### **Panasonic**

## Metallized Polypropylene Film Capacitor

Series: ECWH(A)

Non-inductive construction using metallized polypropylene film with flame retardant epoxy resin coating

#### WHA 103H 800 V N6: WHA 223H 800 V N4: WHA 473H 800 V N4:

#### **Features**

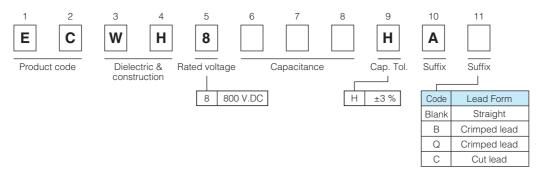
- Small size
- Excellent electrical characteristics
- Low loss
- Low Hum Sound Noise
- Flame retardant epoxy resin coating
- RoHS directive compliant

#### **Recommended applications**

General resonance circuit

#### **Explanation of part number**

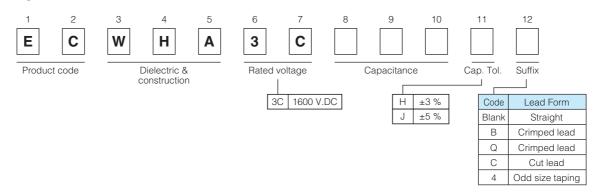
Rated voltage 800 V.DC (Bulk)



Rated voltage 800 V.DC (Odd size taping)



Rated voltage 1600 V.DC

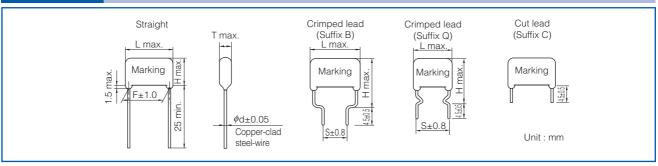


#### **Specifications**

Category temp. range (Including temperature-rise on unit surface)	− 40 °C to +105 °C							
Rated voltage	800 V.DC 1600 V.DC							
Capacitance range	0.010 μF to 0.047 μF	0.0010 μF to 0.047 μF						
Capacitance tolerance	±3 %(H)	±3 %(H), ±5 %(J)						
Dissipation factor (tan $\delta$ )	tan $\delta$ $\leq$ 0.1 % ( 20 °C, 1 kHz )							
Withstand voltage	Between terminals : Rated volt. (V.DC)×150 %, 60 s							
Insulation resistance (IR)	IR ≥ 30000 MΩ (20 °C, 500 V.DC, 60 s)							

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"

#### **Dimensions**

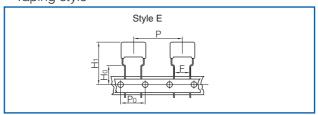


#### Packaging specifications for bulk package

Packing quantity: 100 pcs./bag

#### Taping specifications for automatic insertion

Taping style



\* Refer to the page of taping specifications.

#### Taping style

Series	Rated voltage	Capacitance range		Ta	pin	g st	yle		Packing	suffix	
	(V.DC)	(µF)		AS	В	С	D	Е	racking	SuillX	
ECWH(A)	800	0.010 to 0.047						0	Ammo	RHA	
	1600	0.0010 to 0.047						0	Ammo	( ) 4	

#### Lead spacing

Style	Lead spacing
E	7.5 mm

#### Rating · Dimensions · Quantity

■ Rated voltage: 800 V.DC, Capacitance tolerance: ±3 %(H)

			Dimensions (mm)									
Part No.	Cap.				H max.			S			Taping	Bulk
	(µF)	L max.	T max.	Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	F	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	φd	7.5 mm	Straight · Crimped lead
ECWH8103HA( )	0.010	15.4	5.4	9.8	14.8	14.8	12.5	7.5	12.5	0.6		
ECWH8123HA( )	0.012	15.4	5.8	10.2	15.2	15.2	12.5	7.5	12.5	0.6	500	
ECWH8153HA( )	0.015	15.4	6.2	10.6	15.6	15.6	12.5	7.5	12.5	0.6		
ECWH8183HA( )	0.018	15.7	6.6	11.0	16.0	18.0	12.5	7.5	12.5	0.8		
ECWH8223HA( )	0.022	15.7	7.1	11.5	16.5	18.5	12.5	7.5	12.5	0.8	400	500
ECWH8273HA( )	0.027	15.7	7.6	12.0	17.0	19.0	12.5	7.5	12.5	0.8	1 400	
ECWH8333HA( )	0.033	15.7	8.4	12.8	17.8	19.8	12.5	7.5	12.5	0.8		
ECWH8393HA( )	0.039	15.7	8.9	13.3	18.3	20.3	12.5	7.5	12.5	0.8	300	
ECWH8473HA( )	0.047	15.7	9.7	14.1	19.1	21.1	12.5	7.5	12.5	0.8	]	

<sup>\*</sup> H: Capacitance tolerance code

<sup>():</sup> Suffix for lead crimped taped type



#### Rating · Dimensions · Quantity

• Rated voltage: 1600 V.DC, Capacitance tolerance: ±3 %(H), ±5 %(J)

					Dime	ensions	(mm)			Min. order Q'ty				
Part No.	Cap. (µF)				H max.					3		Taping	g Bulk	
raitino.		(µĚ)		L max.	T max.	Straight	Crimped lead (Suffix B)	Crimped lead (Suffix Q)	F		Crimped lead (Suffix Q)	φd	7.5 mm	Straight
ECWHA3C102□( )	0.0010	17.8	5.2		13.0	13.0		10.0	15.0	0.6	600			
ECWHA3C112□( )	0.0011	17.8	5.4		13.1	13.1		10.0	15.0	0.6	600	-		
ECWHA3C122□( )	0.0012	17.8	5.5		13.2	13.2		10.0	15.0	0.6				
ECWHA3C132□( )	0.0013	17.8	5.7		13.4	13.4	_	10.0	15.0	0.6	500			
ECWHA3C152□( )	0.0015	17.8	5.9		13.7	13.7		10.0	15.0	0.6				
ECWHA3C162□( )	0.0016	17.8	6.1		13.9	13.9		10.0	15.0	0.6				
ECWHA3C182□( )	0.0018	17.8	6.4		14.1	14.1		10.0	15.0	0.6				
ECWHA3C202□( )	0.0020	17.8	6.6		14.3	14.3		10.0	15.0	0.6				
ECWHA3C222□( )	0.0022	17.8	6.7	_	14.5	14.5		10.0	15.0	0.6		_		
ECWHA3C242□( )	0.0024	17.8	7.0		14.7	14.7		10.0	15.0	0.6	1			
ECWHA3C272□( )	0.0027	17.8	5.2		13.0	13.0		10.0	15.0	0.6	600			
ECWHA3C302□( )	0.0030	17.8	5.5		13.2	13.2		10.0	15.0	0.6				
ECWHA3C332□( )	0.0033	17.8	5.6		13.4	13.4		10.0	15.0	0.6	1			
ECWHA3C362□()	0.0036	17.8	5.7		13.5	13.5		10.0	15.0	0.6				
ECWHA3C392□()	0.0039	17.8	6.0		13.8	13.8		10.0	15.0	0.6	500			
ECWHA3C432□( )	0.0043	17.8	6.2		13.9	13.9		10.0	15.0	0.6	1		1000	
ECWHA3C472□()	0.0047	17.8	6.4	9.1	14.1	14.1	15.0	10.0	15.0	0.6	1			
ECWHA3C512□( )	0.0051	17.8	6.6	9.4	14.4	14.4	15.0	10.0	15.0	0.6				
ECWHA3C562□()	0.0056	17.8	6.8	9.6	14.6	14.6	15.0	10.0	15.0	0.6	400			
ECWHA3C622□( )	0.0062	17.8	7.1	9.8	14.8	14.8	15.0	10.0	15.0	0.6	1			
ECWHA3C682□()	0.0068	17.8	6.1	12.1	17.1	17.1	15.0	10.0	15.0	0.6	500		1000	
ECWHA3C752□()	0.0075	17.8	6.5	12.4	17.4	17.4	15.0	10.0	15.0	0.6				
ECWHA3C822□( )	0.0082	17.8	6.8	12.7	17.7	17.7	15.0	10.0	15.0	0.6	400			
ECWHA3C912□()	0.0091	17.8	7.1	13.0	18.0	18.0	15.0	10.0	15.0	0.6	1	1000		
ECWHA3C103□()	0.010	20.3	6.4	12.3	17.3	17.3	17.5	10.0	17.5	0.6	500			
ECWHA3C113□( )	0.011	20.3	6.6	12.5	17.5	17.5	17.5	10.0	17.5	0.6				
ECWHA3C123□()	0.012	20.3	6.8	12.8	17.8	17.8	17.5	10.0	17.5	0.6	1			
ECWHA3C133□()	0.013	20.3	7.1	13.0	18.0	18.0	17.5	10.0	17.5	0.6	400			
ECWHA3C153□()	0.015	20.3	7.6	13.5	18.5	18.5	17.5	10.0	17.5	0.6	1			
ECWHA3C163□()	0.016	20.3	7.9	13.8	18.8	18.8	17.5	10.0	17.5	0.6	1			
ECWHA3C183□()	0.018	20.6	8.2	14.1	19.1	21.1	17.5	10.0	17.5	0.8				
ECWHA3C203□()		20.6	8.7	14.6	19.6	21.6	17.5	10.0	17.5	0.8	1			
	0.022	20.6	9.1	15.0	20.0	22.0	17.5	10.0	17.5	0.8	300			
ECWHA3C243□( )		20.6	9.6	15.4	20.4	22.4	17.5	10.0	17.5	0.8	1			
ECWHA3C273□()		20.6	10.0	15.9	20.9	22.9	17.5	10.0	17.5	0.8	1	000		
ECWHA3C303□()		20.6	10.7	16.5	21.5	23.5	17.5	10.0	17.5	0.8		800		
	0.033	20.6	11.2	17.0	22.0	24.0	17.5	10.0	17.5	0.8	200			
	0.036	20.6	11.7	17.5	22.5	24.5	17.5	10.0	17.5	0.8				
	0.039	20.6	12.1	18.0	23.0	25.0	17.5	10.0	17.5	0.8				
ECWHA3C433□( )		20.6	12.8	18.6	23.6	25.6	17.5	10.0	17.5	0.8	1	000		
	0.047	20.6	13.4	19.2	24.2	26.2	17.5	10.0	17.5	0.8	1	600	800	
						=			- 1		1			

 $<sup>{\</sup>color{red} \bigstar} \; \square$  : Capacitance tolerance code

<sup>():</sup> Suffix for lead crimped taped type



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