

Stacked Metallized PPS Film Chip Capacitor

Type: **ECHU(X)**

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

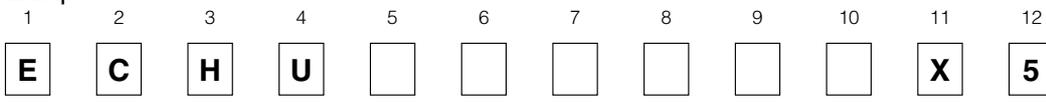
■Features

- Small in size (minimum size 1.6 mm × 0.8 mm)
- 85 °C, 85 %RH, W.V. × 1.0 for 500 hours
- For reflow soldering
- RoHS directive compliant

■Recommended Applications

- Time-constant
- Filtering
- Oscillation and resonance

■Explanation of Part Numbers



Product code	Dielectric & construction	Rated voltage	Capacitance	Cap. Tol.	Suffix	Suffix																		
		<table border="1"> <tr><td>01</td><td>10 VDC</td></tr> <tr><td>1C</td><td>16 VDC</td></tr> <tr><td>1H</td><td>50 VDC</td></tr> </table>	01	10 VDC	1C	16 VDC	1H	50 VDC		<table border="1"> <tr><td>G</td><td>±2 %</td></tr> <tr><td>J</td><td>±5 %</td></tr> </table>	G	±2 %	J	±5 %		<table border="1"> <tr><td></td><td>Tape width</td></tr> <tr><td></td><td>Reel diameter</td></tr> <tr><td>5</td><td>8 mm</td></tr> <tr><td></td><td>size ø180 mm</td></tr> </table>		Tape width		Reel diameter	5	8 mm		size ø180 mm
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■Specifications

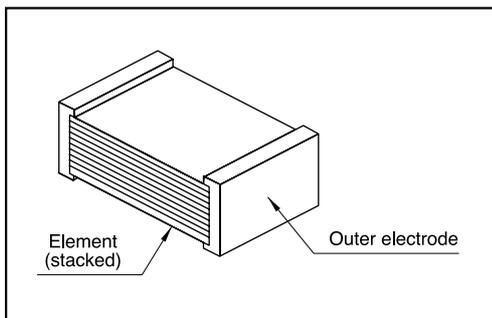
Category temp. range (Including temperature-rise on unit surface)	-55 °C to +125 °C
Rated voltage	10 VDC, 16 VDC, 50 VDC
Capacitance range	0.00010 µF to 0.10 µF (E12)
Capacitance tolerance	±2 % (G), ±5 % (J)
Withstand voltage	Between terminals : Rated volt. (VDC)×150 % 60 s
Dissipation factor (tanδ)	tanδ ≤ 0.6 % (20 °C, 1 kHz)
Insulation resistance (IR)	10 VDC : IR ≥ 3000 MΩ (20 °C, 10 VDC, 60 s) 16 VDC : IR ≥ 3000 MΩ (20 °C, 10 VDC, 60 s) 50 VDC : IR ≥ 3000 MΩ (20 °C, 50 VDC, 60 s)
Soldering conditions	Reflow soldering : 260 °C max. and 30 sec max. at more than 230 °C (Temp. at cap. surface)

*ø330 mm reel is prepared.

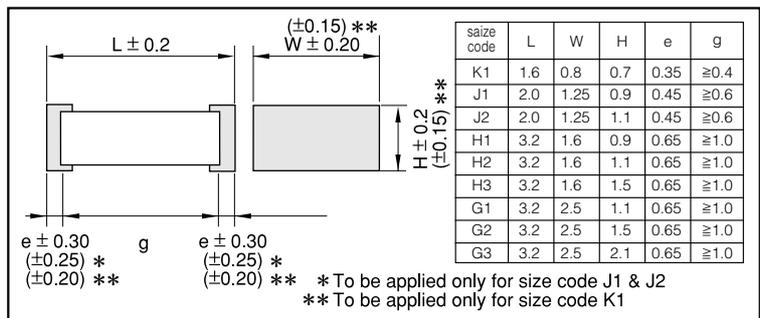
* Please consult us for flow soldering

* In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of "Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage".

■Construction



■Dimensions in mm (not to scale)



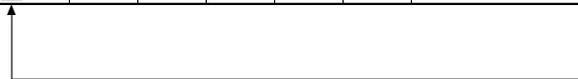
■ Taping Specification for Automatic Mounting

Refer to the page of taping specifications

■ Rating, Dimensions & Quantity/Reel

● Capacitance tolerance : ±2 % (G), ±5 % (J)

Cap. (μF)	Rated volt. 16 VDC					Q'ty	Rated volt. 50 VDC					Q'ty		
	Part No.	Dimensions (mm)			Size Code		Part No.	Dimensions (mm)			Size Code			
		L	W	H				L	W	H				
0.00010	ECHU1C101	X5	1.6	0.8	0.7	K1	4000	ECHU1H101	X5	2.0	1.25	0.9	J1	3000
0.00012	ECHU1C121	X5	1.6	0.8	0.7	K1		ECHU1H121	X5	2.0	1.25	0.9	J1	
0.00015	ECHU1C151	X5	1.6	0.8	0.7	K1		ECHU1H151	X5	2.0	1.25	0.9	J1	
0.00018	ECHU1C181	X5	1.6	0.8	0.7	K1		ECHU1H181	X5	2.0	1.25	0.9	J1	
0.00022	ECHU1C221	X5	1.6	0.8	0.7	K1		ECHU1H221	X5	2.0	1.25	0.9	J1	
0.00027	ECHU1C271	X5	1.6	0.8	0.7	K1		ECHU1H271	X5	2.0	1.25	0.9	J1	
0.00033	ECHU1C331	X5	1.6	0.8	0.7	K1		ECHU1H331	X5	2.0	1.25	0.9	J1	
0.00039	ECHU1C391	X5	1.6	0.8	0.7	K1		ECHU1H391	X5	2.0	1.25	0.9	J1	
0.00047	ECHU1C471	X5	1.6	0.8	0.7	K1		ECHU1H471	X5	2.0	1.25	0.9	J1	
0.00056	ECHU1C561	X5	1.6	0.8	0.7	K1		ECHU1H561	X5	2.0	1.25	0.9	J1	
0.00068	ECHU1C681	X5	1.6	0.8	0.7	K1		ECHU1H681	X5	2.0	1.25	0.9	J1	
0.00082	ECHU1C821	X5	1.6	0.8	0.7	K1		ECHU1H821	X5	2.0	1.25	0.9	J1	
0.0010	ECHU1C102	X5	1.6	0.8	0.7	K1		ECHU1H102	X5	2.0	1.25	0.9	J1	
0.0012	ECHU1C122	X5	1.6	0.8	0.7	K1		ECHU1H122	X5	2.0	1.25	0.9	J1	
0.0015	ECHU1C152	X5	1.6	0.8	0.7	K1		ECHU1H152	X5	2.0	1.25	0.9	J1	
0.0018	ECHU1C182	X5	1.6	0.8	0.7	K1		ECHU1H182	X5	2.0	1.25	0.9	J1	
0.0022	ECHU1C222	X5	1.6	0.8	0.7	K1	ECHU1H222	X5	2.0	1.25	0.9	J1		
0.0027	ECHU1C272	X5	1.6	0.8	0.7	K1	ECHU1H272	X5	2.0	1.25	0.9	J1		
0.0033	ECHU1C332	X5	2.0	1.25	0.9	J1	3000	ECHU1H332	X5	3.2	1.6	0.9	H1	2000
0.0039	ECHU1C392	X5	2.0	1.25	0.9	J1		ECHU1H392	X5	3.2	1.6	0.9	H1	
0.0047	ECHU1C472	X5	2.0	1.25	0.9	J1		ECHU1H472	X5	3.2	1.6	0.9	H1	
0.0056	ECHU1C562	X5	2.0	1.25	0.9	J1		ECHU1H562	X5	3.2	1.6	0.9	H1	
0.0068	ECHU1C682	X5	2.0	1.25	0.9	J1		ECHU1H682	X5	3.2	1.6	0.9	H1	
0.0082	ECHU1C822	X5	2.0	1.25	1.1	J2		ECHU1H822	X5	3.2	1.6	1.1	H2	
0.010	ECHU1C103	X5	2.0	1.25	1.1	J2		ECHU1H103	X5	3.2	1.6	1.1	H2	
0.012	ECHU1C123	X5	3.2	1.6	0.9	H1		ECHU1H123	X5	3.2	2.5	1.1	G1	
0.015	ECHU1C153	X5	3.2	1.6	0.9	H1		ECHU1H153	X5	3.2	2.5	1.1	G1	
0.018	ECHU1C183	X5	3.2	1.6	0.9	H1		ECHU1H183	X5	3.2	2.5	1.5	G2	
0.022	ECHU1C223	X5	3.2	1.6	0.9	H1		ECHU1H223	X5	3.2	2.5	1.5	G2	
0.027	ECHU1C273	X5	3.2	1.6	1.1	H2		ECHU1H273	X5	3.2	2.5	1.5	G2	
0.033	ECHU1C333	X5	3.2	1.6	1.1	H2		ECHU1H333	X5	3.2	2.5	2.1	G3	
0.039	ECHU1C393	X5	3.2	1.6	1.5	H3		ECHU1H393	X5	3.2	2.5	2.1	G3	
0.047	ECHU1C473	X5	3.2	1.6	1.5	H3		Please use 50 VDC rating of ECHU(C)						
0.056	ECHU1C563	X5	3.2	2.5	1.5	G2								
0.068	ECHU1C683	X5	3.2	2.5	1.5	G2								
0.082	ECHU1C823	X5	3.2	2.5	2.1	G3								
0.10	ECHU1C104	X5	3.2	2.5	2.1	G3								



Cap. tol. code

- Rating, Dimensions & Quantity/Reel
- Capacitance tolerance : $\pm 2\%$ (G), $\pm 5\%$ (J)

Cap. (μF)	Rated volt. 10 VDC						
	Part No.	Dimensions (mm)			Size Code	Q'ty	
		L	W	H			
0.00010							
0.00012							
0.00015							
0.00018							
0.00022							
0.00027							
0.00033							
0.00039							
0.00047							
0.00056							
0.00068							
0.00082							
0.0010							
0.0012							
0.0015							
0.0018							
0.0022							
0.0027							
0.0033	ECHU01332	X5	1.6	0.8	0.7	K1	4000
0.0039	ECHU01392	X5	1.6	0.8	0.7	K1	
0.0047	ECHU01472	X5	1.6	0.8	0.7	K1	
0.0056	ECHU01562	X5	1.6	0.8	0.7	K1	
0.0068	ECHU01682	X5	2.0	1.25	0.9	J1	3000
0.0082	ECHU01822	X5	2.0	1.25	0.9	J1	
0.010	ECHU01103	X5	2.0	1.25	0.9	J1	
0.012	ECHU01123	X5	2.0	1.25	0.9	J1	
0.015	ECHU01153	X5	2.0	1.25	0.9	J1	
0.018	ECHU01183	X5	2.0	1.25	0.9	J1	
0.022	ECHU01223	X5	2.0	1.25	1.1	J2	
0.027	ECHU01273	X5	2.0	1.25	1.1	J2	
0.033							
0.039							
0.047							
0.056							
0.068							
0.082							
0.10							

Please use 16 VDC rating of ECHU(X)

Please use 16 VDC rating of ECHU(X)

Cap. tol. code

■ Recommended for Land Dimensions (mm)

Size Code	Land dimensions		
	Reflow soldering		
	A	B	C
K1	0.6	2.0	0.7
J1,J2	0.8	2.4	1.1
H1,H2,H3	1.8	3.6	1.4
G1,G2,G3	1.8	3.6	2.3