

# HCL23

Polyester film capacitor



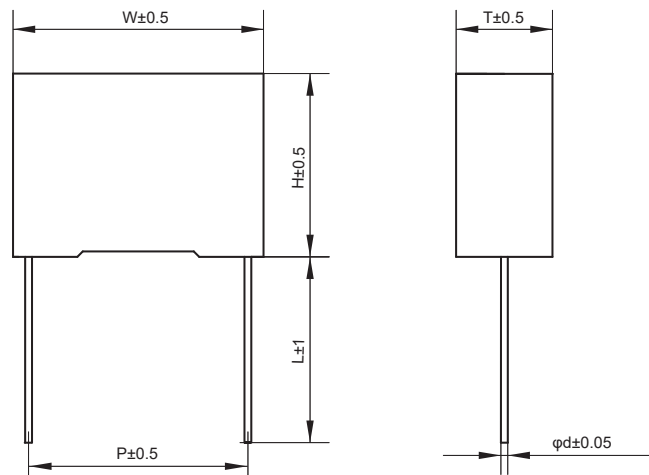
## Features

- High reliability
- Metallized polyester film, non-inductive wound construction
- Plastic case (UL94V-0), epoxy resin sealing

## Typical Applications

- By-passing, blocking, coupling, decoupling
- Pulse, logic, timing, oscillator circuits

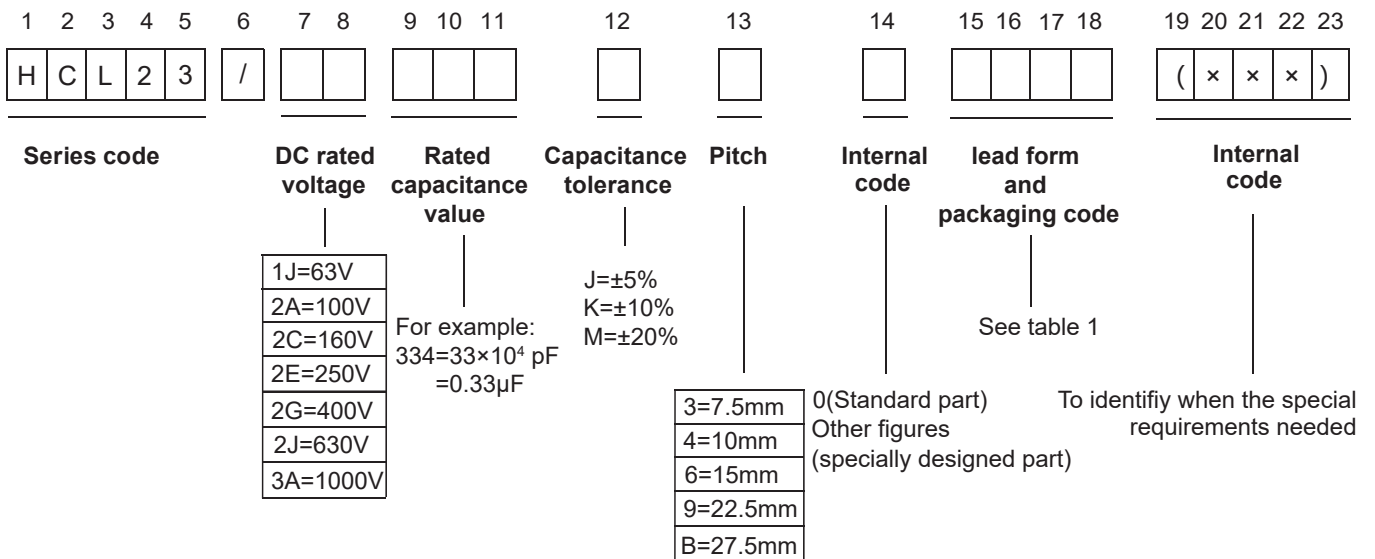
## Outline Drawing



Specifications

Reference standard	GB/T 7332 (IEC 60384-2)					
Climatic category	55/105/56					
Operating temperature range	-55°C~105°C					
Rated temperature	85°C					
Rated voltage	63Vd.c.,100Vd.c.,160Vd.c.,250Vd.c.,400Vd.c.,630Vd.c.,1000Vd.c					
Capacitance range	0.0010μF~47μF					
Capacitance tolerance	±5%(J),±10%(K),±20%(M) (20°C±5°C, 1kHz)					
Voltage proof	1.6U <sub>R</sub> (5s)					
Dissipation factor	≤1% (1kHz,20°C)					
Insulation resistance (IR×C <sub>N</sub> )	U <sub>R</sub> ≤100V	≥3750MΩ,C <sub>N</sub> ≤0.33μF ≥1250S,C <sub>N</sub> >0.33μF			(20°C,10Vd.c.,1min)	
	U <sub>R</sub> >100V	≥30000MΩ,C <sub>N</sub> ≤0.33μF ≥10000s,C <sub>N</sub> >0.33μF			(20°C,100Vd.c.,1min)	
Max. Pulse Rise Time: If the working voltage(U) is lower than the rate voltage (U <sub>R</sub> ), the capacitor can be worked at high dV/dt condition. In this case, the maximum allowed dV/dt is obtained by multiplying the right value with U <sub>R</sub> /U.	U <sub>R</sub> (V)	dV/dt(V/μs)				
		P=7.5mm	P=10.0mm	P=15.0mm	P=22.5mm	P=27.5mm
	63	7.5	6	3	2	1
	100	15	9	5	3	2
	250	30	20	12	8	5
	400	40	30	20	10	7
	630	50	40	25	12	10
1000	70	60	30	15	12	

Ordering Information



**Table 1: Terminal Code and Packing Code**

Digit 18		Digit 19		Digit 20		Digit 21	
Code	explanation	Code	explanation	Code	explanation	Code	explanation
A	ammo-pack	3	P=7.5mm	0	straight	1	Between two consecutive mounting holes P=12.7mm,H=18.0mm(For pitch=7.5mm)
		4	P=10.0mm			5	P=25.4mm, H=18.0mm (For pitch=10/15mm)
		6	P=15.0mm				
C	straight lead	00	standard lead length (18mm~28mm)			0	length tolerance ±0.5mm or standard length
		35	lead length 3.5mm				

**Outline Dimensions**

63Vd.c. (40Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.47	10.0	8.5	3.5	7.5	0.5	HCL23/1J474-30****	1.8	18.0	11.0	5.0	15.0	0.8	HCL23/1J185-60****
0.68	10.0	9.0	4.0	7.5	0.6	HCL23/1J684-30****	2.2	18.0	11.0	5.0	15.0	0.8	HCL23/1J225-60****
1.0	10.0	11.0	5.0	7.5	0.6	HCL23/1J105-30****	3.3	18.0	12.0	6.0	15.0	0.8	HCL23/1J335-60****
1.5	10.0	12.0	6.0	7.5	0.6	HCL23/1J155-30****	4.7	18.0	13.5	7.5	15.0	0.8	HCL23/1J475-60****
1.8	10.0	12.0	6.0	7.5	0.6	HCL23/1J185-30****	6.8	18.0	14.5	8.5	15.0	0.8	HCL23/1J685-60****
0.10	13.0	9.0	4.0	10.0	0.6	HCL23/1J104-40****	10.0	18.0	19.0	11.0	15.0	0.8	HCL23/1J106-60****
0.15	13.0	9.0	4.0	10.0	0.6	HCL23/1J154-40****	3.3	26.5	16.0	7.0	22.5	0.8	HCL23/1J335-90****
0.22	13.0	9.0	4.0	10.0	0.6	HCL23/1J224-40****	4.7	26.5	16.0	7.0	22.5	0.8	HCL23/1J475-90****
0.33	13.0	9.0	4.0	10.0	0.6	HCL23/1J334-40****	6.8	26.5	16.0	7.0	22.5	0.8	HCL23/1J685-90****
0.47	13.0	9.0	4.0	10.0	0.6	HCL23/1J474-40****	10.0	26.5	17.0	8.5	22.5	0.8	HCL23/1J106-90****
0.68	13.0	9.0	4.0	10.0	0.6	HCL23/1J684-40****	15.0	26.5	20.0	11.0	22.5	0.8	HCL23/1J156-90****
1.0	13.0	9.0	4.0	10.0	0.6	HCL23/1J105-40****	4.7	32.0	18.0	9.0	27.5	0.8	HCL23/1J475-B0****
1.5	13.0	11.0	5.0	10.0	0.6	HCL23/1J155-40****	6.8	32.0	18.0	9.0	27.5	0.8	HCL23/1J685-B0****
1.8	13.0	12.0	6.0	10.0	0.6	HCL23/1J185-40****	10.0	32.0	18.0	9.0	27.5	0.8	HCL23/1J106-B0****
2.2	13.0	12.0	6.0	10.0	0.6	HCL23/1J225-40****	15.0	32.0	18.0	9.0	27.5	0.8	HCL23/1J156-B0****
0.68	18.0	11.0	5.0	15.0	0.8	HCL23/1J684-60****	22.0	32.0	22.0	13.0	27.5	0.8	HCL23/1J226-B0****
1.0	18.0	11.0	5.0	15.0	0.8	HCL23/1J105-60****	33.0	32.0	24.5	15.0	27.5	0.8	HCL23/1J336-B0****
1.5	18.0	11.0	5.0	15.0	0.8	HCL23/1J155-60****							

Notes: (1) "-"=capacitance tolerance code, J=±5%, K=±10%;  
 (2) "\*\*\*\*"=terminal code and packaging code (see table 1) .

Outline Dimensions

100Vd.c. (63Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.22	10.0	8.5	3.5	7.5	0.5	HCL23/2A224-30****	1.5	18.0	12.0	6.0	15.0	0.8	HCL23/2A155-60****
0.33	10.0	9.0	4.0	7.5	0.6	HCL23/2A334-30****	1.8	18.0	12.0	6.0	15.0	0.8	HCL23/2A185-60****
0.39	10.0	9.0	4.0	7.5	0.6	HCL23/2A394-30****	2.2	18.0	12.0	6.0	15.0	0.8	HCL23/2A225-60****
0.47	10.0	9.0	4.0	7.5	0.6	HCL23/2A474-30****	3.3	18.0	13.5	7.5	15.0	0.8	HCL23/2A335-60****
0.68	10.0	11.0	5.0	7.5	0.6	HCL23/2A684-30****	4.7	18.0	14.5	8.5	15.0	0.8	HCL23/2A475-60****
1.0	10.0	12.0	6.0	7.5	0.6	HCL23/2A105-30****	1.5	26.5	15.0	6.0	22.5	0.8	HCL23/2A155-90****
0.10	13.0	9.0	4.0	10.0	0.6	HCL23/2A104-40****	1.8	26.5	15.0	6.0	22.5	0.8	HCL23/2A185-90****
0.15	13.0	9.0	4.0	10.0	0.6	HCL23/2A154-40****	2.2	26.5	15.0	6.0	22.5	0.8	HCL23/2A225-90****
0.22	13.0	9.0	4.0	10.0	0.6	HCL23/2A224-40****	3.3	26.5	15.0	6.0	22.5	0.8	HCL23/2A335-90****
0.33	13.0	9.0	4.0	10.0	0.6	HCL23/2A334-40****	4.7	26.5	16.0	7.0	22.5	0.8	HCL23/2A475-90****
0.47	13.0	9.0	4.0	10.0	0.6	HCL23/2A474-40****	6.8	26.5	19.0	10.0	22.5	0.8	HCL23/2A685-90****
0.68	13.0	9.0	4.0	10.0	0.6	HCL23/2A684-40****	10.0	26.5	22.0	12.0	22.5	0.8	HCL23/2A106-90****
1.0	13.0	11.0	5.0	10.0	0.6	HCL23/2A105-40****	4.7	32.0	18.0	9.0	27.5	0.8	HCL23/2A475-B0****
1.5	13.0	12.0	6.0	10.0	0.6	HCL23/2A155-40****	6.8	32.0	18.0	9.0	27.5	0.8	HCL23/2A685-B0****
0.33	18.0	11.0	5.0	15.0	0.8	HCL23/2A334-60****	10.0	32.0	20.0	11.0	27.5	0.8	HCL23/2A106-B0****
0.47	18.0	11.0	5.0	15.0	0.8	HCL23/2A474-60****	15.0	32.0	20.0	11.0	27.5	0.8	HCL23/2A156-B0****
0.68	18.0	11.0	5.0	15.0	0.8	HCL23/2A684-60****	22.0	32.0	25.0	13.0	27.5	0.8	HCL23/2A226-B0****
1.0	18.0	11.0	5.0	15.0	0.8	HCL23/2A105-60****							
250Vd.c. (160Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.068	13.0	9.0	4.0	10.0	0.6	HCL23/2E683-40****	1.0	26.5	15.0	6.0	22.5	0.8	HCL23/2E105-90****
0.10	13.0	9.0	4.0	10.0	0.6	HCL23/2E104-40****	1.5	26.5	16.0	7.0	22.5	0.8	HCL23/2E155-90****
0.15	13.0	9.0	4.0	10.0	0.6	HCL23/2E154-40****	1.8	26.5	16.0	7.0	22.5	0.8	HCL23/2E185-90****
0.22	13.0	11.0	5.0	10.0	0.6	HCL23/2E224-40****	2.2	26.5	17.0	8.5	22.5	0.8	HCL23/2E225-90****
0.33	13.0	11.0	5.0	10.0	0.6	HCL23/2E334-40****	3.3	26.5	20.0	11.0	22.5	0.8	HCL23/2E335-90****
0.39	13.0	12.0	6.0	10.0	0.6	HCL23/2E394-40****	1.5	32.0	18.0	9.0	27.5	0.8	HCL23/2E155-B0****
0.47	13.0	12.0	6.0	10.0	0.6	HCL23/2E474-40****	1.8	32.0	18.0	9.0	27.5	0.8	HCL23/2E185-B0****
0.10	18.0	11.0	5.0	15.0	0.8	HCL23/2E104-60****	2.2	32.0	18.0	9.0	27.5	0.8	HCL23/2E225-B0****
0.15	18.0	11.0	5.0	15.0	0.8	HCL23/2E154-60****							

Notes: (1) "-"=capacitance tolerance code, J=±5%, K=±10%;  
 (2) "\*\*\*\*"=terminal code and packaging code (see table 1) .

Outline Dimensions

400Vd.c. (200Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.022	13.0	9.0	4.0	10.0	0.6	HCL23/2G223-40****	0.56	18.0	16.0	10.0	15.0	0.8	HCL23/2G564-60****
0.033	13.0	9.0	4.0	10.0	0.6	HCL23/2G333-40****	0.68	18.0	16.0	10.0	15.0	0.8	HCL23/2G684-60****
0.047	13.0	9.0	4.0	10.0	0.6	HCL23/2G473-40****	0.22	26.5	15.0	6.0	22.5	0.8	HCL23/2G224-90****
0.056	13.0	9.0	4.0	10.0	0.6	HCL23/2G563-40****	0.33	26.5	15.0	6.0	22.5	0.8	HCL23/2G334-90****
0.068	13.0	11.0	5.0	10.0	0.6	HCL23/2G683-40****	0.47	26.5	15.0	6.0	22.5	0.8	HCL23/2G474-90****
0.10	13.0	11.0	5.0	10.0	0.6	HCL23/2G104-40****	0.68	26.5	16.0	7.0	22.5	0.8	HCL23/2G684-90****
0.15	13.0	12.0	6.0	10.0	0.6	HCL23/2G154-40****	1.0	26.5	19.0	10.0	22.5	0.8	HCL23/2G105-90****
0.047	18.0	11.0	5.0	15.0	0.8	HCL23/2G473-60****	1.5	26.5	22.0	12.0	22.5	0.8	HCL23/2G155-90****
0.068	18.0	11.0	5.0	15.0	0.8	HCL23/2G683-60****	0.68	32.0	18.0	9.0	27.5	0.8	HCL23/2G684-B0****
0.10	18.0	11.0	5.0	15.0	0.8	HCL23/2G104-60****	1.0	32.0	18.0	9.0	27.5	0.8	HCL23/2G105-B0****
0.15	18.0	11.0	5.0	15.0	0.8	HCL23/2G154-60****	1.5	32.0	20.0	11.0	27.5	0.8	HCL23/2G155-B0****
0.22	18.0	12.0	6.0	15.0	0.8	HCL23/2G224-60****	1.8	32.0	20.0	11.0	27.5	0.8	HCL23/2G185-B0****
0.33	18.0	13.5	7.5	15.0	0.8	HCL23/2G334-60****	2.2	32.0	22.0	13.0	27.5	0.8	HCL23/2G225-B0****
0.47	18.0	14.5	8.5	15.0	0.8	HCL23/2G474-60****							
630Vd.c. (220Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.022	13.0	9.0	4.0	10.0	0.6	HCL23/2J223-40****	0.10	26.5	15.0	6.0	22.5	0.8	HCL23/2J104-90****
0.033	13.0	11.0	5.0	10.0	0.6	HCL23/2J333-40****	0.15	26.5	15.0	6.0	22.5	0.8	HCL23/2J154-90****
0.047	13.0	11.0	5.0	10.0	0.6	HCL23/2J473-40****	0.22	26.5	16.0	7.0	22.5	0.8	HCL23/2J224-90****
0.068	13.0	12.0	6.0	10.0	0.6	HCL23/2J683-40****	0.33	26.5	16.0	7.0	22.5	0.8	HCL23/2J334-90****
0.033	18.0	11.0	5.0	15.0	0.8	HCL23/2J333-60****	0.47	26.5	17.0	8.5	22.5	0.8	HCL23/2J474-90****
0.047	18.0	11.0	5.0	15.0	0.8	HCL23/2J473-60****	0.68	26.5	22.0	12.0	22.5	0.8	HCL23/2J684-90****
0.068	18.0	11.0	5.0	15.0	0.8	HCL23/2J683-60****	0.33	32.0	18.0	9.0	27.5	0.8	HCL23/2J334-B0****
0.10	18.0	12.0	6.0	15.0	0.8	HCL23/2J104-60****	0.47	32.0	18.0	9.0	27.5	0.8	HCL23/2J474-B0****
0.15	18.0	13.5	7.5	15.0	0.8	HCL23/2J154-60****	0.68	32.0	20.0	11.0	27.5	0.8	HCL23/2J684-B0****
0.22	18.0	16.0	10.0	15.0	0.8	HCL23/2J224-60****	1.0	32.0	20.0	11.0	27.5	0.8	HCL23/2J105-B0****
0.33	18.0	19.0	11.0	15.0	0.8	HCL23/2J334-60****							

Notes: (1) "-"=capacitance tolerance code, J=±5%, K=±10%;  
 (2) "\*\*\*\*"=terminal code and packaging code (see table 1).

Outline Dimensions

1000Vd.c. (300Va.c.)													
C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information	C <sub>N</sub> (μF)	W (mm)	H (mm)	T (mm)	P (mm)	d (mm)	Ordering Information
0.0010	13.0	9.0	4.0	10.0	0.6	HCL23/3A102-40****	0.047	18.0	12.0	6.0	15.0	0.8	HCL23/3A473-60****
0.0015	13.0	9.0	4.0	10.0	0.6	HCL23/3A152-40****	0.068	18.0	13.5	7.5	15.0	0.8	HCL23/3A683-60****
0.0022	13.0	9.0	4.0	10.0	0.6	HCL23/3A222-40****	0.10	18.0	14.5	8.5	15.0	0.8	HCL23/3A104-60****
0.0033	13.0	9.0	4.0	10.0	0.6	HCL23/3A332-40****	0.033	26.5	15.0	6.0	22.5	0.8	HCL23/3A333-90****
0.0047	13.0	9.0	4.0	10.0	0.6	HCL23/3A472-40****	0.047	26.5	15.0	6.0	22.5	0.8	HCL23/3A473-90****
0.0056	13.0	9.0	4.0	10.0	0.6	HCL23/3A562-40****	0.068	26.5	15.0	6.0	22.5	0.8	HCL23/3A683-90****
0.0068	13.0	9.0	4.0	10.0	0.6	HCL23/3A682-40****	0.10	26.5	15.0	6.0	22.5	0.8	HCL23/3A104-90****
0.010	13.0	9.0	4.0	10.0	0.6	HCL23/3A103-40****	0.15	26.5	16.0	7.0	22.5	0.8	HCL23/3A154-90****
0.015	13.0	11.0	5.0	10.0	0.6	HCL23/3A153-40****	0.22	26.5	17.0	8.5	22.5	0.8	HCL23/3A224-90****
0.022	13.0	11.0	5.0	10.0	0.6	HCL23/3A223-40****	0.33	26.5	20.0	11.0	22.5	0.8	HCL23/3A334-90****
0.010	18.0	11.0	5.0	15.0	0.8	HCL23/3A103-60****	0.15	32.0	18.0	9.0	27.5	0.8	HCL23/3A154-B0****
0.015	18.0	11.0	5.0	15.0	0.8	HCL23/3A153-60****	0.22	32.0	18.0	9.0	27.5	0.8	HCL23/3A224-B0****
0.022	18.0	11.0	5.0	15.0	0.8	HCL23/3A223-60****	0.33	32.0	20.0	11.0	27.5	0.8	HCL23/3A334-B0****
0.033	18.0	12.0	6.0	15.0	0.8	HCL23/3A333-60****	1.5	32.0	37.0	22.0	27.5	0.8	HCL23/3A155-B0****

Notes: (1) "-"=capacitance tolerance code, J=±5%, K=±10%;  
 (2) "\*\*\*\*"=terminal code and packaging code (see table 1) .