

Film Chip Capacitor

Type: **ECHU(C)**

Stacked metallized PPS film as dielectric with simple mold-less construction

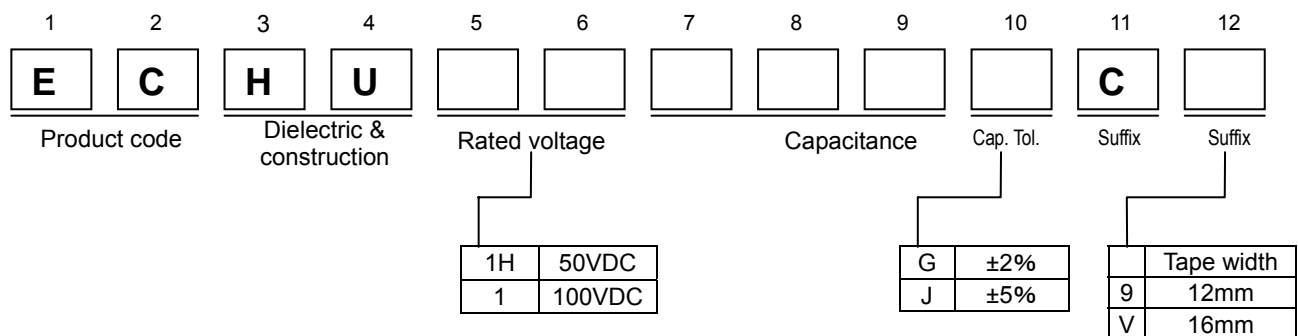
■ Features

- Small in size
- Low loss and excellent frequency characteristics

■ Recommended Applications

- Time-constant
- Filtering
- Oscillation and resonance
- Resonance circuit for LCD backlighting inverter unit

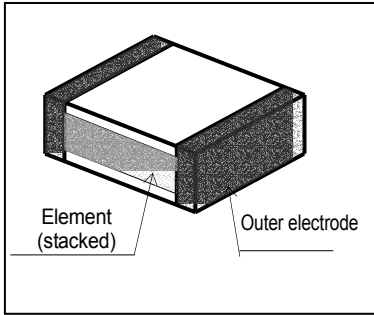
■ Explanation of Numbers



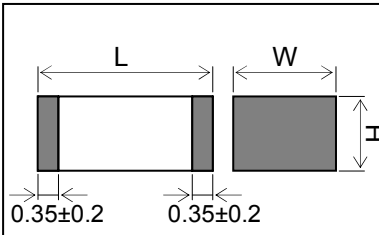
■ Specification

Category temp. range	50VDC: -55 to +125 °C	
	100VDC: -55 to +105 °C	
Rated voltage	50VDC (0.12μF or more: Derating of rated voltage by 1.25%/°C at more than 105°C), 100VDC	
Capacitance range	50VDC	0.047 to 0.22μF (E12)
	100VDC	0.01 to 0.22μF (E12)
Capacitance tolerance	±2%(G), ±5%(J)	
Withstand voltage	50VDC: Between terminals : Rated volt. (VDC) × 175% 1 to 5s 100VDC: Between terminals : Rated volt. (VDC) × 160% 60s	
Dissipation factor	0.6% or less (20°C, 1kHz)	
Insulation resistance	50VDC: 3000MΩ or more (20°C, 50VDC, 60s)	
	100VDC: 3000MΩ or more (20°C, 100VDC, 60s)	
Soldering conditions	50VDC	Flow soldering: 260°C max., 5s max. Reflow soldering: 260°C max. and 30 s max. at more than 230°C (Temp. at cap. Surface)
	100VDC	Reflow soldering: 260°C max. and 30 s max. at more than 230°C (Temp. at cap. Surface)

Construction



Dimensions in mm(not to scale)



Size code	L	Tol.	W	Tol.	H	Tol.
E1	4.8	±0.2	3.3	±0.3	1.4	±0.2
E2	4.8		3.3		2.0	
E3a	4.8		3.3		2.4	
E3	4.8		3.3		2.8	
D1	6.0		4.1		1.8	
D2	6.0	4.1	2.0			
D3	6.0	4.1	2.4			
D4	6.0	4.1	2.8			
D5	6.0	4.1	3.2			
Z	7.1	±0.4	5.0	±0.4	※	±0.3
Y	7.1		6.3			

※Refer to the column "Rating,Dimensions&Quantity"

Taping Specification for Automatic Insertion(Mounting)

See page ■ for automatic insertion

Rating,Dimensions & quantity/Reel

●Capacitance tolerance:±2%(G),±5%(J)

Cap. (μF)	Rated volt. 50VDC					Rated volt. 100VDC							
	Part No.	Dimensions(mm)			Sizecode	Quantity	Part No.	Dimensions(mm)			Sizecode	Quantity	
		L	W	H				L	W	H			
0.01						ECHU1103□C9	4.8	3.3	1.4	E1	3000		
0.012						ECHU1123□C9	4.8	3.3	1.4	E1			
0.015						ECHU1153□C9	4.8	3.3	2.0	E2			
0.018						ECHU1183□C9	4.8	3.3	2.0	E2			
0.022						ECHU1223□C9	4.8	3.3	2.4	E3a			
0.027						ECHU1273□C9	4.8	3.3	2.8	E3	2000		
0.033						ECHU1333□C9	6.0	4.1	1.8	D1	3000		
0.039						ECHU1393□C9	6.0	4.1	2.0	D2			
0.047	ECHU1H473□C9	4.8	3.3	1.4	E1	3000	ECHU1473□C9	6.0	4.1	2.4	D3	2000	
0.056	ECHU1H563□C9	4.8	3.3	2.0	E2		ECHU1563□C9	6.0	4.1	2.8	D4		
0.068	ECHU1H683□C9	4.8	3.3	2.0	E2		ECHU1683□C9	6.0	4.1	3.2	D5		
0.082	ECHU1H823□C9	4.8	3.3	2.4	E3a	2000	ECHU1823□C9	7.1	5.0	2.8	Z		1500
0.1	ECHU1H104□C9	4.8	3.3	2.8	E3		ECHU1104□C9	7.1	5.0	3.0	Z		
0.12	ECHU1H124□C9	6.0	4.1	1.8	D1	3000	ECHU1124□C9	7.1	5.0	3.4	Z		
0.15	ECHU1H154□C9	6.0	4.1	2.4	D3	2000	ECHU1154□CV	7.1	6.3	3.4	Y	1000	
0.18	ECHU1H184□C9	6.0	4.1	2.8	D4		ECHU1184□CV	7.1	6.3	4.0	Y		
0.22	ECHU1H224□C9	6.0	4.1	3.2	D5		ECHU1224□CV	7.1	6.3	4.8	Y		

Capacitance tolerance code

Example for Land Dimensions(mm)

Size code	Land dimensions					
	Flow soldering			Reflow soldering		
	A	B	C	A	B	C
E1,E2,E3a,E3	2.6	6.6	3.0	2.6	6.6	3.0
D1,D2,D3,D4,D5	3.8	7.8	3.8	3.8	7.8	3.8
Z	-	-	-	4.5	9.0	4.6
Y	-	-	-	4.5	9.0	5.7