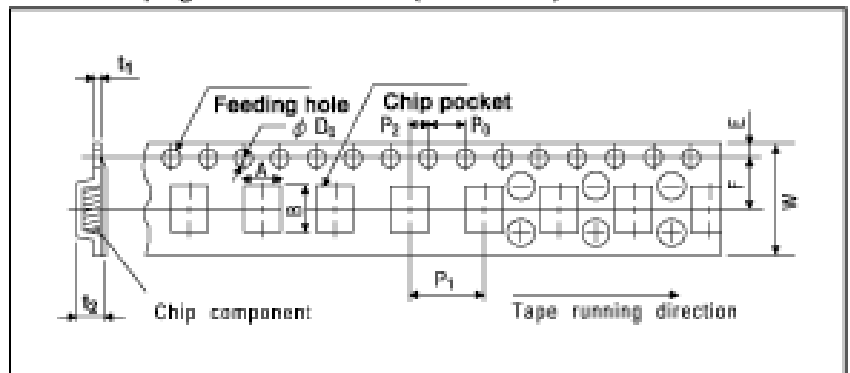


| Size        | A     | B     | C        | D        | E       | W    | T    | t   |
|-------------|-------|-------|----------|----------|---------|------|------|-----|
| φ4 - φ5     | 380±2 | 50min | 13.0±0.5 | 21.0±0.8 | 3.0±0.5 | 14±1 | 20±1 | 3.0 |
| φ5.3 - φ8*1 | 380±2 | 50min | 13.0±0.5 | 21.0±0.8 | 3.0±0.5 | 18±1 | 24±1 | 3.0 |
| φ8*2 - φ10  | 380±2 | 50min | 13.0±0.5 | 21.0±0.8 | 3.0±0.5 | 28±1 | 32±1 | 3.0 |

\* 1: = 6.2 mm    \* 2: = 10.2 mm

Reel Tape

Taping Dimensions in mm(not to scale)



\* Ask factory for technical specifications.

| Symbol Size | W    | A    | B    | Po±0.1 | P1   | P2±0.1 | F    | φ Do                              | t1  | E    | t2   |
|-------------|------|------|------|--------|------|--------|------|-----------------------------------|-----|------|------|
| φ 4x5.4     | 12.0 | 4.7  | 4.7  | 4.0    | 8.0  | 2.0    | 5.5  | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 5.8  |
| φ 5x5.4     | 12.0 | 5.7  | 5.7  | 4.0    | 12.0 | 2.0    | 5.5  | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 5.8  |
| φ 6.3x5.4   | 16.0 | 7.0  | 7.0  | 4.0    | 12.0 | 2.0    | 7.5  | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 5.8  |
| φ 8x6.2     | 16.0 | 8.7  | 8.7  | 4.0    | 12.0 | 2.0    | 7.5  | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 6.8  |
| φ 8x10.2    | 24.0 | 8.7  | 8.7  | 4.0    | 16.0 | 2.0    | 11.5 | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 11.0 |
| φ 10x10.2   | 24.0 | 10.7 | 10.7 | 4.0    | 16.0 | 2.0    | 11.5 | 1.5 <sup>+0.1</sup> <sub>-0</sub> | 0.4 | 1.75 | 11.0 |

Packaging Specification

| Size (mm) | Q'ty per reel | Inner carton / measurement (mm) |             | Outer carton / measurement (mm) |             |
|-----------|---------------|---------------------------------|-------------|---------------------------------|-------------|
| φ 4x5.4   | 2,000         | 20,000                          | 390x195x395 | 40,000                          | 420x410x414 |
| φ 5x5.4   | 1,000         | 10,000                          | 390x195x395 | 20,000                          | 420x410x414 |
| φ 6.3x5.4 | 1,000         | 10,000                          | 390x235x405 | 20,000                          | 420x410x492 |
| φ 8x6.2   | 1,000         | 10,000                          | 390x235x405 | 20,000                          | 420x410x492 |
| φ 8x10.2  | 500           | 4,000                           | 390x255x405 | 8,000                           | 420x410x530 |
| φ 10x10.2 | 500           | 4,000                           | 390x255x405 | 8,000                           | 420x410x530 |