

规格書

SPECIFICATION

Customer : 深圳市立創電子商務有限公司

Part Name: E-CAP

SPEC : LF Series

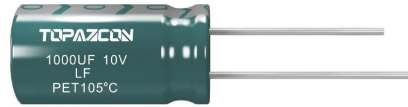
Part NO. : ALL

Date : 2021-7-24

CUSTOMER SIGN		

TOPAZCON	
DRAWING	RATIFY
李梦如	<i>Cock</i>

LF Series

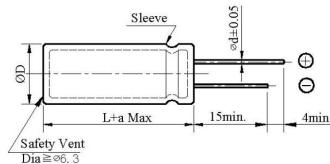


- Low impedance for high frequency.
- Endurance: +105°C 2000-4000 hours.
- Suitable for switching power, UPS, power sources etc.
- RoHS Compliant

◆ SPECIFICATIONS

Item	Performance Characteristics										
Temperature Range	-40 to +105°C										
Working Voltage Range	6.3 to 100Vdc										
Capacitance Range	15 to 4700 μ F										
Capacitance Tolerance	$\pm 20\%$ (at 20°C and 120Hz)										
Dissipation Factor (tan δ)	Rated Voltage (V)	6.3	10	16	25	35	50	63	100	(at 20°C, 120Hz)	
	Tan δ (Max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08		
Low Temperature Characteristics (Max. Impedance Ratio)	Rate voltage (V)	6.3	10	16	25	35	50	63	100	(at 120Hz)	
	Z(-25°C)/Z(+20°C)	4	3	2							
	Z(-40°C)/Z(+20°C)	8	6	4	3						
Leakage Current	I \leq 0.01CV or 3uA Whichever is greater (at 20°C after 2 minutes) Where, I: Max. Leakage current (u A); C: Nominal capacitance (u F); V: Rated voltage (V).										
Endurance	The following specification shall be satisfied when the capacitor 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	$\leq \pm 25\%$ of the initial value								Life time (hours)	6.3-100v
	Dissipation	$\leq 200\%$ of the specified value								$\phi 6.3$	2000
	Leakage current	\leq specified value								$\phi 8-10$	3000
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.										
	Capacitance change	$\leq \pm 25\%$ of the initial value								$> \phi 10$	4000
	Dissipation	$\leq 200\%$ of the specified value									
	Leakage current	$\leq 200\%$ of the specified value									

◆ DIMENSIONS (mm)



ΦD	6.3	8	10	12.5	16	18
Φd	0.5	0.5	0.6	0.6	0.8	0.8
F	2.5	3.5	3.5	5.0	7.5	7.5
a	+2max					

◆ RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current (Hz)

μ F	Hz			
	120	1K	10K	100K
Cap < 220	0.40	0.75	0.90	1.00
220 \leq Cap < 680	0.60	0.85	0.94	1.00
680 \leq Cap < 2200	0.60	0.87	0.95	1.00
2200 \leq Cap < 4700	0.75	0.90	0.95	1.00
Cap \geq 4700	0.85	0.95	0.98	1.00

LF Series

◆ STANDARD RATINGS

(Impedance at 20°C 100KHz/Ωmax. Ripple current; mAms/105°C 100KHz)

WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Impedance (Ωmax)	Ripple current (mAms)	WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Impedance (Ωmax)	Ripple current (mAms)	
6.3 (0J)	180	6.3×11	0.22	0.25	340	16 (1C)	820	10×16	0.16	0.06	1210	
		8×9	0.22	0.33	300			1000	10×16	0.16	0.06	1210
	220	6.3×11	0.22	0.25	340			1200	10×20	0.16	0.045	1400
		8×9	0.22	0.33	300			1500	10×20	0.16	0.045	1400
	270	6.3×11	0.22	0.25	340			1800	10×25	0.16	0.042	1650
		8×9	0.22	0.33	300			2200	12.5×20	0.16	0.035	1800
	330	8×11	0.22	0.13	650			2700	12.5×20	0.18	0.035	1900
		10×9	0.22	0.17	580			820	6.3×11	0.14	0.25	340
	470	8×11	0.22	0.13	650			100	8×9	0.14	0.33	300
		10×9	0.22	0.17	580			120	6.3×11	0.14	0.25	340
	560	8×11	0.22	0.13	650			150	8×9	0.14	0.33	300
		10×9	0.22	0.17	580			180	8×11	0.14	0.13	650
	680	8×11	0.22	0.13	650		220	10×9	0.14	0.17	580	
		10×9	0.22	0.17	580		270	8×11	0.14	0.13	650	
	820	10×12	0.22	0.08	870		330	10×9	0.14	0.13	650	
		1000	10×9	0.22	0.17		580	470	10×9	0.14	0.17	580
	1200	10×12	0.22	0.08	870		560	180	8×11	0.14	0.13	650
		1500	8×20	0.22	0.068		1050	220	10×9	0.14	0.17	580
	1800	10×16	0.22	0.06	1210		270	10×9	0.14	0.08	580	
		2200	10×20	0.22	0.045		1400	330	10×9	0.14	0.17	580
	2700	10×20	0.24	0.045	1400		470	10×12	0.14	0.08	870	
		10×25	0.24	0.042	1650		1000	10×9	0.14	0.087	580	
	3300	12.5×20	0.24	0.035	1900		1200	10×12	0.14	0.080	870	
		10×25	0.26	0.042	1860		1500	8×16	0.14	0.060	840	
4700	12.5×20	0.26	0.036	1900	1800	10×12	0.14	0.060	870			
	12.5×20	0.26	0.035	1900	2200	10×16	0.14	0.045	1210			
10 (1A)	150	6.3×11	0.19	0.25	340	680	10×16	0.14	0.045	1210		
		8×9	0.19	0.33	300	820	10×20	0.14	0.045	1400		
	180	6.3×11	0.19	0.25	340	1000	10×20	0.14	0.042	1400		
		8×9	0.19	0.33	300	1200	10×20	0.14	0.035	1400		
	220	6.3×11	0.19	0.25	340	1500	10×25	0.14	0.030	1650		
		8×9	0.19	0.33	300	1800	12.5×20	0.14	0.030	1900		
	270	8×9	0.19	0.33	300	2200	12.5×25	0.16	0.33	2130		
		10×9	0.19	0.17	580	2700	6.3×11	0.12	0.25	340		
	330	10×9	0.19	0.17	580	47	8×9	0.12	0.33	300		
		470	10×9	0.19	0.17	580	56	6.3×11	0.12	0.25	340	
	560	10×9	0.19	0.17	580	68	8×9	0.12	0.33	300		
		680	10×9	0.19	0.17	580	82	6.3×11	0.12	0.13	340	
	820	10×12	0.19	0.08	870	100	8×9	0.12	0.17	300		
		1000	8×16	0.19	0.087	850	120	8×11	0.12	0.13	650	
	1200	10×16	0.19	0.06	1210	150	10×9	0.12	0.17	580		
		1500	10×20	0.19	0.045	1400	180	8×11	0.12	0.13	650	
	1800	10×20	0.19	0.045	1400	220	10×9	0.12	0.17	580		
		2200	10×20	0.19	0.045	1400	270	8×11	0.12	0.13	650	
	2700	10×20	0.21	0.045	1400	470	10×9	0.12	0.17	580		
		10×25	0.21	0.042	1650	820	8×11	0.12	0.13	650		
	3300	12.5×20	0.21	0.035	1900	1000	10×9	0.12	0.17	580		
		12.5×25	0.23	0.030	2130	180	10×12	0.12	0.08	870		
	16 (1C)	100	8×9	0.16	0.33	300	35 (1V)	180	8×11	0.12	0.13	650
			120	8×9	0.16	0.33			300	10×9	0.12	0.17
150		8×9	0.16	0.33	300	220			8×11	0.12	0.13	650
		10×9	0.16	0.33	580				10×9	0.12	0.17	580
180		8×9	0.16	0.33	300	270			8×16	0.12	0.087	840
		10×9	0.16	0.33	580				10×12	0.12	0.080	870
220		8×9	0.16	0.33	300	330			10×12	0.12	0.080	870
		10×9	0.16	0.33	580				10×16	0.12	0.060	1210
270		10×9	0.16	0.17	580	470			10×16	0.12	0.060	1210
		330	10×9	0.16	0.17				580	560	10×20	0.12
470		10×9	0.16	0.17	580	680			10×20	0.12	0.045	1400
		560	10×12	0.16	0.18				870	10×25	0.12	0.042
560		10×12	0.16	0.08	870	820		12.5×20	0.12	0.035	1900	
		8×16	0.16	0.087	850			12.5×20	0.12	0.035	1900	
680		10×12	0.16	0.08	870	1000		12.5×25	0.12	0.030	2130	

LF Series

◆ STANDARD RATINGS

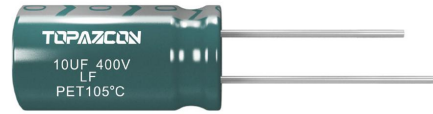
(Impedance. at 20°C 100KHz/Ωmax. Ripple current; mAms/105°C 100KHz)

WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Impedance (Ωmax)	Ripple current (mAms)
50 (1H)	33	6.3×11	0.10	0.30	295
		8×9	0.10	0.40	260
	39	6.3×11	0.10	0.30	295
		8×9	0.10	0.40	260
	47	6.3×11	0.10	0.30	295
		8×9	0.10	0.40	260
	56	8×11	0.10	0.17	560
		10×9	0.10	0.23	500
	68	8×11	0.10	0.17	560
		10×9	0.10	0.23	500
	82	8×11	0.10	0.17	560
		10×9	0.10	0.23	500
	100	10×12	0.10	0.12	760
	120	8×16	0.10	0.12	730
		10×12	0.10	0.12	760
	150	10×16	0.10	0.084	1050
	180	8×20	0.10	0.090	1050
		10×16	0.10	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	
560	12.5×25	0.10	0.034	1950	

WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Impedance (Ωmax)	Ripple current (mAms)
63 (1J)	22	6.3×11	0.09	0.95	120
		8×9	0.09	1.24	100
	27	6.3×11	0.09	0.95	120
		8×9	0.09	1.24	100
	33	6.3×11	0.09	0.95	120
		8×9	0.09	1.24	100
	39	8×11	0.09	0.51	235
		10×9	0.09	0.67	210
	47	8×11	0.09	0.51	235
		10×9	0.09	0.67	210
	56	8×11	0.09	0.51	235
		10×9	0.09	0.67	210
	68	8×11	0.09	0.51	235
		10×9	0.09	0.67	210
	82	10×12	0.09	0.340	315
	100	8×16	0.09	0.350	300
		10×12	0.09	0.340	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	12.5×25	0.09	0.095	930	
100 (2A)	15	6.3×11	0.08	0.95	120
		8×9	0.08	1.24	100
	27	8×11	0.08	0.51	235
		10×9	0.08	0.67	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

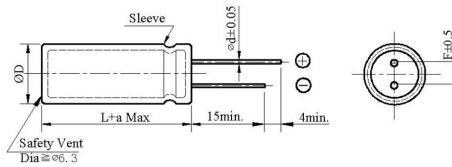
- High frequency, low impedance.
- Life time: +105°C 2000-3000 hours
- RoHS Compliant



◆ SPECIFICATIONS

Item	Performance Characteristics						
Temperature Range	-25 to +105°C (160 to 450Vdc)						
Working Voltage Range	160 to 450Vdc						
Capacitance Range	0.47 to 220 μ F						
Capacitance	$\pm 20\%$ (at 20°C and 120Hz)						
Dissipation Factor (tan δ)	Rated Voltage (V)	160	200	250	350	400	450
	Tan δ (Max)	0.15	0.15	0.15	0.20	0.20	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rate voltage (V)	160	200	250	350	400	450
	Z (-25°C)/Z (+20°C)	3			5		6
	Z (-40°C)/Z (+20°C)	4		7		-	
Leakage Current	160 to 450Vdc						(at 20°C after 2 minutes)
	$I \leq 0.02CV$ or 10uA whichever is greater						
Endurance	Where, I: Max. Leakage current (u A); C: Nominal capacitance (u F); V: Rated voltage (V).						
	The following specification shall be satisfied when the capacitor 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	$\leq \pm 20\%$ of the initial value				Case Dia	Life time (hours)
	Dissipation factor (tan δ)	$\leq 200\%$ of the specified value				$\leq \Phi 8$	2000
Shelf Life	Leakage current	\leq specified value				$\geq \Phi 10$	3000
	The following specifications shall be satisfied when the capacitor are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.						
	Capacitance change	$\leq \pm 20\%$ of the initial value					
Dissipation factor (tan δ)	$\leq 200\%$ of the specified value						
Leakage current	$\leq 200\%$ of the specified value						

◆ DIMENSIONS (mm)



ΦD	6.3	8	10	12.5	16	18
Φ d	0.5	0.5	0.6	0.6	0.8	0.8
F	2.5	3.5	3.5	5.0	5.0	7.5
a	+2max					

◆ RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current (Hz)

Freq. (Hz)	120	1K	10K	100K
CAP (μ F)				
< 18	0.59	0.85	0.97	1.00
18 \leq CAP < 100	0.62	0.89	0.97	1.00
≥ 100	0.72	0.90	0.98	1.00

LF Series

◆ STANDARD RATINGS

WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Ripple current (mArms/105°C, 100KHz)
160 (2C)	2.2	6.3×11	0.12	54
	3.3	6.3×11	0.12	70
	4.7	8×12	0.12	82
	10	10×12	0.12	142
	22	10×16	0.12	206
	33	10×20	0.12	265
	47	12.5×20	0.12	332
	100	12.5×25	0.12	546
220	16×30	0.12	822	
200 (2D)	1	5×11	0.12	34
	2.2	6.3×11	0.12	52
	3.3	6.3×11	0.12	70
	4.7	8×12	0.12	82
	10	10×12	0.12	144
	22	10×16	0.12	206
		10×20	0.12	215
	33	10×20	0.12	288
		12.5×20	0.12	330
	47	12.5×20	0.12	366
	56	12.5×25	0.12	430
	68	12.5×25	0.12	488
	82	10×30	0.12	518
	100	16×25	0.12	720
	120	16×25	0.12	745
	150	18×25	0.12	845
180	12.5×35	0.12	882	
220	18×30	0.12	960	
250 (2E)	0.47	6.3×11	0.12	35
	1	6.3×11	0.12	40
	2.2	6.3×11	0.12	52
	3.3	8×12	0.12	72
	4.7	8×12	0.12	84
	10	10×12	0.12	144
	22	10×20	0.12	220
	33	12.5×20	0.12	335
	47	12.5×25	0.12	382
	56	12.5×25	0.12	426
	82	16×25	0.12	575
	100	16×30	0.12	740
220	18×35	0.12	1010	
350 (2V)	0.47	6.3×11	0.15	35
	1	6.3×11	0.15	40
	2.2	8×12	0.15	54
	3.3	8×12	0.15	74
	3.3	10×12	0.15	80
	4.7	10×16	0.15	104
	10	10×16	0.15	170
	22	12.5×25	0.15	285
	33	16×25	0.15	330
47	16×30	0.15	480	

WV (Vdc)	Cap (uF)	CaSe size ∅ D×L (mm)	Tan δ	Ripple current (mArms/105°C, 100KHz)
400 (2G)	1	8×12	0.15	40
	2.2	8×12	0.15	62
	3.3	8×12	0.15	85
		10×12	0.15	90
	4.7	10×12	0.15	106
	10	10×16	0.15	175
		10×20	0.15	200
	22	12.5×20	0.15	300
	27	10×30	0.15	385
	33	10×35	0.15	450
		16×20	0.15	440
	39	10×40	0.15	490
	47	12.5×30	0.15	595
		16×25	0.15	584
	56	10×45	0.15	655
		12.5×35	0.15	650
	68	12.5×40	0.15	815
		16×30	0.15	780
	82	12.5×40	0.15	850
		18×30	0.15	835
100	12.5×50	0.15	890	
	18×30	0.15	870	
450 (2W)	1	8×12	0.20	40
	2.2	10×12	0.20	65
	3.3	10×16	0.20	92
	4.7	10×20	0.20	108
	10	12.5×20	0.20	160
	18	10×30	0.20	200
	22	16×20	0.20	305
	27	10×30	0.20	385
	33	10×35	0.20	460
		16×25	0.20	455
	39	10×40	0.20	500
	47	10×45	0.20	635
		12.5×30	0.20	630
		18×25	0.20	620
	56	12.5×35	0.20	705
		18×25	0.20	695
68	12.5×40	0.20	750	
	18×30	0.20	730	
82	12.5×45	0.20	800	
	18×30	0.20	770	
100	18×35	0.20	860	
120	18×40	0.20	1050	

物料编码原则 Part Number System

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
E	R	G	2	D	1	5	0	M	1	0	1	3	0	0	Y	
①	②		③		④			⑤		⑥			⑦		⑧	⑨
分类	系列		电压		容量			误差		直径		高度	引脚		颜色	其他
Category	Series		Voltage		Capacitance			Tol.		Dia.		Length	Terminal		Colour	Other

①分类Category

编码Code	代码Code	种类Type	备注Remark
1	E	Electrolytic Capacitor	铝电解电容
	P	Conductive Polymer	导电高分子固体铝
	S	super-capacitor	超级电容

②系列Series			③电压Voltage			④容量Capacitance			⑤Tolerance		⑥尺寸Size				⑦引脚Terminal				
系列series	编码Code		电压WV	编码Code		容量Cap	编码Code			容量误差Tolerance	编码Code	直径编码Dia. Code		高度编码Length Code		形式Specification	编码Code		
	2	3		4	5		6	7	8			10	11	12	13			14-15	
SM	S	M	4	0	G	0.1	R	1	0	-5~+5	J	3	5	0	3	0	5	Bulk packing	00
SS	S	S	6.3	0	J	0.22	R	2	2	-10~+10	K	4	5	0	4	0	5	Φ4-18 Taping	T1
NP	N	P	10	1	A	0.33	R	3	3	-20~+20	M	5	5	0	5	0	5		T2
LL	L	L	16	1	C	0.47	R	4	7	-5~+20	F	6.3	5	0	6	0	5		T3
RD	R	D	25	1	E	1	1	R	0	-10~+20	V	4	7	0	4	0	7		T4
RE	R	E	35	1	V	2.2	2	R	2	-10~+30	Q	5	7	0	5	0	7	Lead Cut	F
RT	R	T	40	1	G	3.3	3	R	3	-20~+0	S	6.3	7	0	6	0	7		C
RF	R	F	50	1	H	4.7	4	R	7	-0~+20	A	8	7	0	8	0	7		R
RG	R	G	55	1	I	6.8	6	R	8			5	11	0	5	1	1		Y
RJ	R	J	63	1	J	10	1	0	0			6.3	11	0	6	1	1		M
RR	R	R	70	1	L	22	2	2	0			8	12	0	8	1	2		X
LF	L	F	80	1	K	33	3	3	0			8	16	0	8	1	6		Z
LJ	L	J	100	2	A	47	4	7	0			10	12	1	0	1	2		K
LR	L	R	120	2	B	100	1	0	1			10	16	1	0	1	6		
LG	L	G	140	2	L	220	2	2	1			8	20	0	8	2	0		
RS	R	S	160	2	C	330	3	3	1			10	20	1	0	2	0		
RN	R	N	180	2	Q	470	4	7	1			13	20	1	3	2	0		
RV	R	V	200	2	D	560	5	6	1			13	25	1	3	2	5		
LH	L	H	220	2	N	1000	1	0	2			16	25	1	6	2	5		
TE	T	E	250	2	E	1500	1	5	2			16	32	1	6	3	2		
TF	T	F	300	2	S	2200	2	2	2			16	36	1	6	3	6		
TG	T	G	315	2	F	3300	3	3	2			18	32	1	8	3	2		
LP	L	P	350	2	V	4700	4	7	2			18	36	1	8	3	6		
LT	L	T	385	2	P	6800	6	8	2			18	40	1	8	4	0		
LS	L	S	400	2	G	10000	1	0	3										
LV	L	V	420	2	T	15000	1	5	3										
			450	2	W	22000	2	2	3										
			500	2	H	33000	3	3	3										
			550	2	J	56000	5	6	3										
			600	2	K	68000	6	8	3										

⑧颜色代码 Colour Code

编码Code	颜色	黑色	黄色	墨绿色	淡绿色	橙色	白色	紫色
16	Colour	Black	Yellow	Ink Green	Light Green	Orange	White	Purple
	代码Code	B	Y	I	L	O	W	P

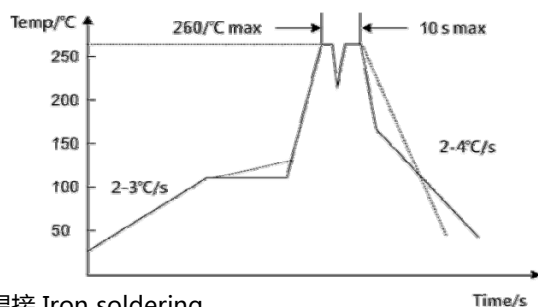
⑨特殊代码 Other

用于标记客户特殊要求

Used to mark special requirements of customers

焊接温度及注意事项 Solder temperature and notes

●无铅波峰焊 Ware soldering(lead-free)



注意事项 notes:

- ①PCB主面预热温度最高升温斜率:2→3°C / sec, 预热时长:120s左右;
- ②PCB主面预热温度范围:90-130°C;
- ③PCB背面最高预热温度不超过130°C;
- ④波峰温度与预热区温度落差不能大于150°C.
- ⑤波峰焊锡炉温度应控制在250-260°C 之间;
- ⑥波谷温度最好不能低于217°C, 也就是说如果是双波峰, 两个波峰之间落差不能大于60度, 以防造成二次焊接;
- ⑦焊接时间:双波峰"1"控制在0.5-2s 之间, 波峰"11"的时间控制在1.5-4s 之间, 合计时间:2-6s. 单波时间控制在2-6s.
- ⑧冷却区斜率一般指从最高温降到90°C时间平均负斜率-4→-2°C/s

●烙铁焊接 Iron soldering

烙铁作业:最高温度: 350 ± 5°C, 焊接时间: 3±0.5 秒

Lead Forming

Taping Specifications

Fig.1 Code:T1

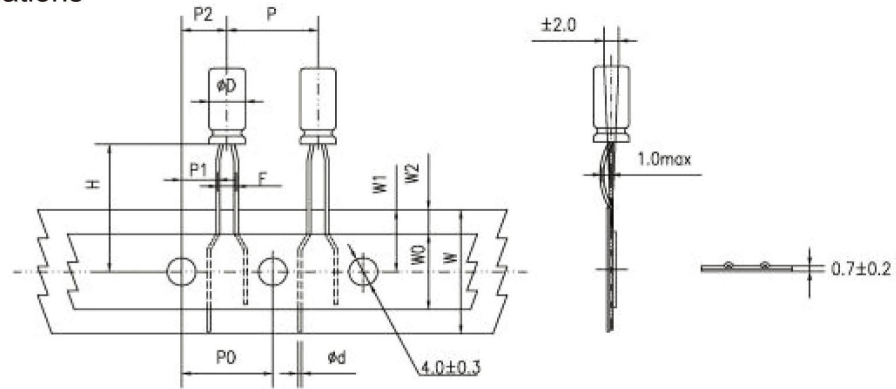


Fig.2 Code:T2

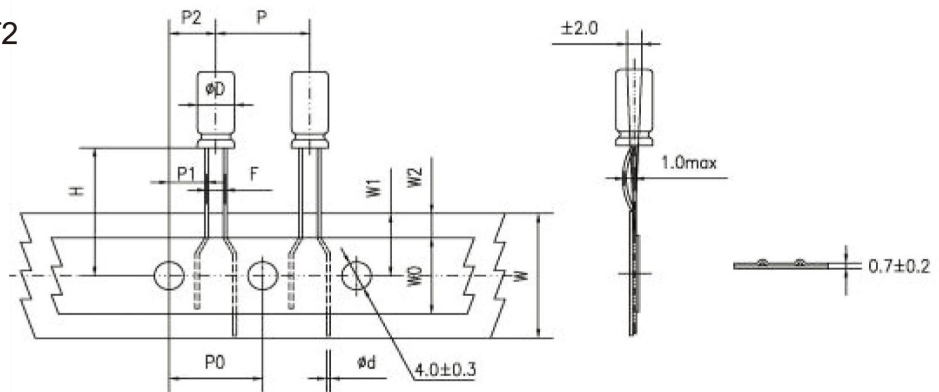


Fig.3 Code:T2

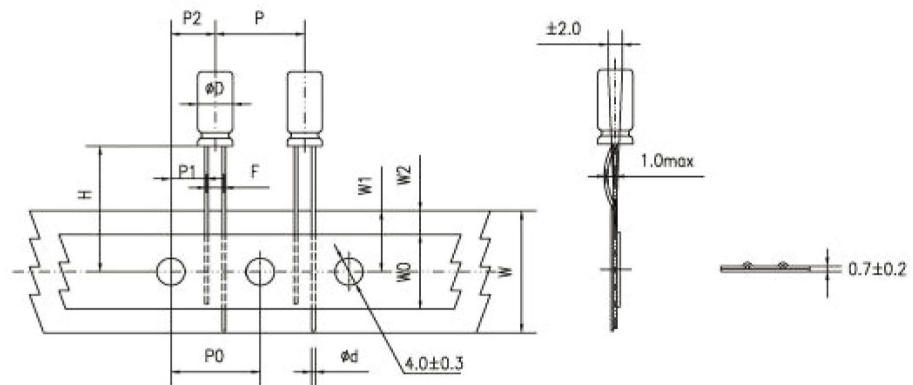
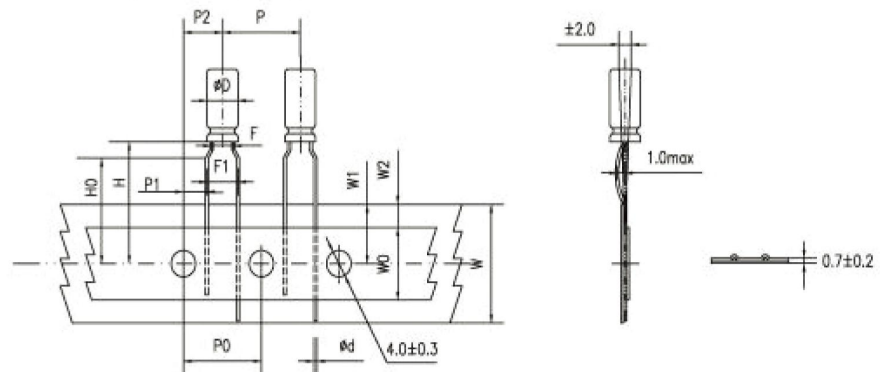


Fig.4 Code:T3



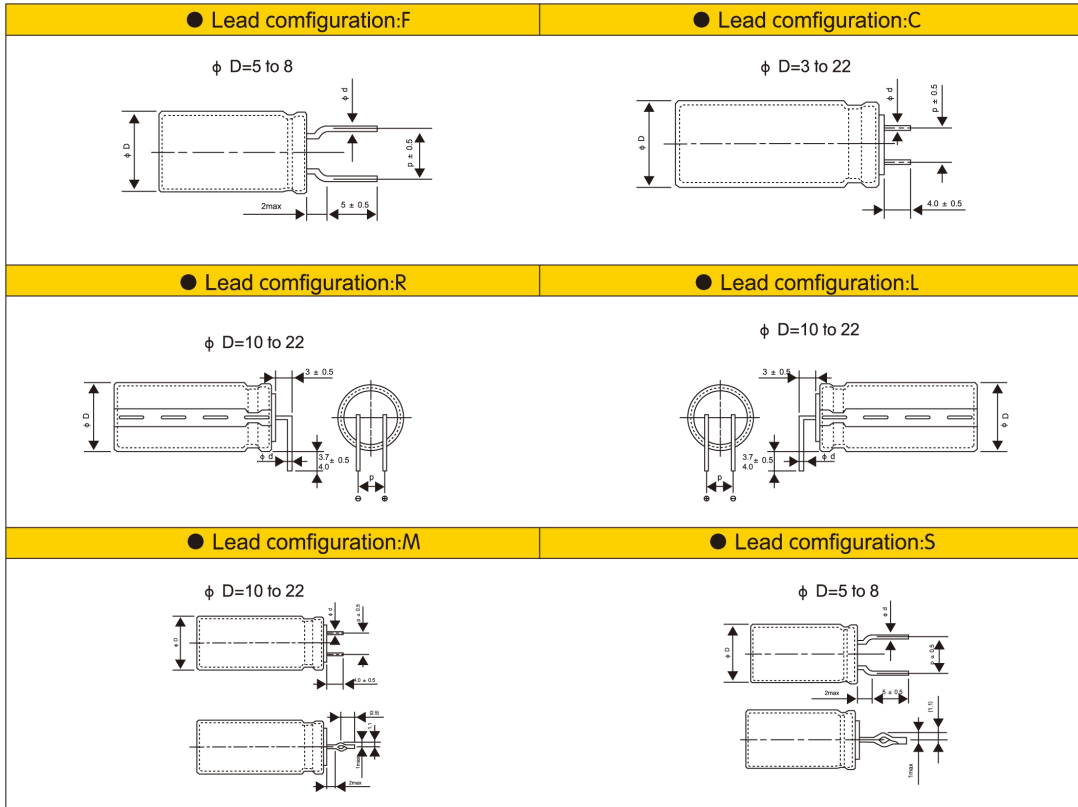
Specification Fig.1 & Fig.2 & Fig.3

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:**

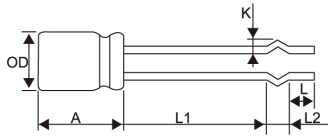


● **LEAD SPACING&RECOMMENDED PCB DIMENSIONS**

(mm)

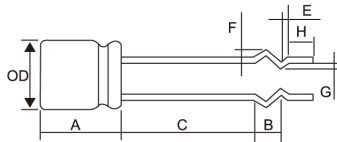
Dimension φD	φd	p	PC Board		Lead Configuration
			Hole diameter	Thickness	
5	0.5	5.0	0.8	1.6	F C S
6.3	0.5	5.0	0.8		
8	0.5/0.6	5.0	1.0		
10	0.6	5.0	1.0	1.6	C M R L
12.5	0.6	5.0	1.0		
16	0.8	7.5	1.2		
18	0.8	7.5	1.2		
20	0.8	7.5	1.2		
22	0.8	10.0	1.2		

● Lead configuration: B



∅D	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	10.0-25.0		
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



∅D	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