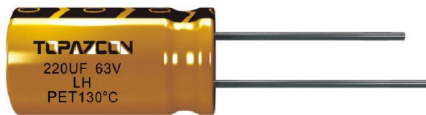


LH Series

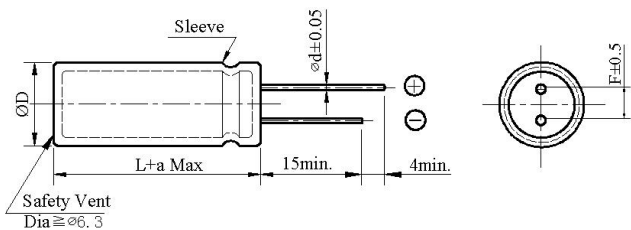
- Long life, better performance
- Load life 2,000~5,000 hours at 130℃
- RoHS Compliant



◆ SPECIFICATIONS

Item	Performance Characteristics												
Category Temperature Range	-40 ~ +130℃												
Working Voltage Range	10 ~ 120Vdc						160 ~ 450Vdc						
Capacitance Range	4.7 ~ 4700μF						1 ~ 220μF						
Capacitance Tolerance	±20% (at 20℃ and 120Hz)												
Dissipation Factor (tanδ) (at 20℃, 120Hz)	Rated Voltage (V)	10	16	25	35	50	63	80	100	120	160~250	350~450	
	tanδ(Max)	0.24	0.20	0.18	0.16	0.14	0.12	0.12	0.10	0.12	0.15	0.20	
Leakage Current	6.3~120Vdc						160~450Vdc						
	I≤0.01CV or 3μA, Which is greater(2minutes)						I≤0.02CV+ 10μA (2minutes)						
	I: Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V)												
Low Temperature Characteristics Impedance Ratio(MAX)	Rated Voltage (V)	10	16	25	35	50	63~100	120	160~250	350~400	450	(at 120Hz)	
	Z(-25℃)/Z(+20℃)	3	2	2	2	2	2	3	3	5	6		
	Z(-40℃)/Z(+20℃)	6	4	3	3	3	3	6	6	6	9		
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied for 2,000~5,000 hours at 130℃.												
	Capacitance change		≒ ±30% of the initial value						Case Size	Life time (hours)			
	Dissipation factor(tanδ)		≒ 300% of the specified value							10~120V	160~450V		
	Leakage current		≒ specified value						Φ8	2,000	4,000		
									Φ10	3,000			
								≥Φ12.5	5,000	5,000			
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 20℃ after the rated voltage applied for 1,000 hours at 130℃ without voltage applied.												
	Capacitance change		≒ ±30% of the initial value										
	Dissipation factor(tanδ)		≒ 300% of the specified value										
	Leakage current		≒ 500% of the specified value										

◆ **DIMENSIONS (mm)**



ΦD	8	10	12.5	16	18
ΦD	ΦD +0.5 Max				
Φd	0.5/0.6	0.6	0.6	0.8	0.8
F	3.5	5.0	5.0	7.5	7.5
a	L+2.0 Max				

◆ **PART NUMBER SYSTEM(Example : 63V 220μF)**

E	L	H	1	J	2	2	1	M	1	2	2	0	0	0	Y
Sleeve code(Dark Yellow)															
Lead length code															
Lead forming Type code															
Size code(1220 : 12.5×20)															
Capacitance tolerance code(M: ± 20%)															
Capacitance code (220μF)															
Voltage code(63V)															
Series code(LH)															
Category code(E)															

LH Series

◆ Case size & Permissible rated ripple current: (mA rms) at 130°C/100KHz

μF \ Vdc	10		16		25	
	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC
330	8×12	360	8×12	360	10×12	620
470	10×12	620	10×12	620	10×12	640
1000	10×20	960	10×20	960	12.5×20	1100
2200	12.5×25	1430	12.5×25	1430	16×30	2300
3300	16×25	1900	16×30	2300	16×35	2550
4700	16×30	2300	16×35	2550		

μF \ Vdc	35		50		63	
	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC
4.7			8×12	100		
10			8×12	200		
22			8×12	260		
33			8×12	300	8×12	250
47	6.3×11	110	8×12	300	10×12	400
100	8×12	360	10×12	520	10×16	450
220	10×12	620	10×12	700	12.5×20	820
330	10×12	620	12.5×20	1000	12.5×25	1000
470	10×20	960	12.5×25	1200	16×25	1500
1000	12.5×25	1430	16×30	2180	16×30	1850
2200	16×35	2550	18×40	2800		

μF \ Vdc	80		100		120	
	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC
4.7	5×11	26	5×11	40		
10	5×11	68	8×11	200		
22	6.3×11	105	8×12	220	8×12	115
33	8×12	250	10×12	260	8×16	200
47	8×12	300	10×16	330	10×16	240
68	8×12	330	10×25	400	10×16	255
100	8×16	400	12.5×20	670	10×25	340
220	10×20	750	16×25	1100	12.5×20	465
330	12.5×20	850	16×30	1300		
470	16×20	1200	18×30	1600		

LH Series

◆ Case size & Permissible rated ripple current: (mA rms) at 130°C/100KHz

μF \ Vdc	160		200		250	
	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC
3.3	8×12	70	8×12	73	8×12	80
4.7	8×12	77	8×16	126	8×16	133
5.6	8×16	82	8×16	148	10×16	150
6.8	8×16	88	8×16	160	10×16	169
8.2	10×16	183	10×16	203	10×16	203
10	10×16	223	10×16	230	10×20	250
15	10×16	300	10×20	327	10×20	327
22	10×20	400	12.5×20	430	12.5×20	430
33	12.5×20	480	12.5×20	500	12.5×25	530
47	12.5×25	590	12.5×25	650	16×25	690
68	16×25	750	16×25	750	16×30	780
82	16×25	825	16×30	900	18×25	900
100	18×20	960	18×25	1100	18×30	970
150	18×30	1050	18×35	1350		
220	18×35	1500				

μF \ Vdc	350		400		450	
	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC	$\Phi\text{D} \times \text{L}$	RC
1.0	8×12	49	8×12	54		
1.5	8×16	73	8×16	73	8×16	70
2.2	10×16	90	10×16	92	10×16	77
2.8	10×16	95	10×16	100	10×16	80
3.3	10×16	100	10×16	105	10×16	88
4.7	10×20	142	10×20	142	10×20	104
5.6	10×20	152	12.5×20	165	12.5×20	144
6.8	10×20	190	12.5×20	225	12.5×20	175
8.2	12.5×20	205	12.5×20	230	12.5×20	183
10	12.5×20	250	12.5×25	280	12.5×20	225
15	12.5×25	335	12.5×25	335	12.5×25	294
22	16×25	450	16×25	480	16×25	395
33	16×30	535	18×30	635	18×30	500
47	18×30	700	18×35	750	18×35	615
68	18×40	900	18×40	900	18×40	710

◆ RIPPLE CURRENT MULTIPLIERS Frequency Multipliers

Vdc	Frequency (Hz)				
	50/60	120	1K	10K	100K
10 ~ 120	0.20	0.45	0.70	0.80	1.00
160 ~ 450	0.25	0.50	0.80	0.90	1.00