

ITEM CODE	CAP. μF (*)	DIMENSIONS					VOLUME (mm <sup>3</sup> )	ITEM CODE	CAP. μF (*)	DIMENSIONS					VOLUME (mm <sup>3</sup> )
		L	T	H	S	d				L	T	H	S	d	
ECWHA3C102 () B	0.001 (102)	17.8	5.2	8.0	10.0	0.6	605	ECWHA3C103 () B	0.010 (103)	20.3	6.4	12.3	10.0	0.6	1345
" 3C112 () B	0.0011 (112)	"	5.4	8.1	"	"	634	" 3C113 () B	0.011 (113)	"	6.6	12.5	"	"	1407
" 3C122 () B	0.0012 (122)	"	5.5	8.2	"	"	652	" 3C123 () B	0.012 (123)	"	6.8	12.8	"	"	1491
" 3C132 () B	0.0013 (132)	"	5.7	8.4	"	"	691	" 3C133 () B	0.013 (133)	"	7.1	13.0	"	"	1578
" 3C152 () B	0.0015 (152)	"	5.9	8.7	"	"	742	" 3C153 () B	0.015 (153)	"	7.6	13.5	"	"	1736
" 3C162 () B	0.0016 (162)	"	6.1	8.9	"	"	775	" 3C163 () B	0.016 (163)	"	7.9	13.8	"	"	1829
" 3C182 () B	0.0018 (182)	"	6.4	9.1	"	"	830	" 3C183 () B	0.018 (183)	20.6	8.2	14.1	"	0.8	1998
" 3C202 () B	0.002 (202)	"	6.6	9.3	"	"	873	" 3C203 () B	0.02 (203)	"	8.7	14.6	"	"	2175
" 3C222 () B	0.0022 (222)	"	6.7	9.5	"	"	909	" 3C223 () B	0.022 (223)	"	9.1	15.0	"	"	2320
" 3C242 () B	0.0024 (242)	"	7.0	9.7	"	"	970	" 3C243 () B	0.024 (243)	"	9.6	15.4	"	"	2510
" 3C272 () B	0.0027 (272)	"	5.2	8.0	"	"	605	" 3C273 () B	0.027 (273)	"	10.0	15.9	"	"	2707
" 3C302 () B	0.003 (302)	"	5.5	8.2	"	"	652	" 3C303 () B	0.03 (303)	"	10.7	16.5	"	"	2989
" 3C332 () B	0.0033 (332)	"	5.6	8.4	"	"	683	" 3C333 () B	0.033 (333)	"	11.2	17.0	"	"	3203
" 3C362 () B	0.0036 (362)	"	5.7	8.5	"	"	702	" 3C363 () B	0.036 (363)	"	11.7	17.5	"	"	3425
" 3C392 () B	0.0039 (392)	"	6.0	8.8	"	"	754	" 3C393 () B	0.039 (393)	"	12.1	18.0	"	"	3654
" 3C432 () B	0.0043 (432)	"	6.2	8.9	"	"	788	" 3C433 () B	0.043 (433)	"	12.8	18.6	"	"	3979
" 3C472 () B	0.0047 (472)	"	6.4	9.1	"	"	830	" 3C473 () B	0.047 (473)	"	13.4	19.2	"	"	4277
" 3C512 () B	0.0051 (512)	"	6.6	9.4	"	"	887								
" 3C562 () B	0.0056 (562)	"	6.8	9.6	"	"	932								
" 3C622 () B	0.0062 (622)	"	7.1	9.8	"	"	993								
" 3C682 () B	0.0068 (682)	"	6.1	12.1	"	"	1109								
" 3C752 () B	0.0075 (752)	"	6.5	12.4	"	"	1207								
" 3C822 () B	0.0082 (822)	"	6.8	12.7	"	"	1280								
" 3C912 () B	0.0091 (912)	"	7.1	13.0	"	"	1356								

TOL. SYMBOL (H or J)

PACKING QUANTITY

Capacitance range (μF)	Quantity (pcs.)
0.001 ~ 0.0013	4000
0.0027 ~ 0.0036	
0.0015 ~ 0.0024	3000
0.0039 ~ 0.0062	
0.0068 ~ 0.0075	2600
0.0082 ~ 0.011	2200
0.012 ~ 0.013	2000
0.015 ~ 0.016	1600
0.018 ~ 0.02	1400
0.022 ~ 0.033	1200
0.036 ~ 0.043	1000
0.047	800

UNIT of MINIMUM ORDER

Capacitance range (μF)	Quantity (pcs.)
0.001 ~ 0.043	1000
0.047	800

CONSTRUCTION

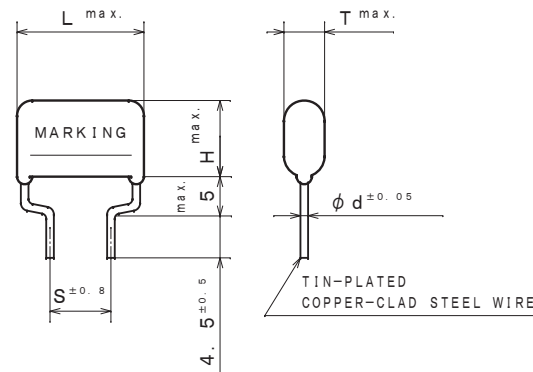
The capacitor is of non-inductive construction, wound with metallized polypropylene film dielectric.  
The capacitor is enclosed in non-combustible epoxy resin and has two leads.

MARKING

Marking comprises capacitance, capacitance tolerance, rated voltage, type name "WHA" and manufacturer's date code.

PROPERTIES

- \*Capacitance : See table at 1kHz.
- \*Capacitance tolerance : ±3% (H), ±5% (J) at 1kHz.
- \*Rated voltage : 1600VDC
- \*Withstand voltage (terminal-terminal) : 1600VDC×150% for 60s
- \*Insulation resistance : ≥30000MΩ at 500VDC, 20°C for 60s
- \*Dissipation factor : ≤0.1% at 1kHz, 20°C
- \*Category temperature range : From -40°C to +105°C (including temperature rise on unit surface)



ALTERATION		
ISSUE	DESCRIPTION	DATE
△	Company name changed Correction	Apr. 1 2012
△	Company name changed	Apr. 1 2013
△	Company name changed	Apr. 1 2015
△	Company name changed	Apr. 1 2022
SPECIFICATIONS No.		

MARKING EXAMPLE

W H A 3 C  
1 0 3 H   
date code

DESIGN	M. MEKADA
CHECKED	H. YAMADA
APPROVAL	T. KATO
ESTABLISHMENT	Sep. 12, 2011
TYPE NAME	
ECWHA3C*** () B	
NAME Metallized Polypropylene Film Capacitor	
DRAWING NAME	
PRODUCT DRAWING	
DRAWING No.	
A019J-J-E (1/1)	

Film Capacitor Business Unit  
Device Solutions Business Division  
Panasonic Industry Co., Ltd.

ITEM CODE	CAP. μF (*)	DIMENSIONS					VOLUME (mm <sup>3</sup> )	ITEM CODE	CAP. μF (*)	DIMENSIONS					VOLUME (mm <sup>3</sup> )
		L	T	H	S	d				L	T	H	S	d	
ECWHA3C102 ( ) Q	0.001 (102)	17.8	5.2	8.0	15.0	0.6	605	ECWHA3C103 ( ) Q	0.010 (103)	20.3	6.4	12.3	17.5	0.6	1345
" 3C112 ( ) Q	0.0011 (112)	"	5.4	8.1	"	"	634	" 3C113 ( ) Q	0.011 (113)	"	6.6	12.5	"	"	1407
" 3C122 ( ) Q	0.0012 (122)	"	5.5	8.2	"	"	652	" 3C123 ( ) Q	0.012 (123)	"	6.8	12.8	"	"	1491
" 3C132 ( ) Q	0.0013 (132)	"	5.7	8.4	"	"	691	" 3C133 ( ) Q	0.013 (133)	"	7.1	13.0	"	"	1578
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" 3C162 ( ) Q	0.0016 (162)	"	6.1	8.9	"	"	775	" 3C163 ( ) Q	0.016 (163)	"	7.9	13.8	"	"	1829
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" 3C562 ( ) Q	0.0056 (562)	"	6.8	9.6	"	"	932								
" 3C622 ( ) Q	0.0062 (622)	"	7.1	9.8	"	"	993								
" 3C682 ( ) Q	0.0068 (682)	"	6.1	12.1	"	"	1109								
" 3C752 ( ) Q	0.0075 (752)	"	6.5	12.4	"	"	1207								
" 3C822 ( ) Q	0.0082 (822)	"	6.8	12.7	"	"	1280								
" 3C912 ( ) Q	0.0091 (912)	"	7.1	13.0	"	"	1356								

TOL. SYMBOL (H or J)

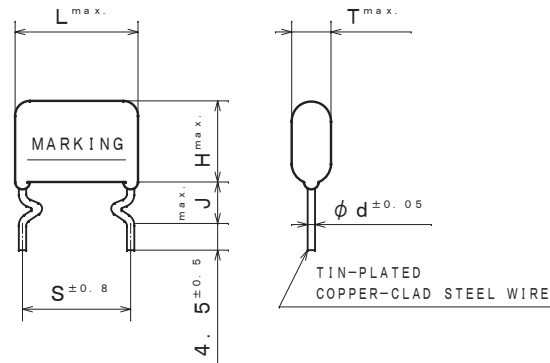
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0.0015 ~ 0.0024	3000
0.0039 ~ 0.0062	
0.0068 ~ 0.0075	2600
0.0082 ~ 0.011	
0.012 ~ 0.013	2000
0.015 ~ 0.016	
0.018 ~ 0.02	1400
0.022 ~ 0.033	
0.036 ~ 0.043	1000
0.047	

UNIT of MINIMUM ORDER

Capacitance range (μF)	Quantity (pcs.)
0.001 ~ 0.043	1000
0.047	800

φd	J
0.6	5.0
0.8	7.0



CONSTRUCTION

The capacitor is of non-inductive construction, wound with metallized polypropylene film dielectric.  
The capacitor is enclosed in non-combustible epoxy resin and has two leads.

MARKING

Marking comprises capacitance, capacitance tolerance, rated voltage, type name "WHA" and manufacturer's date code.

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ALTERATION

ISSUE	DESCRIPTION	DATE
△	Company name changed	Apr. 1
	Correction	2012
△	Company name changed	Apr. 1
		2013
△	Company name changed	Apr. 1
		2015
△	Company name changed	Apr. 1
		2022

SPECIFICATIONS No.

MARKING EXAMPLE

W H A 3 C  
1 0 3 H [ ]  
date code

DESIGN	M. MEKADA
CHECKED	H. YAMADA
APPROVAL	T. KATO
ESTABLISHMENT	Sep. 12, 2011
TYPE NAME	ECWHA3C*** ( ) Q
NAME	Metallized Polypropylene Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	A021J-J-E (1/1)

Film Capacitor Business Unit  
Device Solutions Business Division  
Panasonic Industry Co., Ltd.