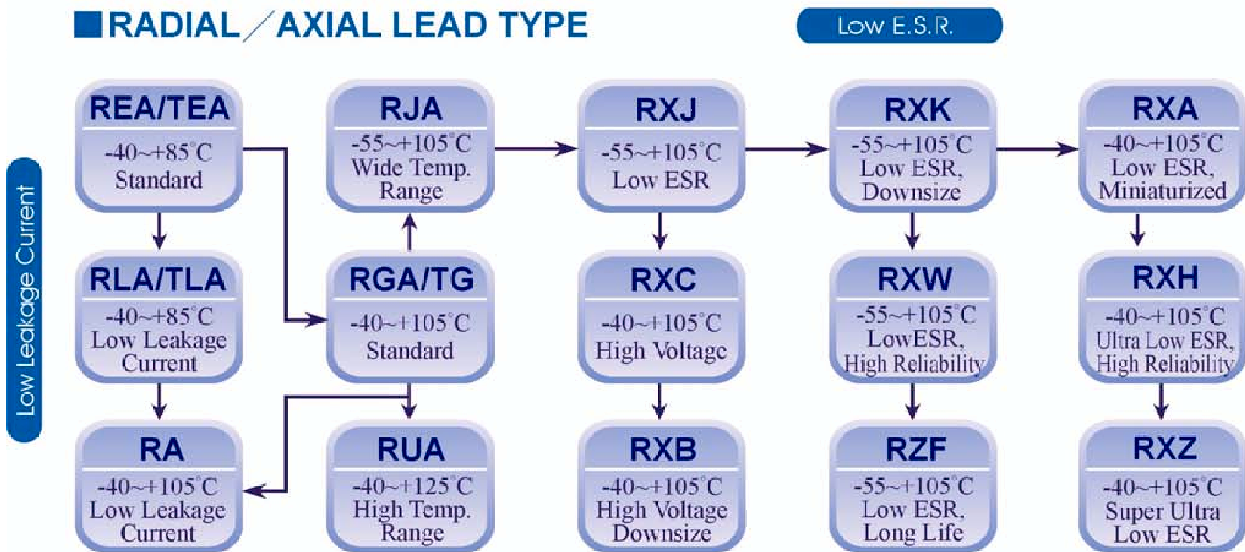
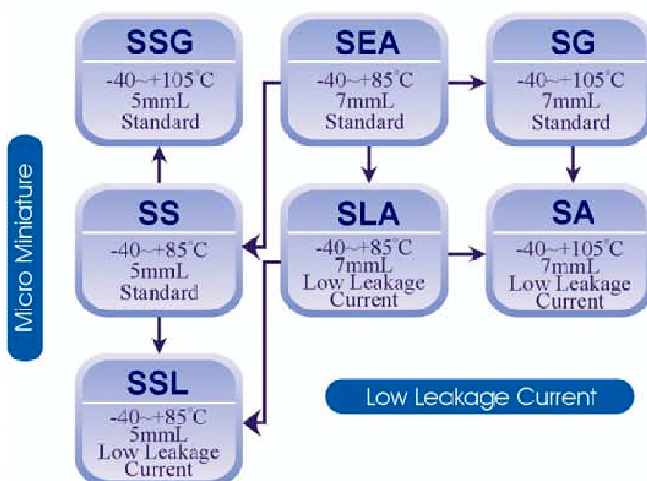


# GROUP CHART

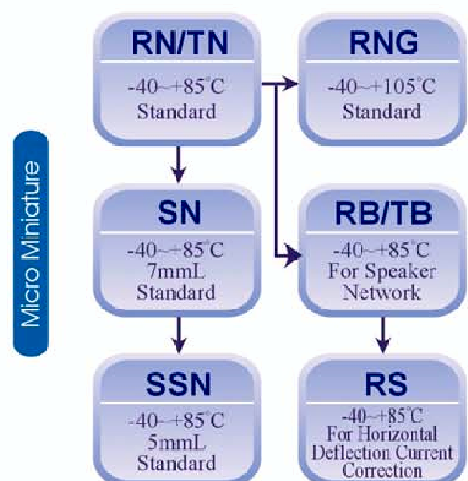
## RADIAL / AXIAL LEAD TYPE



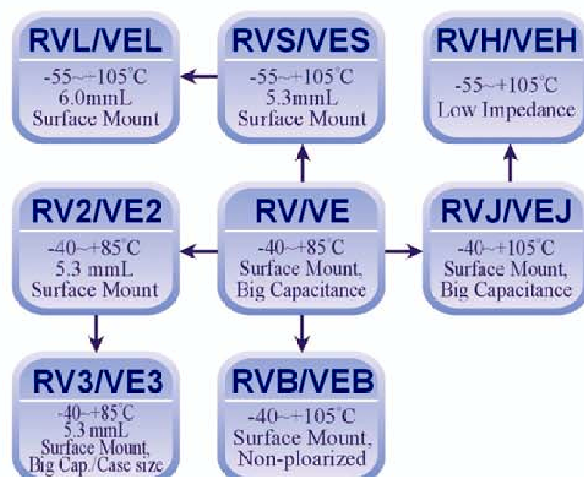
## RADIAL / AXIAL LEAD TYPE (7L,5L)



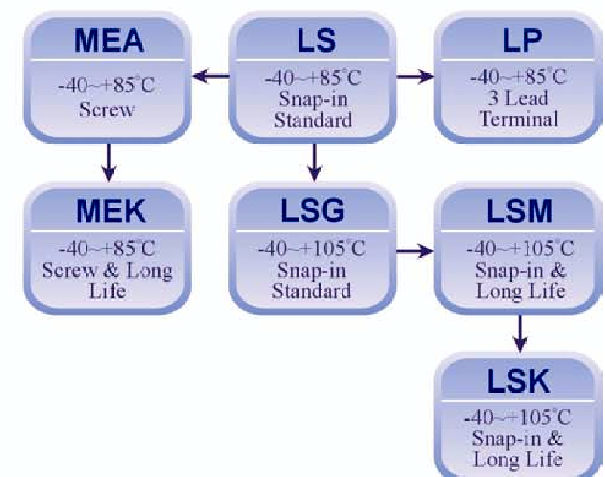
## NON-POLARIZED TYPE



## SMD TYPE



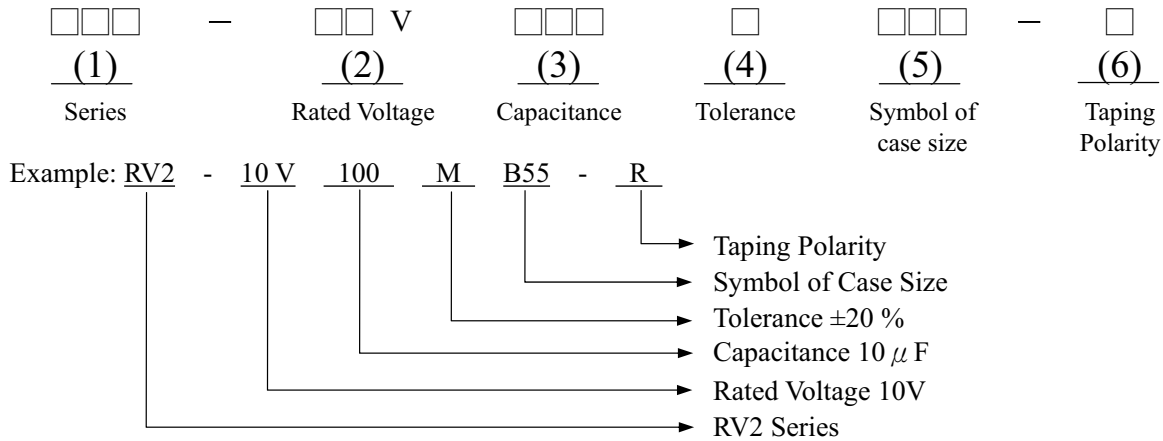
## LARGE CV / SCREW TYPE





## Part Numbering System II

When you place an order SMD (V-Chip) electrolytic capacitors, please refer to our part number as shown below.



(1) Series:

Series is represented by a two or three digit code. If there are 3 digits only for series code, keep blank on the third digit. This information is only represented for RV, RV2, RV3, RVL, RVS, RVH, RVB, RVJ series, regarding VE, VE2, VE3, VES, VEL, VEH, VEB, VEJ series, please see page 7)

(2) Rated Voltage :

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

(3) Capacitance :

Rated capacitance in  $\mu$  F 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 represent by the capital letter R. Please refer to the following example:

$\mu$ F	0.1	0.47	1	4.7	10	47	100	470	1000
Part number	0R1	R47	010	4R7	100	470	101	471	102

(4) 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%	

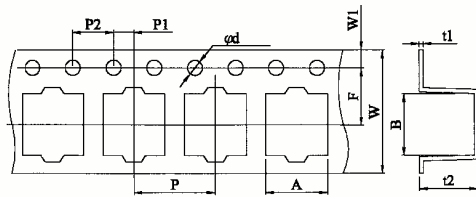
(5) Case Size: Symbol of case size are listed as follows:

$\phi$ D×L (mm)	Symbol	$\phi$ D×L (mm)	Symbol	$\phi$ D×L (mm)	Symbol
3×5.3	B55	5×5.7	E60	8×6.5	G68
4×5.3	D55	6.3×5.3	F55	8×10	G10
4×5.7	D60	6.3×5.7	F60	10×10	H10
5×5.3	E55	6.3×7.7	F80		

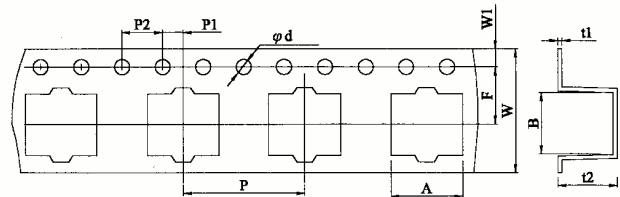
(6) “R”: Taping polarity symbol.

## 1. Carrier Tape

**Fig. 1-1**



**Fig. 1-2**

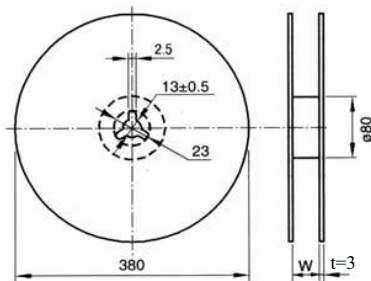


Unit: mm

$\varnothing D \times L$	A	B	$\varnothing d$	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
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

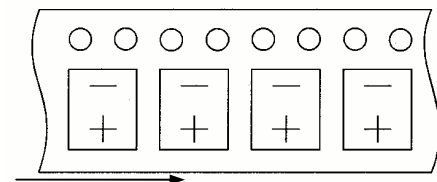


Unit: mm

$\varnothing D \times L$	4~5×5.3	6.3×5.3~7.7	8×6.5	8~10×10
W	14	18	18	26

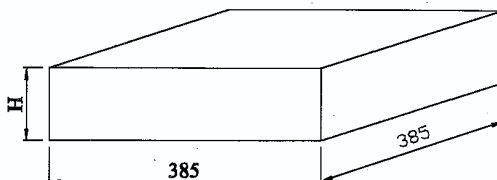
**Fig. 2-2** Polarity

Pull out direction



## 3. Packing specification

**Fig. 3-1** Packing box dimensions



Unit: mm

$\varnothing D \times L$	4~5×5.3	6.3×5.3~7.7	8×6.5~10	10×10
H	105	125	125	180

Packing number

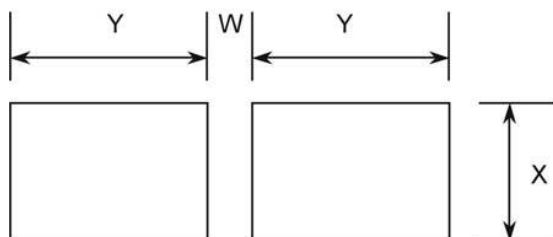
$\varnothing D \times L$	Number/Reel	Number/Box
4 $\varnothing$	2,000	10,000
5~6.3 $\varnothing$	1,000	5,000
8×6.5	1,000	5,000
8×10	500	2,500
10×10	500	2,500



# Aluminum Electrolytic Capacitors

## Recommended pad pattern and size

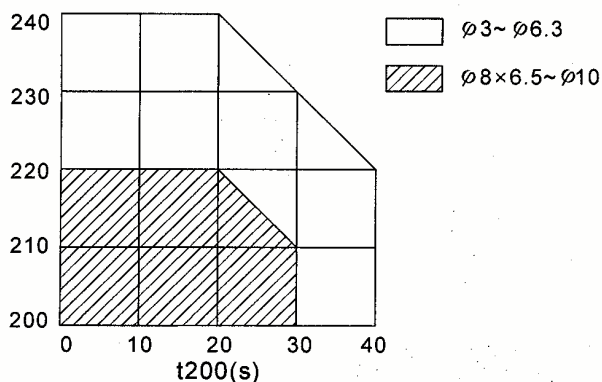
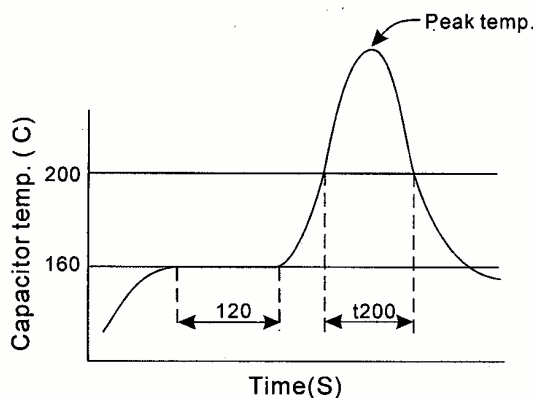
Unit:mm



Size ( $\phi$ 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

## Recommended soldering methods

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



## (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,  $\phi 4$  and  $\phi 10$  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 :  $350 \pm 5^\circ\text{C}$

\*Soldering time :  $3_{-0}^{+1}$  seconds.