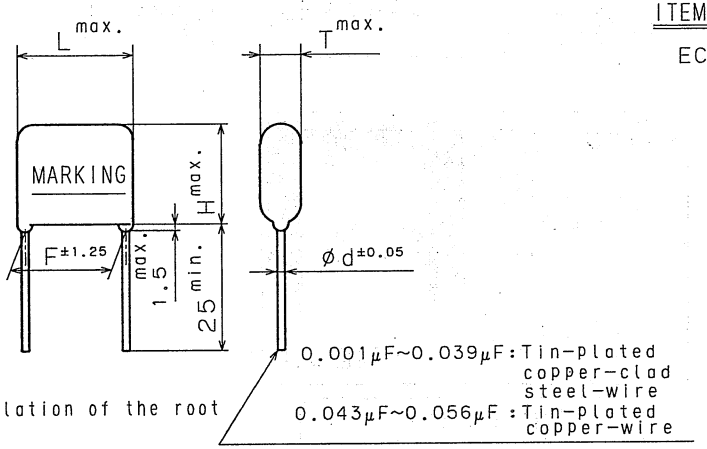
THIRD ANGLE PROJECTION

ITEM CODE	CAPACITANCE μF	(*)	DIMENSIONS L	T	H	F	d	MARKING STYLE
ECWH 8102()L	0.001	(102)	18.0	5.0	11.5	15.0	0.6	1
// 8112()L	0.0011	(112)	//	//	12.0	//	//	//
// 8122()L	0.0012	(122)	//	//	//	//	//	//
// 8132()L	0.0013	(132)	//	5.5	//	//	//	//
// 8152()L	0.0015	(152)	//	//	12.5	//	//	//
// 8162()L	0.0016	(162)	//	//	//	//	//	//
// 8182()L	0.0018	(182)	//	6.0	//	//	//	//
// 8202()L	0.002	(202)	//	//	13.0	//	//	//
// 8222()L	0.0022	(222)	//	5.0	11.5	//	//	//
// 8242()L	0.0024	(242)	//	//	12.0	//	//	//
// 8272()L	0.0027	(272)	//	//	//	//	//	//
// 8302()L	0.003	(302)	//	5.5	//	//	//	//
// 8332()L	0.0033	(332)	//	//	//	//	//	//
// 8362()L	0.0036	(362)	//	//	12.5	//	//	//
// 8392()L	0.0039	(392)	//	//	//	//	//	//
// 8432()L	0.0043	(432)	//	5.0	12.0	//	//	//
// 8472()L	0.0047	(472)	//	//	//	//	//	//
// 8512()L	0.0051	(512)	//	5.5	//	//	//	//
// 8562()L	0.0056	(562)	//	//	//	//	//	//
// 8622()L	0.0062	(622)	//	//	12.5	//	//	//
// 8682()L	0.0068	(682)	//	6.0	//	//	//	//
// 8752()L	0.0075	(752)	//	//	13.0	//	//	//
// 8822()L	0.0082	(822)	//	//	//	//	//	//
// 8912()L	0.0091	(912)	//	6.5	//	//	//	//
// 8103()L	0.01	(103)	//	//	13.5	//	//	//
// 8113()L	0.011	(113)	//	7.0	//	//	//	//
// 8123()L	0.012	(123)	//	5.0	11.5	//	//	//
// 8133()L	0.013	(133)	//	//	12.0	//	//	//
// 8153()L	0.015	(153)	//	5.5	//	//	//	//
// 8163()L	0.016	(163)	//	//	//	//	//	//
// 8183()L	0.018	(183)	//	//	12.5	//	//	//
// 8203()L	0.02	(203)	//	6.0	//	//	//	//
// 8223()L	0.022	(223)	//	//	13.0	//	//	//
// 8243()L	0.024	(243)	//	//	//	//	//	//

ITEM CODE	CAPACITANCE μF	(*)	DIMENSIONS L	T	H	F	d	MARKING STYLE
ECWH 8273()L	0.027	(273)	23.0	5.0	13.5	20.0	0.6	1
// 8303()L	0.03	(303)	//	5.5	//	//	//	//
// 8333()L	0.033	(333)	//	//	14.0	//	//	//
// 8363()L	0.036	(363)	//	//	//	//	//	//
// 8393()L	0.039	(393)	//	6.0	//	//	//	//
// 8433()L	0.043	(433)	//	//	14.5	//	0.8	2
// 8473()L	0.047	(473)	//	//	//	//	//	//
// 8513()L	0.051	(513)	//	6.5	15.0	//	//	//
// 8563()L	0.056	(563)	//	//	//	//	//	//

ALTERATION		
ISSUE	DESCRIPTION	DATE
SPECIFICATIONS No.		



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ITEM CODE NUMBER STRUCTURE

ECWH 8102HL (800VDC, 0.001μF, ±3%)

- Radial leads
- Capacitance tolerance (H=±3%, J=±5%)
- Capacitance: See table(*)
- Rated voltage (8=800VDC)

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, manufacturer's trademark and type name "WHL" and manufacturer's date code.

PROPERTIES

Capacitance	: See table at 1kHz
Capacitance tolerance	: ±3%(H), ±5%(J)
Rated voltage	: 800VDC
Withstand voltage	
(terminal-terminal)	: DC Rated voltage X 140% for 60s
(terminal-enclosure)	: 1500VAC for 60s
Insulation resistance	: 30,000MΩ or more, at 500VDC, 20℃ for 60s
Dissipation factor	: 0.1% or less at 1kHz, 0.2% or less at 10kHz
Category temperature range	: From -40℃ to +110℃
(including temperature rise on unit surface)	

(example)

STYLE 1	STYLE 2
WHL 102 H Ⓜ 800VDC ↑ date code	WHL 433 H Ⓜ 800VDC ↑ date code

*The marking of 'Ⓜ' with the underline means that the copper wire is used for the lead wire, while the one without the underline means that tinned copper clad-steel wire is used.

Reference

DESIGN	E. Takeuchi
CHECKED	M. Kuroki
APPROVAL	S. Yamamura
ESTABLISHMENT	Sep. 5.2003
TYPE NAME	ECWH 8□□□()L
NAME	METALLIZED POLYPROPYLENE CAPACITOR
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	3085J-J-E(1/1)

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Electronic Circuit Capacitor Division,
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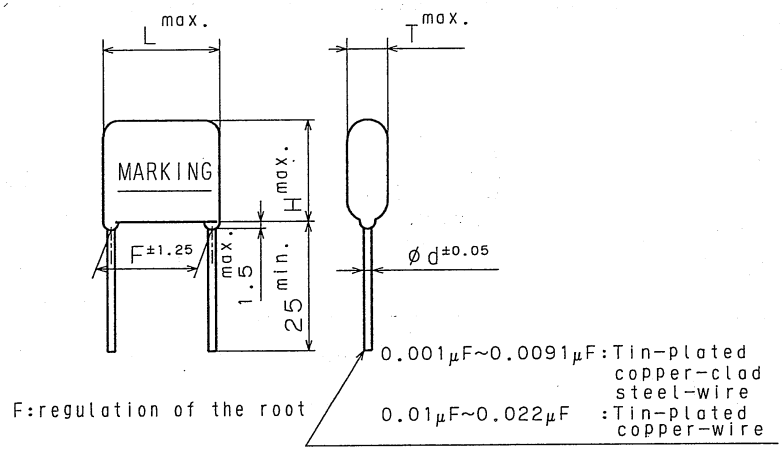
THIRD ANGLE PROJECTION

ITEM CODE	CAPACITANCE μF	(*)	DIMENSIONS L	T	H	F	d	MARKING STYLE
ECWH 12102()L	0.001	(102)	18.0	5.0	11.5	15.0	0.6	1
〃 12112()L	0.0011	(112)	〃	〃	12.0	〃	〃	〃
〃 12122()L	0.0012	(122)	〃	〃	〃	〃	〃	〃
〃 12132()L	0.0013	(132)	〃	5.5	〃	〃	〃	〃
〃 12152()L	0.0015	(152)	〃	〃	12.5	〃	〃	〃
〃 12162()L	0.0016	(162)	〃	〃	〃	〃	〃	〃
〃 12182()L	0.0018	(182)	〃	6.0	〃	〃	〃	〃
〃 12202()L	0.002	(202)	〃	〃	13.0	〃	〃	〃
〃 12222()L	0.0022	(222)	〃	5.0	11.5	〃	〃	〃
〃 12242()L	0.0024	(242)	〃	〃	12.0	〃	〃	〃
〃 12272()L	0.0027	(272)	〃	〃	〃	〃	〃	〃
〃 12302()L	0.003	(302)	〃	5.5	〃	〃	〃	〃
〃 12332()L	0.0033	(332)	〃	〃	〃	〃	〃	〃
〃 12362()L	0.0036	(362)	〃	〃	12.5	〃	〃	〃
〃 12392()L	0.0039	(392)	〃	〃	〃	〃	〃	〃
〃 12432()L	0.0043	(432)	〃	6.0	〃	〃	〃	〃
〃 12472()L	0.0047	(472)	〃	5.0	12.0	〃	〃	〃
〃 12512()L	0.0051	(512)	〃	5.5	〃	〃	〃	〃
〃 12562()L	0.0056	(562)	〃	〃	〃	〃	〃	〃
〃 12622()L	0.0062	(622)	〃	〃	12.5	〃	〃	〃
〃 12682()L	0.0068	(682)	〃	6.0	〃	〃	〃	〃
〃 12752()L	0.0075	(752)	〃	〃	13.0	〃	〃	〃
〃 12822()L	0.0082	(822)	〃	〃	〃	〃	〃	〃
〃 12912()L	0.0091	(912)	〃	6.5	〃	〃	〃	〃
〃 12103()L	0.01	(103)	〃	〃	13.5	〃	0.8	2
〃 12113()L	0.011	(113)	〃	7.0	〃	〃	〃	〃
〃 12123()L	0.012	(123)	〃	〃	14.0	〃	〃	〃
〃 12133()L	0.013	(133)	〃	7.5	〃	〃	〃	〃
〃 12153()L	0.015	(153)	〃	8.0	14.5	〃	〃	〃
〃 12163()L	0.016	(163)	〃	8.0	15.0	〃	〃	〃
〃 12183()L	0.018	(183)	23.0	6.5	15.0	20.0	〃	〃
〃 12203()L	0.02	(203)	〃	〃	〃	〃	〃	〃
〃 12223()L	0.022	(223)	〃	7.0	15.5	〃	〃	〃



ALTERATION		
ISSUE	DESCRIPTION	DATE
SPECIFICATIONS No.		

ITEM CODE NUMBER STRUCTURE

ECWH12102HL (1250VDC,0.001μF,±3%)

- Radial leads
- Capacitance tolerance (H=±3%,J=±5%)
- Capacitance:See table(*)
- Rated voltage(12=1250VDC)

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, manufacturer's trademark and type name "WHL" and manufacturer's date code.

PROPERTIES

Capacitance	: See table at 1kHz
Capacitance tolerance	: ±3%(H),±5%(J)
Rated voltage	: 1250VDC
Withstand voltage	
(terminal-terminal)	: DC Rated voltage X 140% for 60s
(terminal-enclosure)	: 1500VAC for 60s
Insulation resistance	: 30,000MΩ or more, at 500VDC, 20℃ for 60s
Dissipation factor	: 0.1% or less at 1kHz, 0.2% or less at 10kHz
Category temperature range	: From -40℃ to +110℃
(including temperature rise on unit surface)	

(example)

STYLE 1	STYLE 2
WHL 102 H Ⓜ1.25kVDC date code	WHL 103 H Ⓜ1.25kVDC date code

*The marking of 'Ⓜ' with the underline means that the copper wire is used for the lead wire, while the one without the underline means that tinned copper clad-steel wire is used.

Reference

DESIGN	E. Takeda
CHECKED	M. Kashio
APPROVAL	S. Yamamura
ESTABLISHMENT	Sep. 5.2003
TYPE NAME	ECWH 12xxx()L
NAME	METALLIZED POLYPROPYLENE CAPACITOR
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	3086J-J-E(1/1)

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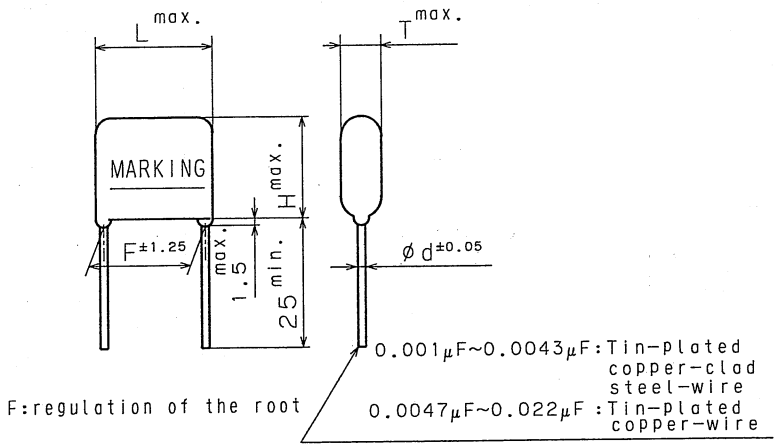
Electronic Circuit Capacitor Division,
Matsushita Electric Industrial CO.,Ltd.

THIRD ANGLE PROJECTION

ITEM CODE	CAPACITANCE μF	(*)	DIMENSIONS L	T	H	F	d	MARKING STYLE
ECWH 16102()L	0.001	(102)	18.0	5.0	11.5	15.0	0.6	1
〃 16112()L	0.0011	(112)	〃	〃	12.0	〃	〃	〃
〃 16122()L	0.0012	(122)	〃	〃	〃	〃	〃	〃
〃 16132()L	0.0013	(132)	〃	5.5	〃	〃	〃	〃
〃 16152()L	0.0015	(152)	〃	〃	12.5	〃	〃	〃
〃 16162()L	0.0016	(162)	〃	〃	〃	〃	〃	〃
〃 16182()L	0.0018	(182)	〃	6.0	〃	〃	〃	〃
〃 16202()L	0.002	(202)	〃	〃	13.0	〃	〃	〃
〃 16222()L	0.0022	(222)	〃	〃	〃	〃	〃	〃
〃 16242()L	0.0024	(242)	〃	6.5	〃	〃	〃	〃
〃 16272()L	0.0027	(272)	〃	5.0	12.0	〃	〃	〃
〃 16302()L	0.003	(302)	〃	5.5	〃	〃	〃	〃
〃 16332()L	0.0033	(332)	〃	〃	〃	〃	〃	〃
〃 16362()L	0.0036	(362)	〃	〃	12.5	〃	〃	〃
〃 16392()L	0.0039	(392)	〃	〃	〃	〃	〃	〃
〃 16432()L	0.0043	(432)	〃	6.0	〃	〃	〃	〃
〃 16472()L	0.0047	(472)	〃	7.0	13.5	〃	0.8	2
〃 16512()L	0.0051	(512)	〃	〃	14.0	〃	〃	〃
〃 16562()L	0.0056	(562)	〃	7.5	〃	〃	〃	〃
〃 16622()L	0.0062	(622)	〃	〃	14.5	〃	〃	〃
〃 16682()L	0.0068	(682)	〃	8.0	〃	〃	〃	〃
〃 16752()L	0.0075	(752)	〃	〃	15.0	〃	〃	〃
〃 16822()L	0.0082	(822)	〃	8.5	15.5	〃	〃	〃
〃 16912()L	0.0091	(912)	〃	9.0	〃	〃	〃	〃
〃 16103()L	0.01	(103)	23.0	7.0	15.0	20.0	〃	〃
〃 16113()L	0.011	(113)	〃	〃	15.5	〃	〃	〃
〃 16123()L	0.012	(123)	〃	7.5	〃	〃	〃	〃
〃 16133()L	0.013	(133)	〃	〃	16.0	〃	〃	〃
〃 16153()L	0.015	(153)	〃	8.0	16.5	〃	〃	〃
〃 16163()L	0.016	(163)	〃	〃	〃	〃	〃	〃
〃 16183()L	0.018	(183)	〃	8.5	17.0	〃	〃	〃
〃 16203()L	0.02	(203)	〃	9.0	17.5	〃	〃	〃
〃 16223()L	0.022	(223)	〃	9.5	18.0	〃	〃	〃



ALTERATION

ISSUE	DESCRIPTION	DATE

SPECIFICATIONS No.

ITEM CODE NUMBER STRUCTURE

ECWH16102HL (1600VDC,0.001μF,±3%)

- Radial leads
- Capacitance tolerance (H=±3%, J=±5%)
- Capacitance:See table(*)
- Rated voltage(16=1600VDC)

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, manufacturer's trademark and type name "WHL" and manufacturer's date code.

PROPERTIES

Capacitance	: See table at 1kHz
Capacitance tolerance	: ±3%(H),±5%(J)
Rated voltage	: 1600VDC
Withstand voltage (terminal-terminal)	: DC Rated voltage x 140% for 60s
(terminal-enclosure)	: 1500VAC for 60s
Insulation resistance	: 30,000MΩ or more, at 500VDC, 20℃ for 60s
Dissipation factor	: 0.1% or less at 1kHz, 0.2% or less at 10kHz
Category temperature range (including temperature rise on unit surface)	: From -40℃ to +110℃

(example)

STYLE 1	STYLE 2
WHL102H Ⓜ 1.6kVDC	WHL472H Ⓜ 1.6kVDC
date code	date code

*The marking of 'Ⓜ' with the underline means that the copper wire is used for the lead wire, while the one without the underline means that tinned copper clad-steel wire is used.

Reference

DESIGN	E. Takeda
CHECKED	M. Kashio
APPROVAL	S. Yamamura
ESTABLISHMENT	Sep. 5.2003
TYPE NAME	ECWH 16□□□()L
NAME	METALLIZED POLYPROPYLENE CAPACITOR
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	3087J-J-E(1/1)

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