

Film Chip Capacitor

Type: **ECHU(C)**

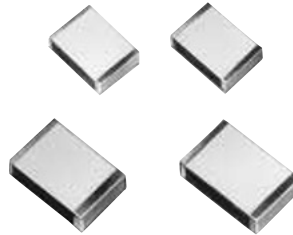
Stacked metallized PPS film as dielectric with simple mold - less construction

■ Features

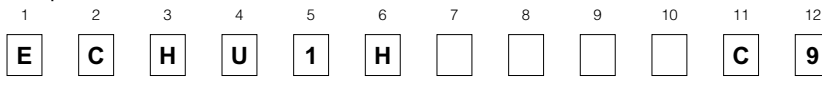
- ◆ Small in size
- ◆ Low loss and excellent frequency characteristics
- ◆ Applicable for both flow and reflow soldering

■ Recommended Applications

- ◆ Time - constant
- ◆ Filtering
- ◆ Oscillation and resonance
- ◆ Resonance circuit for LCD back-lighting inverter unit



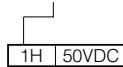
■ Explanation of Numbers



Product code

Dielectric & construction

Rated voltage

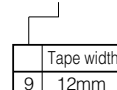


Capacitance

Cap. Tol. Suffix



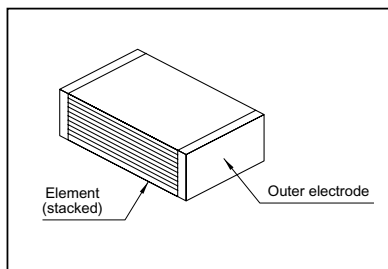
Suffix



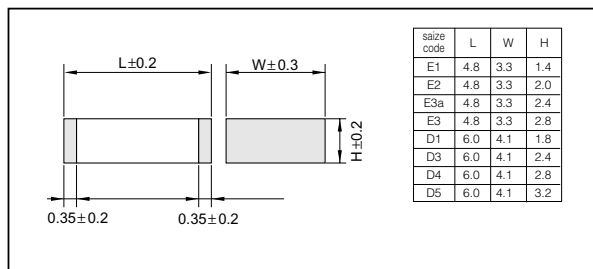
■ Specifications

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

■ Construction



■ Dimensions in mm (not to scale)



■ Taping Specification for Automatic Insertion(Mounting)

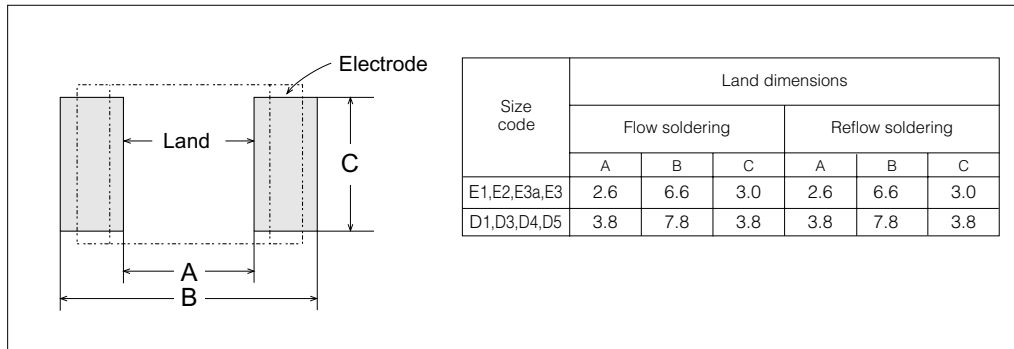
■ Rating, Dimensions & Quantity/Reel

● Capacitance tolerance : $\pm 2\%$ (G), $\pm 5\%$ (J)

Cap.(μ F)	Rated volt. 50VDC					
	Part No.	Dimensions (mm)			Size Code	Q'ty
		L	W	H		
0.047	ECHU1H473□C9	4.8	3.3	1.4	E1	3000
0.056	ECHU1H563□C9	4.8	3.3	2.0	E2	
0.068	ECHU1H683□C9	4.8	3.3	2.0	E2	
0.082	ECHU1H823□C9	4.8	3.3	2.4	E3a	2000
0.1	ECHU1H104□C9	4.8	3.3	2.8	E3	
0.12	ECHU1H124□C9	6.0	4.1	1.8	D1	
0.15	ECHU1H154□C9	6.0	4.1	2.4	D3	2000
0.18	ECHU1H184□C9	6.0	4.1	2.8	D4	
0.22	ECHU1H224□C9	6.0	4.1	3.2	D5	

↑ Capacitance tolerance code

■ Example for Land Dimensions (mm)

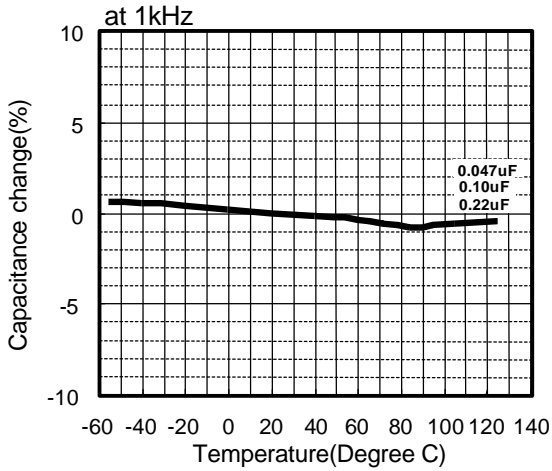




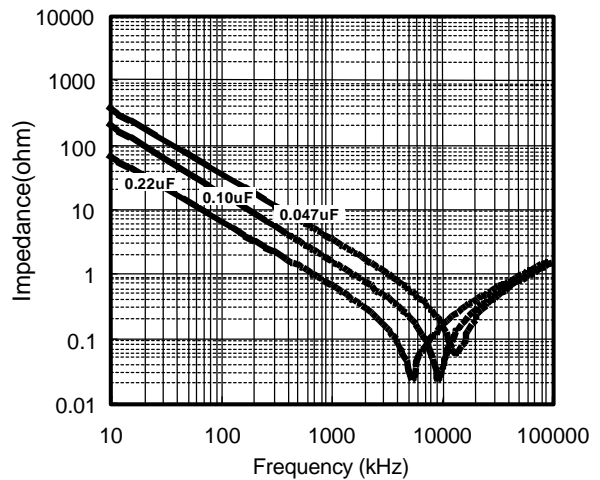
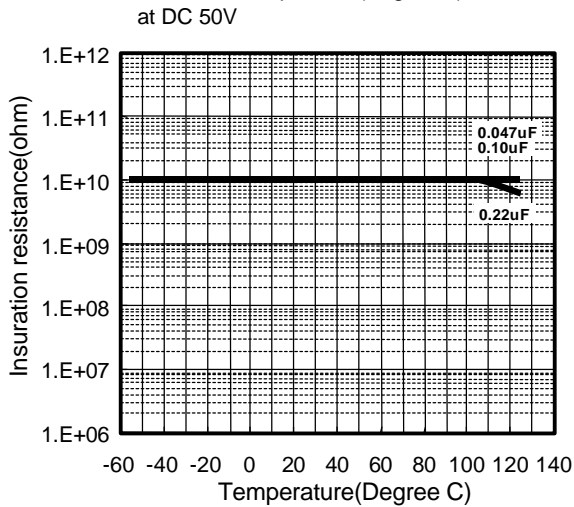
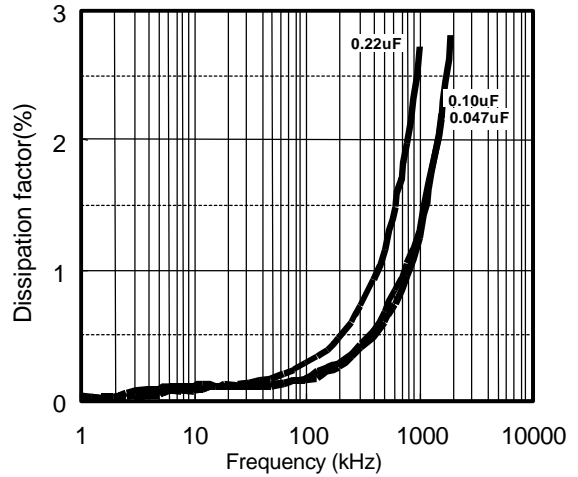
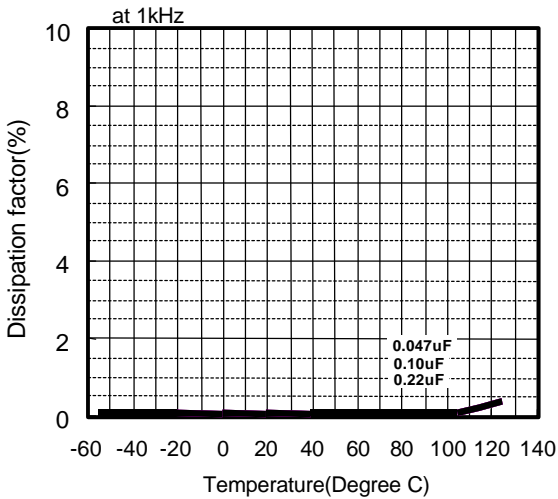
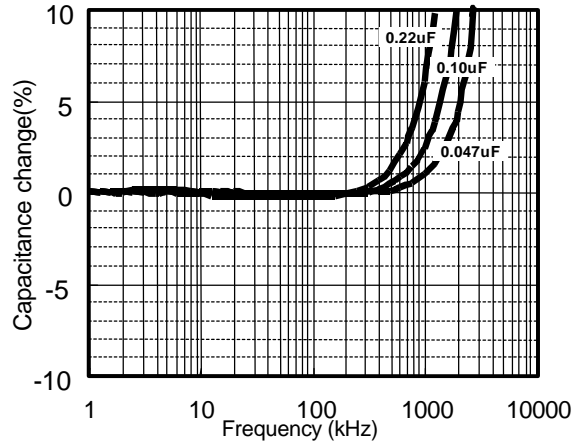
ECHU (C) Type DC50V series (Stacked Metallized Film)

Electrical Characteristics < Typical Data >

Temperature Characteristics

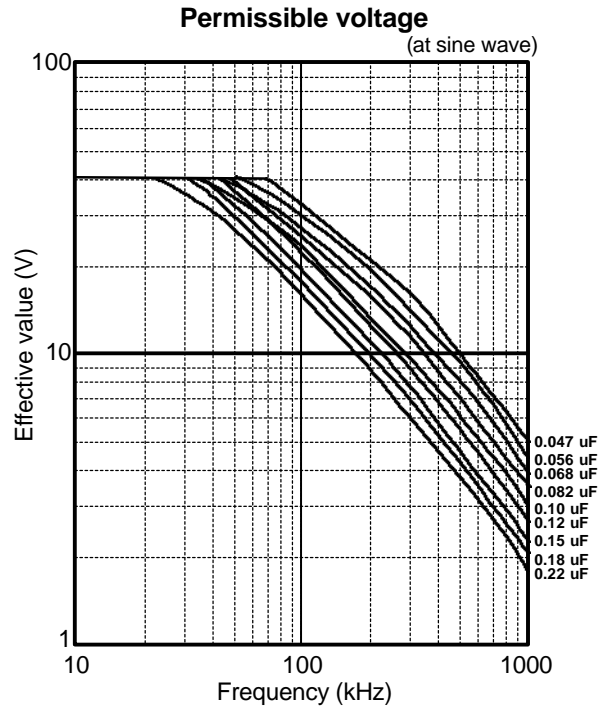
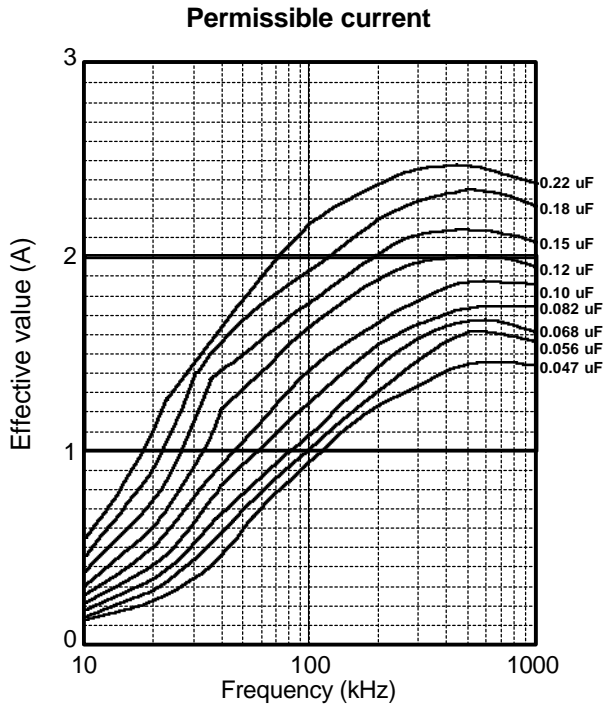


Frequency Characteristics



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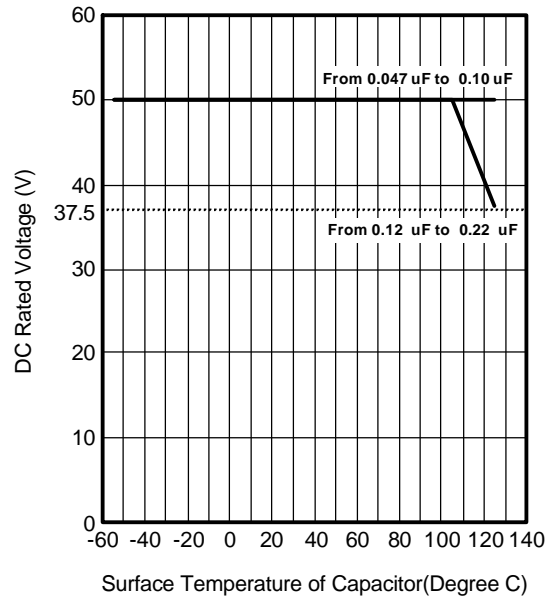
Applicable Specifications



**Pulse Handling Capability (dv/dt)
(Max 10000cycles)**

Rating Voltage	Capacitance Value(uF)	Code	dv/dt (V/us)	Current(I _{0-P}) (A)
DC 50V	0.047	473	180	8.5
	0.056	563		10.1
	0.068	683		12.2
	0.082	823		14.8
	0.10	104	130	18.0
	0.12	124		15.6
	0.15	154		19.5
	0.18	184		23.4
	0.22	224		28.6

Voltage Derating by Temperature



* Please consult Panasonic if your condition exceeds the above spec.

*Permissible voltage graph is the case of sine waveform. When you use this product, peak voltage must not exceed DC rated voltage.

*The current(I_{0-P}) value is calculated using nominal capacitance.