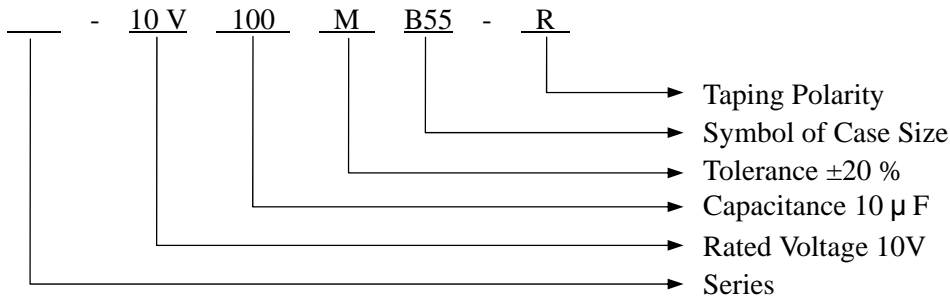


Part Numbering System



(1) Series:

First two- or three-digit codes represent series. VE, VE2, ----- etc. are every equivalent series. A blank is reserved on the third digit for two-digit series in the part number code.

(2) Rated Voltage Symbol:

V	4	6.3	10	16	25	35	50	63	100	160	200	250	400	450
Part number	4	6	10	16	25	35	50	63	100	160	200	250	400	450

(3) Rated Voltage:

Voltage on volts(V) is represented by two digit code showing the real working voltage.

(4) Capacitance:

Rated capacitance in µF is represented by a three digit number. The first two digits are the significant figures of the nominal capacitance and the third digit indicates the number of zeros following these figures. The decimal point is represented by the capital letter R. Please refer to the following example:

µF	0.1	0.47	1	4.7	10	47	100	470	1000	2200	3300	4700	6800
Part number	0R1	R47	010	4R7	100	470	101	471	102	222	332	472	682

(5) Tolerance:

Symbol of W, T, Q, V, M, K and J show special capacitance tolerance which are listed as follows:

W = -10% ~ +100%	M = -20% ~ +20%
T = -10% ~ +50%	K = -10% ~ +10%
Q = -10% ~ +30%	J = -5% ~ +5%
V = -10% ~ +20%	

(6) Case Size: Symbol of case size are listed as follows:

D×L (mm)	Symbol	D×L (mm)	Symbol	D×L (mm)	Symbol
3×5.3	B55	6.3×5.3	F55	10×10	H10
4×5.3	D55	6.3×5.7	F60	12.5×13.5	K14
4×5.7	D60	6.3×7.7	F80	12.5×16	K16
5×5.3	E55	8×6.5	G68	16×16.5	L17
5×5.7	E60	8×10	G10		

(7) “R”: Taping polarity symbol.

Taping Specification

1. Carrier Tape

Fig. 1-1

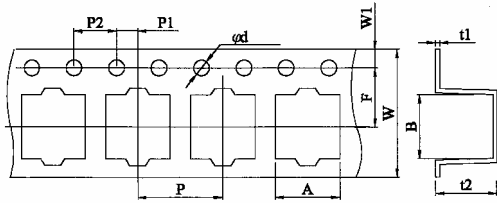


Fig. 1-2

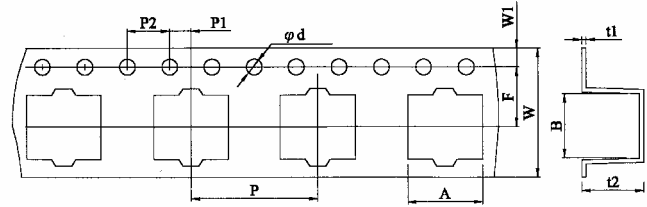
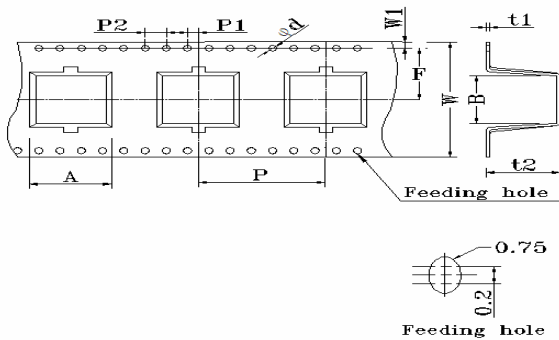


Fig. 1-3



Unit: mm

D×L	A	B	d	F	P	P1	P2	t1	t2	W	W1	Fig. No.
4×5.3	5.0	5.0	1.5	5.5	8	2.0	4.0	0.4	5.8	12.0	1.75	1-1
4×5.7	5.0	5.0	1.5	5.5	8	2.0	4.0	0.4	6.2	12.0	1.75	1-1
5×5.3	6.0	6.0	1.5	5.5	12	2.0	4.0	0.4	5.8	12.0	1.75	1-1
5×5.7	6.0	6.0	1.5	5.5	12	2.0	4.0	0.4	6.2	12.0	1.75	1-1
6.3×5.3	7.0	7.0	1.5	7.5	12	2.0	4.0	0.4	5.8	16.0	1.75	1-2
6.3×5.7	7.0	7.0	1.5	7.5	12	2.0	4.0	0.4	6.2	16.0	1.75	1-2
6.3×7.7	7.0	7.0	1.5	7.5	12	2.0	4.0	0.4	8.3	16.0	1.75	1-2
8×6.5	8.7	8.7	1.5	7.5	12	2.0	4.0	0.4	6.8	16.0	1.75	1-2
8×10	8.7	8.7	1.5	11.5	16	2.0	4.0	0.4	11	24.0	1.75	1-2
10×10	10.7	10.7	1.5	11.5	16	2.0	4.0	0.4	11	24.0	1.75	1-2
12.5×13.5	13.4	13.4	1.5	14.2	24	2.0	4.0	0.5	14	32.0	1.75	1-3
12.5×16	13.4	13.4	1.5	14.2	24	2.0	4.0	0.5	17.5	32.0	1.75	1-3
16×16.5	17.5	17.5	1.5	20.2	28	2.0	4.0	0.5	17.5	44.0	1.75	1-3
Tol.	± 0.2	± 0.2	+ 0.1/ - 0	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.2	± 0.3	± 0.15	

2. Packaging

Fig. 2-1

Reel

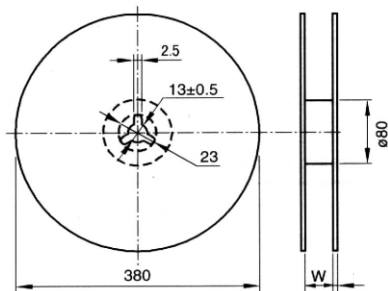
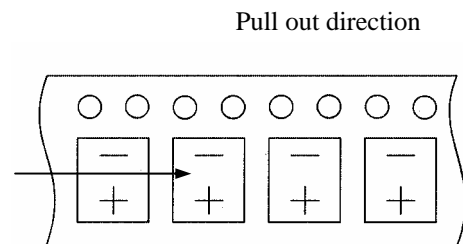


Fig. 2-2

Polarity



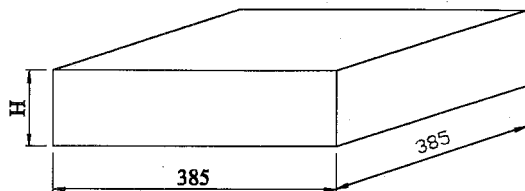
Unit: mm

D×L	4~5×5.3~5.7	6.3×5.3~7.7	8×6.5	8~10×10	12.5×13.5~16	16×16.5
W	14	18	18	26	34	46

Part Numbering System

3. Packing specification (I):

Fig. 3-1-1 Packing box dimensions



Packing number

D×L	Number/Reel	Number/Box
4	2,000	10,000
5~6.3	1,000	5,000
8×6.5	1,000	5,000
8×10	500	2,000
10×10	500	2,000
* 12.5×13.5	200	800
* 12.5×16	150	600
* 16×16.5	125	500

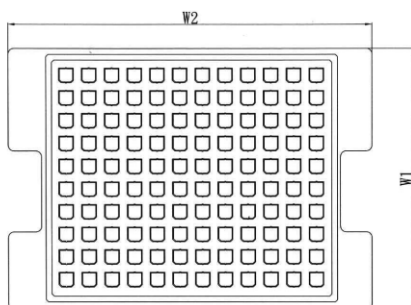
* Special big reel under request.

Unit: mm

D×L	4~5×5.3~5.7	6.3×5.3~7.7	8×6.5~10	10×10	12.5×13.5~16	16×16.5
H	105	125	125	180	210	260

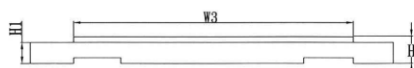
Packing specification (II):

Fig. 3-1-2 Packing box dimensions

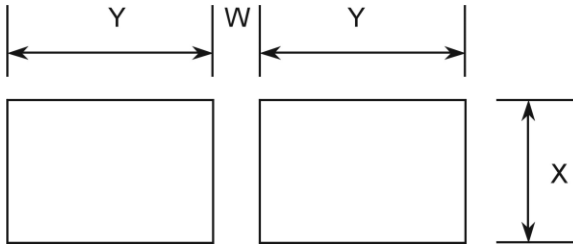


Packing number

D×L	W1 (mm)	W2 (mm)	W3 (mm)	H (mm)	H1 (mm)	Number/tray	Number/Box
12.5×13.5	230	320	284	21	18.5	120	600
12.5×16	230	320	284	21	18.5	120	600
16×16.5	230	320	284	28	24.0	80	400



Taping Specification

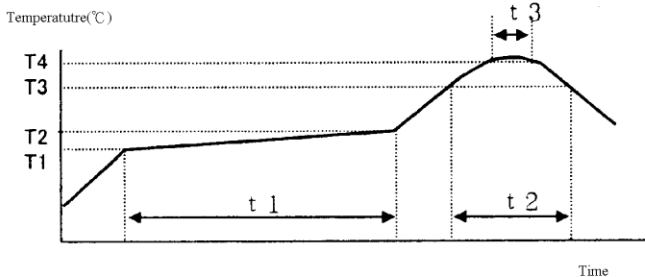


Size (D×L)	Case code.	Land size		
		X	Y	W
4 × 5.3	D55	1.6	2.6	1.0
4 × 5.7	D60	1.6	2.6	1.0
5 × 5.3	E55	1.6	3.0	1.4
5 × 5.7	E60	1.6	3.0	1.4
6.3 × 5.3	F55	1.6	3.5	1.9
6.3 × 5.7	F60	1.6	3.5	1.9
6.3 × 7.7	F80	1.6	3.5	1.9
8 × 6.5	G68	1.6	4.0	2.1
8 × 10	G10	2.5	3.5	3.0
10 × 10	H10	2.5	4.0	4.0
12.5 × 13.5	K14	4.0	7.5	7.0
12.5 × 16	K16	4.0	7.5	7.0
16 × 16.5	L17	6.0	8.5	9.5

Recommended soldering methods

Method	Reflow soldering	Soldering iron	Flow soldering
Advisability	○ Recommended	○ Recommended	○ Not Recommended

Lead-free type



Test conditions:

Preheat	Temp.(T1~T2)	150~180	
	Time (t1) (Max.)	90sec	
Duration	Temp.(T3)	200	230
	Time (t2) (Max.)	60sec	40sec
Peak	Temp.(T4)	250	
	Time(t3)	5sec	
Reflow cycle	Twice or less		

(1) Method is as follows.

Reflow soldering condition.

The following temperature profile condition should be observed for soldering. (For higher temperature, please contact us after measuring the capacitor's product temperature profile at your side.)

Product temperature will rise slower as the product size gets bigger. It is not necessary to adjust the reflow furnace temperature setting according to the product size, for example, 4 and 16 products can be mixed on one PCB for reflowing.

(2) Soldering precautions

1. Elements related to the reflow soldering temperature

*Product size: The temperature rises slower as the size gets bigger.

*Product location: The center part of the PCB tends to have a lower temperature than the PCB edges.

*PCB size: The PCB temperature rises slower as the area and / or thickness of the PCB gets greater.

2. Repeated reflowing

*Avoid reflowing twice if possible.

*If repeated reflowing is unavoidable, contact us after measuring the first and the second reflow profiles and reflow interval at your side.

*Do not attempt to reflow three times.

3. Soldering with soldering iron

Observe the following conditions.

*The iron tip temperature : 350±5°C

*Soldering time : 3₀⁺ seconds.