

规格書

SPECIFICATION

Customer : _____

Part Name: _____ E-CAP

SPEC : _____ LF Series

Part NO. : _____ ALL

Date : _____ 2017-11-22

CUSTOMER SIGN		

TOPAZCON	
DRAWING	RATIFY
黃峰	陳慶

LF Series

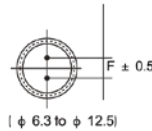
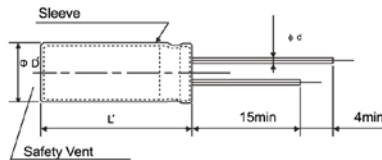
- Low impedance for high frequency
- Life time: +105 °C 2,000 to 4,000 hours
- Suitable for switching power, UPS, power sources etc
- RoHS Compliant



SPECIFICATIONS

Items	Characteristics									
Category	-40 to +105 ℃ (6.3 to 100Vdc)									
Temperature Range										
Rated Voltage Range	6.3 to 100Vdc									
Capacitance Tolerance	± 20%/M (at 20 ℃ 120Hz)									
Leakage Current	1 ≤ 0.01CV or 3 μ A , whichever is greater Where, I:Max.leakage current(μ A), C:Nominal capacitance (μ F) V:Rated voltage(V) (at 20 ℃ ,after 2minutes)									
Dissipation Factor (tan δ)	Rated voltage/Vdc	6.3	10	16	25	35	50	63	100	
	tan δ (Max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
	When nominal capacitance exceeds 1,000 μ F odd 0.02 to the value above for each 1,000uF increase (at 20 ℃ 120Hz)									
Low Temperature Characteristics (Max.Impedance Ratio)	Rate Voltage/Vdc	6.3	10	16	5	35	50	63	100	
	Z(-25 ℃)/Z(+20 ℃)	4	3	2						
	Z(-40 ℃)/Z(+20 ℃)	8	6	4	3 (at 120Hz)					
Endurance	The following specification shall be satisfied when the capacitors are restored to 20 ℃ after subjected to DC voltage with the rated ripple current is applied for the specified period of time at 105 ℃									
	Capacitance Change	≤ ± 25% of the initial value						Life time(hours)		
	D.F. (tan δ)	≤ 200% of the initial specified value						6.3-100VV		
	Leakage Current	≤ The initial specified value						Φ D=6.3 2000		
								Φ D=8&10 3000		
								Φ D ≥ 12.5 4000		
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20 ℃ after exposing them for 1,000 hours at 105 ℃ without voltage applied									
	Capacitance Change	≤ ± 25% of the initial value								
	D.F. (tan δ)	≤ 200% of the initial specified value								
	Leakage current	≤ 200% The initial specified value								

DIMENSIONS[mm]



Φ D	6.3	8	10	12.5
Φ d	0.5	0.5	0.6	0.6
F	2.5	3.5	5.0	5.0
Φ D'	Φ D+0.5max			
L'	L+2max			

RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq (Hz)	120	1k	10k	100k
CAP(μF)				
CAP < 220	0.40	0.75	0.90	1.00
220 ≤ CAP < 680	0.60	0.85	0.94	1.00
680 ≤ CAP < 2200	0.60	0.87	0.95	1.00
2200 ≤ CAP < 4700	0.75	0.90	0.95	1.00
CAP ≥ 4700	0.85	0.95	0.98	1.00

The endurance of capacitors is shortened with internal heating produced by ripple current at the rate of halving the lifetime with every 5 °C rise. When long life performance is required in actual use, the rms ripple current has to be reduced

LF Series

● STANDARD RATINGS (Impedance: at 20 °C 100kHz/ Q max, Ripple current: mA rms/105 °C 100kHz)

WV (Vdc)	Cap (μF)	Case Size φ D × L (mm)	tan δ	Impedance (Ω max)	Ripple current (mA rms)
6.3(CJ)	180	6.3 × 11 8 × 9	0.22	0.25 0.33	340 300
	220	6.3 × 11 8 × 9	0.22	0.25 0.33	340 300
	270	6.3 × 11 8 × 9	0.22	0.25 0.33	340 300
	330	8 × 11 10 × 9	0.22	0.13 0.17	650 580
	470	8 × 11 10 × 9	0.22	0.13 0.17	650 580
	560	8 × 11 10 × 9	0.22	0.13 0.17	650 580
	680	8 × 11 10 × 9	0.22	0.13 0.17	650 580
	820	10 × 12	0.22	0.08	870
	1000	10 × 9 10 × 12	0.22	0.17 0.08	580 870
	1200	10 × 12	0.22	0.08	870
	1500	8 × 20 10 × 16	0.22	0.068 0.060	1050 1210
	1800	10 × 20	0.22	0.045	1400
	2200	10 × 20	0.24	0.045	1400
	2700	10 × 25 12.5 × 20	0.24	0.042 0.035	1650 1900
	3300	10 × 25 12.5 × 20	0.26	0.042 0.036	1660 1900
	3900	12.5 × 20	0.26	0.035	1900
10(1A)	4700	12.5 × 25	0.28	0.030	2130
	150	6.3 × 11 8 × 9	0.19	0.25 0.33	340 300
	180	6.3 × 11 8 × 9	0.19	0.25 0.33	340 300
	220	6.3 × 11 8 × 9	0.19	0.25 0.33	340 300
	270	8 × 9 10 × 9	0.19	0.33 0.17	300 580
	330	10 × 9	0.19	0.17	580
	470	10 × 9	0.19	0.17	580
	560	10 × 9	0.19	0.17	580
	680	10 × 9	0.19	0.17	580
	820	10 × 12	0.19	0.08	870
	1000	8 × 16 10 × 16	0.19	0.087 0.06	850 1210
	1200	10 × 20	0.19	0.045	1400
	1500	10 × 20	0.19	0.045	1400
	1800	10 × 20	0.19	0.045	1400
	2200	10 × 20	0.21	0.045	1400
	2700	10 × 25 12.5 × 20	0.21	0.042 0.035	1650 1900
	3300	12.5 × 25	0.23	0.030	2130
16(1C)	100	8 × 9	0.16	0.33	300
	120	8 × 9	0.16	0.33	300
	150	8 × 9 10 × 9	0.16	0.33	300 580
	180	8 × 9 10 × 9	0.16	0.33	300 580
	220	8 × 9 10 × 9	0.16	0.33	300 580
	270	10 × 9	0.16	0.17	580
	330	10 × 9	0.16	0.17	580
	470	10 × 9 10 × 12	0.16	0.17 0.08	580 870
	560	10 × 12	0.16	0.08	870
	680	8 × 16 10 × 12	0.16	0.087 0.08	850 870
	820	10 × 16	0.16	0.06	1210
	1000	10 × 16	0.16	0.06	1210
	1200	10 × 20	0.16	0.045	1400
	1500	10 × 20	0.16	0.045	1400
	1800	10 × 25 12.5 × 20	0.16	0.042 0.035	1650 1800
	2200	12.5 × 20	0.18	0.035	1900
	2700	12.5 × 20	0.18	0.030	2130

WV (Vdc)	Cap (μF)	Case Size φ D × L (mm)	tan δ	Impedance (Ω max)	Ripple current (mA rms)
25(1E)	82	6.3 × 11 8 × 9	0.14	0.25 0.33	340 300
	100	6.3 × 11 8 × 9	0.14	0.25 0.23	340 300
	120	8 × 11 10 × 9	0.14	0.13 0.17	650 580
	150	8 × 11 10 × 9	0.14	0.13 0.17	650 580
	180	8 × 11 10 × 9	0.14	0.13 0.17	650 580
	220	8 × 11 10 × 9	0.14	0.13 0.17	650 580
	270	10 × 9 10 × 12	0.14	0.17 0.08	580 870
	330	10 × 9 10 × 12	0.14	0.17 0.08	580 870
	470	8 × 16 10 × 12	0.14	0.087 0.080	840 870
	560	10 × 16	0.14	0.060	1210
	680	10 × 16	0.14	0.060	1210
	820	10 × 20	0.14	0.045	1400
	1000	10 × 20	0.14	0.045	1400
	1200	10 × 20	0.14	0.045	1400
	1500	10 × 25 12.5 × 20	0.14	0.042 0.035	1650 1900
	1800	12.5 × 25	0.14	0.030	2130
	2200	12.5 × 25	0.16	0.030	2130
35(1V)	47	6.3 × 11 8 × 9	0.12	0.25 0.33	340 300
	56	6.3 × 11 8 × 9	0.12	0.25 0.33	340 300
	68	6.3 × 11 8 × 9	0.12	0.25 0.33	340 300
	82	8 × 11 10 × 9	0.12	0.13 0.17	650 580
	100	8 × 11 10 × 9	0.12	0.13 0.17	650 580
	120	8 × 11 10 × 9	0.12	0.13 0.17	650 580
	150	8 × 11 10 × 9	0.12	0.13 0.17	650 580
	180	10 × 12	0.12	0.080	870
	220	8 × 11 8 × 16 10 × 12	0.12	0.13 0.17 0.087 0.080	650 580 840 870
	270	10 × 15	0.12	0.06	1210
	330	8 × 20 10 × 12 10 × 16	0.12	0.069 0.080 0.060	1000 870 1210
	470	10 × 16	0.12	0.060	1210
	560	10 × 20	0.12	0.045	1400
	680	10 × 20	0.12	0.045	1400
	820	10 × 25 12.5 × 20	0.12	0.042 0.035	1650 1900
	1000	12.5 × 20 12.5 × 25	0.12	0.035 0.030	1900 2130
50(1H)	33	6.3 × 11 8 × 9	0.10	0.30 0.40	295 260
	39	6.3 × 11 8 × 9	0.10	0.30 0.40	295 260
	47	6.3 × 11 8 × 9	0.10	0.30 0.40	295 260
	56	8 × 11 10 × 9	0.10	0.17 0.23	500 500
	68	8 × 11 10 × 9	0.10	0.17 0.23	500 500
	82	8 × 11 10 × 9	0.10	0.17 0.23	500 500
	100	10 × 12	0.10	0.12	760
	120	8 × 16 10 × 12	0.10	0.12 0.12	730 760
	150	10 × 16	0.10	0.084	1050
	180	8 × 20 10 × 16	0.10	0.090 0.084	1050
	220	10 × 16	0.10	0.084	1050
	270	10 × 25	0.10	0.055	1440
	330	12.5 × 20	0.10	0.045	1660
	470	12.5 × 25	0.10	0.034	1950
	580	12.5 × 25	0.10	0.034	1950

LF Series

● **STANDARD RATINGS** (Impedance: at 20 °C 100kHz/ Ω max, Ripple current: mA rms/105 °C 100kHz)

WV (V _{ac})	Cap (μ F)	Case Size ϕ D × L(mm)	tan δ	Impedance (Ω max)	Ripple current (mA rms)
63(1J)	22	6.3 × 11 8 × 9	0.09	0.95 1.24	120 100
	27	6.3 × 11 8 × 9	0.09	0.95 1.24	120 100
	33	6.3 × 11 8 × 9	0.09	0.95 1.24	120 100
	39	8 × 11 10 × 9	0.09	0.51 0.67	235 210
	47	8 × 11 10 × 9	0.09	0.51 0.67	235 210
	56	8 × 11 10 × 9	0.09	0.51 0.67	235 210
	68	8 × 11 10 × 9	0.09	0.51 0.67	235 210
	82	10 × 12	0.09	0.340	315
	100	8 × 16 10 × 12	0.09	0.350 0.340	300 315
	120	10 × 16	0.09	0.245	360
	150	8 × 20	0.09	0.265	360
	180	10 × 20	0.09	0.165	470
	220	10 × 20	0.09	0.165	470
	270	12.5 × 20	0.09	0.125	700
	330	12.5 × 20	0.09	0.125	700
	390	12.6 × 25	0.09	0.095	930

WV (V _{ac})	Cap (μ F)	Case Size ϕ D × L(mm)	tan δ	Impedance (Ω max)	Ripple current (mA rms)
100(2A)	15	6.3 × 11 8 × 9	0.08	0.95 1.24	120 100
	27	8 × 11 10 × 9	0.08	0.51 0.67	235 210
	39	8 × 16	0.08	0.36	300
	47	10 × 12	0.08	0.34	315
	56	8 × 20	0.08	0.265	360
	68	10 × 16	0.08	0.245	360
	82	10 × 20	0.08	0.165	470
	100	10 × 20	0.08	0.165	470
	120	12.5 × 20	0.08	0.125	700
	180	12.5 × 25	0.08	0.095	930
	220	12.5 × 25	0.08	0.095	930

LF Series

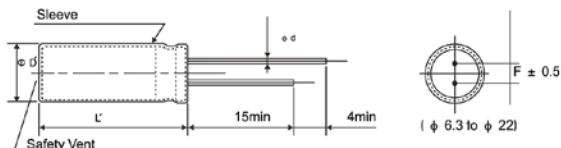
- High frequency, low impedance
- Endurance: +105 °C 2,000 ~ 3,000 hours
- RoHS Compliant



SPECIFICATIONS

Items	Characteristics						
Category	Temperature Range						
~25 to +105 °C (160V~450Vdc)							
Rated Voltage Range							
160 to 450Vdc							
Capacitance Tolerance							
± 20%(M)							
(at20 °C 120Hz)							
Leakage Current							
1 ≤ 0.02CV or 10 μ A , whichever is greater							
Where, I:Max leakage current(μ A), C:Nominal capacitance (μ F) V:Rated voltage(V)							
(at 20 °C ,after 2minutes)							
Dissipation Factor (tan δ)	Rated voltage(Vdc)	160	200	250	350	400	450
	tan δ (Max)	0.12	0.12	0.12	0.15	0.15	0.20
(at20 °C 120Hz)							
Low Temperature Characteristics (Max Impedance Ratio)	Rate Voltage(Vdc)	160	200	250	350	400	450
	Z[-25 °C]/Z[+20 °C]	3			5		6
	Z[-40 °C]/Z[+20 °C]	4			7		-
(at120Hz)							
Endurance							
The following specification shall be satisfied when the capacitors are restored to 20 °C after subjected to DC voltage with the rated ripple current is applied for the specified period of time at 105 °C							
Capacitance Change		≤ ± 20% of the initial value				Case Dia	Life time(hours)
D.F. (tan δ)		≤ 200% of the initial specified value				Φ D ≤ 8	2000
Leakage Current		≤ The initial specified value				Φ D ≥ 10	3000
Shelf Life							
The following specifications shall be satisfied when the capacitors are restored to 20 °C after exposing them for 1,000 hours at 105 °C without voltage applied							
Capacitance Change		≤ ± 20% of the initial value					
D.F. (tan δ)		≤ 200% of the initial specified value					
Leakage Current		≤ 200%The initial specified value					

DIMENSIONS[mm]



Φ D	6.3	8	10	12.5	16	18	22
Φ d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.5	3.5	5.0	5.0	7.5	7.5	10.0
Φ D'	Φ D+0.5max						
L'	L+2max						

RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Cap(μF)	120	1k	10k	100k
CAP < 18	0.59	0.85	0.97	1.00
18 ≤ CAP < 100	0.62	0.89	0.97	1.00
CAP ≥ 100	0.72	0.90	0.98	1.00

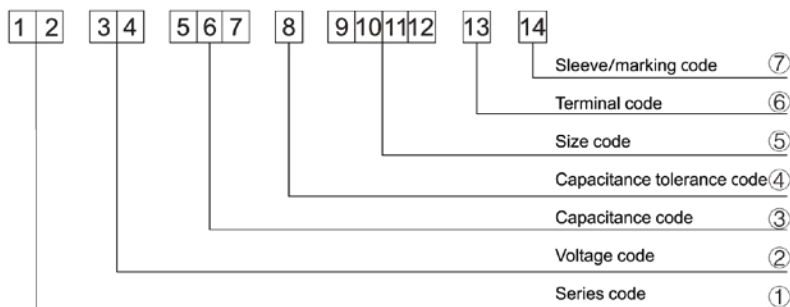
The endurance of capacitors is shortened with internal heating produced by ripple current at the rate of halving the lifetime with every 5 °C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

LF Series

STANDARD RATINGS

WV (V _{dc})	Cap (μ F)	Case Size ϕ D x L(mm)	tan δ	Ripple current (mA _{rms} /105℃, 100kHz)
160(2C)	2.2	6.3 x 11	0.12	54
	3.3	6.3 x 11	0.12	70
	4.7	8 x 12	0.12	82
	10	10 x 12	0.12	142
	22	10 x 16	0.12	206
	33	10 x 20	0.12	265
	47	12.5 x 20	0.12	332
	100	12.5 x 25	0.12	546
200(2D)	220	16 x 30	0.12	822
	1	5 x 11	0.12	34
	2.2	6.3 x 11	0.12	52
	3.3	6.3 x 11	0.12	70
	4.7	8 x 12	0.12	82
	10	10 x 12	0.12	144
	22	10 x 16	0.12	206
	22	10 x 20	0.12	215
	33	10 x 20	0.12	288
	33	12.5 x 20	0.12	330
	47	12.5 x 20	0.12	366
	56	12.5 x 25	0.12	430
	68	12.5 x 25	0.12	488
	82	10 x 30	0.12	518
	100	16 x 25	0.12	720
	120	16 x 25	0.12	745
250(2E)	150	18 x 25	0.12	845
	180	12.5 x 35	0.12	882
	220	18 x 30	0.12	960
	0.47	6.3 x 11	0.12	35
	1	6.3 x 11	0.12	40
	2.2	6.3 x 11	0.12	52
	3.3	8 x 12	0.12	72
	4.7	8 x 12	0.12	84
	10	10 x 12	0.12	144
	22	10 x 20	0.12	220
	33	12.5 x 20	0.12	335
	47	12.5 x 25	0.12	382
	56	12.5 x 25	0.12	426
	82	16 x 25	0.12	575
	100	16 x 30	0.12	740
	220	18 x 35	0.12	1010
350(2V)	330	18 x 45	0.12	1100
	470	22 x 45	0.12	1200
	0.47	6.3 x 11	0.15	35
	1	6.3 x 11	0.15	40
	2.2	8 x 12	0.15	54
	3.3	8 x 12	0.15	74
	3.3	10 x 12	0.15	80
	4.7	10 x 16	0.15	104
	10	10 x 16	0.15	170
	22	12.5 x 25	0.15	285
	33	16 x 25	0.15	330
	47	16 x 30	0.15	480
400(2G)	1	8 x 12	0.15	40
	2.2	8 x 12	0.15	62
	3.3	8 x 12	0.15	85
	3.3	10 x 12	0.15	90
	4.7	10 x 12	0.15	106
	10	10 x 16	0.15	175
	10	10 x 20	0.15	200
	22	12.5 x 20	0.15	300
	27	10 x 30	0.15	385
	33	10 x 35	0.15	450
	33	16 x 20	0.15	440
	39	10 x 40	0.15	490
	47	12.5 x 30	0.15	595
	47	16 x 25	0.15	584
	56	10 x 45	0.15	655
	56	12.5 x 35	0.15	650
450(2W)	68	12.5 x 40	0.15	815
	68	16 x 30	0.15	780
	82	12.5 x 40	0.15	850
	82	18 x 30	0.15	835
	100	12.5 x 50	0.15	890
	100	18 x 30	0.15	870
	120	22 x 31	0.15	895
	150	12.5 x 60	0.15	950
	150	22 x 31	0.15	940
	1	8 x 12	0.20	40
	2.2	10 x 12	0.20	65
	3.3	10 x 16	0.20	92
	4.7	10 x 20	0.20	108
	10	12.5 x 20	0.20	160
	18	10 x 30	0.20	200
	22	16 x 20	0.20	305
	27	10 x 30	0.20	385
	33	10 x 35	0.20	460
	33	16 x 25	0.20	455
	39	10 x 40	0.20	500
	47	10 x 45	0.20	635
	47	12.5 x 30	0.20	630
	47	18 x 25	0.20	620
	56	12.5 x 35	0.20	705
	56	18 x 25	0.20	695
	68	12.5 x 40	0.20	750
	68	18 x 30	0.20	730
	82	12.5 x 45	0.20	800
	82	18 x 30	0.20	770
	100	18 x 35	0.20	860
	120	18 x 40	0.20	1050
	150	22 x 40	0.20	1260
	220	22 x 46	0.20	1430

Part Number System



① Series code

Series name	Code	
	1	2
SM	S	M
SS	S	S
SH	S	H
SP	S	P
NP	N	P
LL	L	L
RD	R	D
RE	R	E
RT	R	T
RF	R	F
RG	R	G
RJ	R	J
RR	R	R
LF	L	F
LJ	L	J
LR	L	R
LG	L	G

② Voltage code

WV (V _{dc})	Code	
	3	4
4	0	G
6.3	0	J
10	1	A
16	1	C
25	1	E
35	1	V
50	1	H
63	1	J
80	1	K
100	2	A
160	2	C
200	2	D
250	2	E
350	2	V
400	2	G
450	2	W
500	2	H

③ Capacitance code

Cap (μF)	Code		
	5	6	7
0.1	R	1	0
0.22	R	2	2
0.33	R	3	3
0.47	R	4	7
1	1	R	0
2.2	2	R	2
3.3	3	R	3
4.7	4	R	7
6.8	6	R	8
10	1	0	0
22	2	2	0
33	3	3	0
47	4	7	0
100	1	0	1
220	2	2	1
330	3	3	1
470	4	7	1
560	5	6	1
1000	1	0	2
1500	1	5	2
2200	2	2	2
3300	3	3	2
4700	4	7	2
6800	6	8	2
10000	1	0	3
15000	1	5	3

④ Capacitance tolerance code

Tol. (%)	Code
	8
-5 ~ +5	J
-10 ~ +10	K
-20 ~ +20	M

⑤ Size code

ΦD × L (mm)	Code			
	9	10	11	12
3 × 5	0	3	0	5
4 × 5	0	4	0	5
5 × 5	0	5	0	5
6.3 × 5	0	6	0	5
4 × 7	0	4	0	7
5 × 7	0	5	0	7
6.3 × 7	0	6	0	7
8 × 7	0	8	0	7
5 × 11	0	5	1	1
6.3 × 11	0	6	1	1
8 × 12	0	8	1	2
8 × 16	0	8	1	6
10 × 12	1	0	1	2
10 × 16	1	0	1	6
8 × 20	0	8	2	0
10 × 20	1	0	2	0
13 × 20	1	3	2	0
13 × 25	1	3	2	5
16 × 25	1	6	2	5
16 × 32	1	6	3	2
16 × 36	1	6	3	6
18 × 32	1	8	3	2
18 × 36	1	8	3	6
18 × 40	1	8	4	0

⑦ Sleeve/Marking code

Sleeve/Marking	Code 14
PET	T
Black	B
Yellow	Y
Ink Green	I
Pea Green	P
Orange	O

⑥ Terminal code

Specification	Code 13
Bulk packing	0
Φ4-8Taping	T1
	T2
	T2
Φ10-18Taping	T3
Lead Cut	F
	C
	R
	L
	M
	S
	B
	K

Lead Forming

Taping Specifications

Fig.1 Code:T1

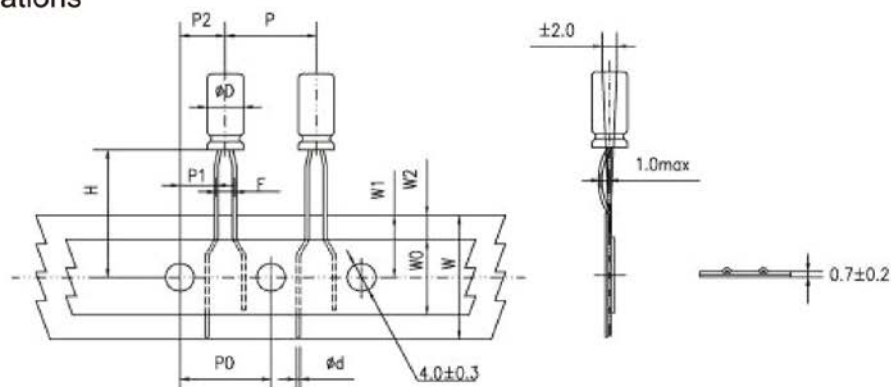


Fig.2 Code:T2

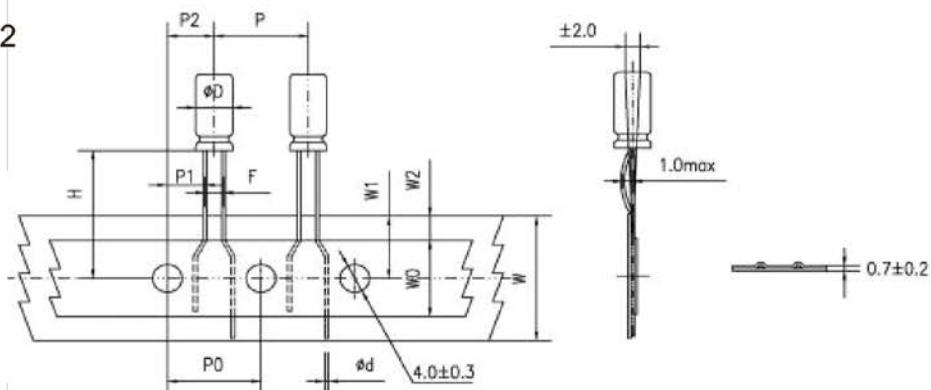


Fig.3 Code:T2

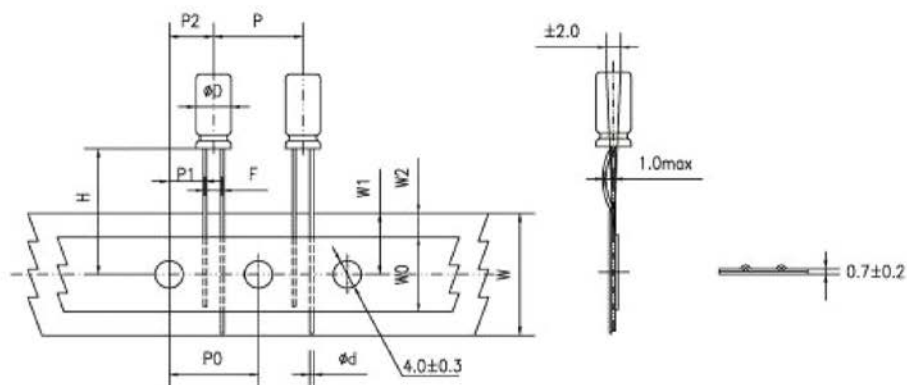
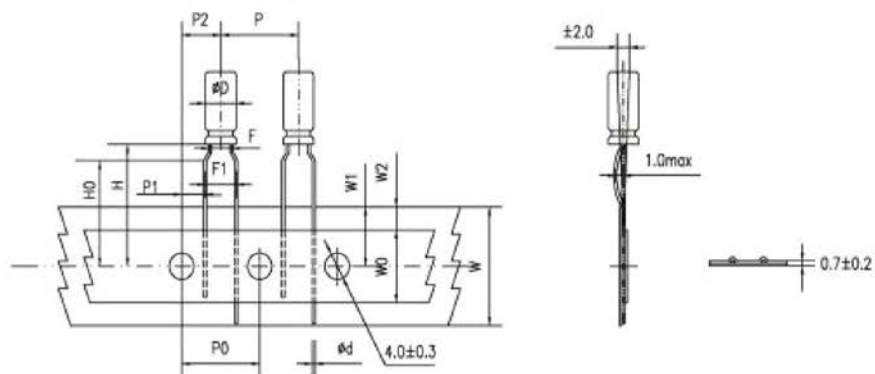


Fig.4 Code:T3



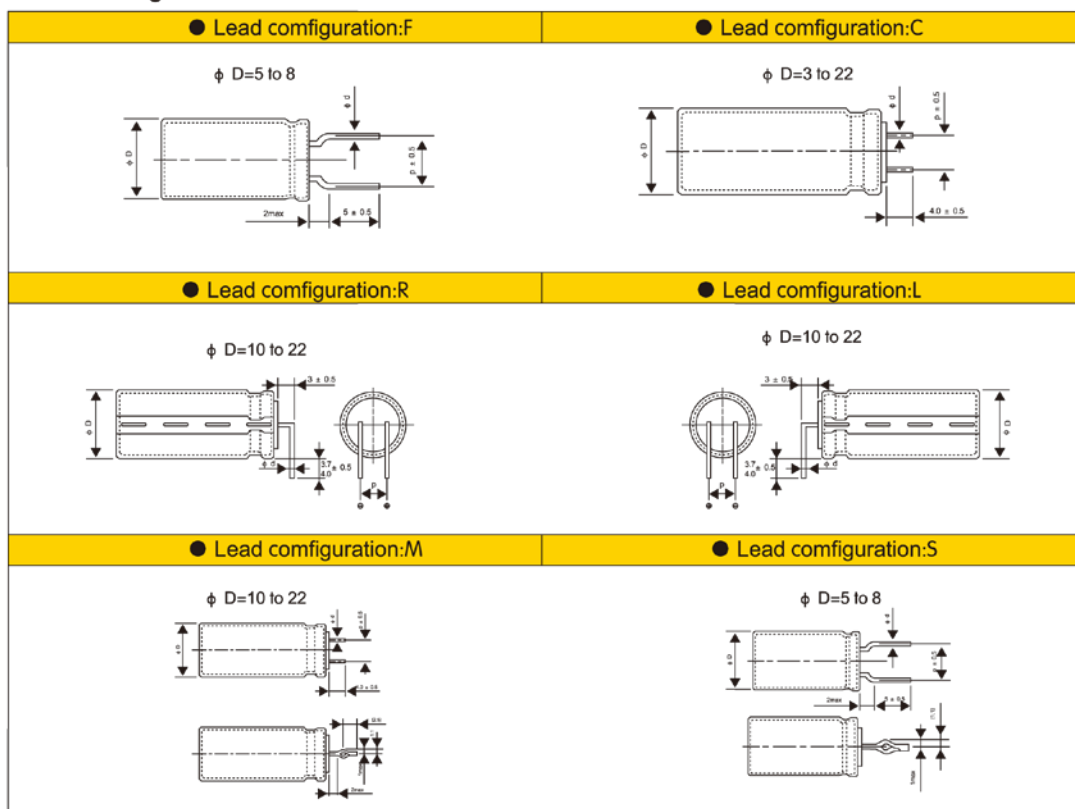
Specification Fig.1 & Fig.2 & Fig.3

Items	Symbol	CASE SIZE											Tolerance	
		4 × 5 4 × 7		5 × 5 5 × 7		5x11		6.3x5	6.3x7 6.3x9	6.3x11 6.3x12	8x5/7 8x9/11 8x11.5 8x12	8x16 8x20		10x9/12 10x12.5 10x13/16 10x20/25
Pin Code		T ₁	T ₂	T ₁	T ₂	T ₁		T ₂	T ₂	T ₂	T ₂	T ₂	T ₂	
Lead wire diameter	φd	0.45		0.45		0.5		0.45	0.5	0.5	0.45/0.5	0.6	0.6	± 0.05
Pitch of body	P	12.7		12.7		12.7		12.7	12.7	12.7	12.7	12.7	12.7	± 1.0
Feed hole pitch	PO	12.7		12.7		12.7		12.7	12.7	12.7	12.7	12.7	12.7	± 0.2
Hole center to lead distance	P1	5.1	5.6	5.1	5.35	5.1	5.35	5.1	5.1	5.1	4.6	4.6	3.85	± 0.7
Feed hole center to body center distance	P2	6.35		6.35		6.35		6.35	6.35	6.35	6.35	6.35	6.35	± 1.0
Lead to lead distance	F	2.5	1.5	2.5	2.0	2.5	2.0	2.5	2.5	2.5	3.5	3.5	5.0	± 0.5
Height of body from tape center	H	18.5		18.5		18.5		18.5	18.5	18.5	18.5	18.5	18.5	± 0.75
Base tape width	W	18.0		18.0		18.0		18.0	18.0	18.0	18.0	18.0	18.0	± 0.5
Adhesive tape width	WO	11.0		11.0		11.0		11.0	11.0	11.0	11.0	11.0	11.0	min
Hole positron	W1	9.0		9.0		9.0		9.0	9.0	9.0	9.0	9.0	9.0	+0.75 -0.5
Hole down tape position	W2	3.0		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	max

Specification Fig.4

Items	Symbol	CASE SIZE									Tolerance
		4 × 5 4 × 7	5 × 5	5 × 7	5 × 11	6.3 × 5	6.3 × 7 6.3 × 9	6.3 × 11 6.3 × 12	8 × 5/7 8 × 9/11 8 × 11.5/12	8 × 16 8 × 20	
Pin Code		T ₃	T ₃	T ₃	T ₃	T ₃	T ₃	T ₃	T ₃	T ₃	
Lead wire diameter	φd	0.45	0.45	0.45	0.5	0.45	0.5	0.5	0.45/0.5	0.6	± 0.05
Pitch of body	P	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	± 1.0
Feed hole pitch	PO	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	± 0.2
Hole center to lead distance	P1	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	± 0.7
Feed hole center to body center distance	P2	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	± 1.0
Lead to lead distance	F	1.5	2.0	2.0	2.0	2.5	2.5	2.5	3.5	3.5	± 0.5
Lead to lead distance	F1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	+0.8 -0.2
Height of body from tape center	H	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	± 0.75
Lead wire clinch height	HO	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	± 0.5
Base tape width	W	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	± 0.5
Adhesive tape width	WO	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	min
Hole position	W1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	+0.75 -0.5
Hole down tape position	W2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	max

● Lead Forming & Cut:

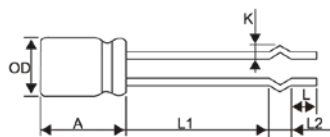


● LEAD SPACING&RECOMMENDED PCB DIMENSIONS

(mm)

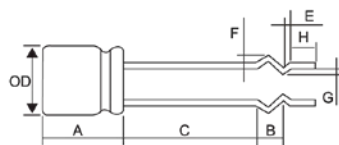
Dimension φD	φd	p	PC Board		Lead Configuration
			Hole diameter	Thickness	
5	0.5	5.0	0.8	1.6	F C S
6.3	0.5	5.0	0.8		
8	0.5/0.6	5.0	1.0		
10	0.6	5.0	1.0	1.6	C M R L
12.5	0.6	5.0	1.0		
16	0.8	7.5	1.2		
18	0.8	7.5	1.2		
20	0.8	7.5	1.2		
22	0.8	10.0	1.2		

● Lead configuration:B



ϕD	L1	L2	K	A	L
5	17.5–19.5	2.6	1.9	10.0–15.0	3.0–5.0
6.3	17.5–19.5	2.6	1.9	10.0–16.0	
8	12.0–14.0	2.5	1.3	10.0–20.0	
8	13.5–15.5	2.5	1.5		
8	13.0–15.0	3.0	1.5		
8	19.5–21.5	3.0	1.5		
8	21.0–23.0	3.0	1.5		
10	7.5–9.5	2.5	1.7		
10	17.0–19.0	2.5	1.7		
10	10.5–12.5	2.5	1.5		
10	10.0–12.0	3.0	1.5		
10	13.0–15.0	3.0	1.5		
10	18.0–20.0	3.0	1.5		
10	21.0–23.0	3.0	1.5		
	± 1.0	± 0.5	0.3	± 1.0	± 1.0

● Lead configuration:K



ØD	C	B	E	F	G	A	H
8	13.5–15.5	3	1.2	1.8	0.8	10–20	3.0–5.0
10	18.5–20.5	3	1.2	1.8	1	10–25	
10	19.0–21.0	3	1.5	1.4	0.5		
	± 1.0	± 0.5	± 0.3	± 0.3	± 0.3	± 1.0	± 1.0