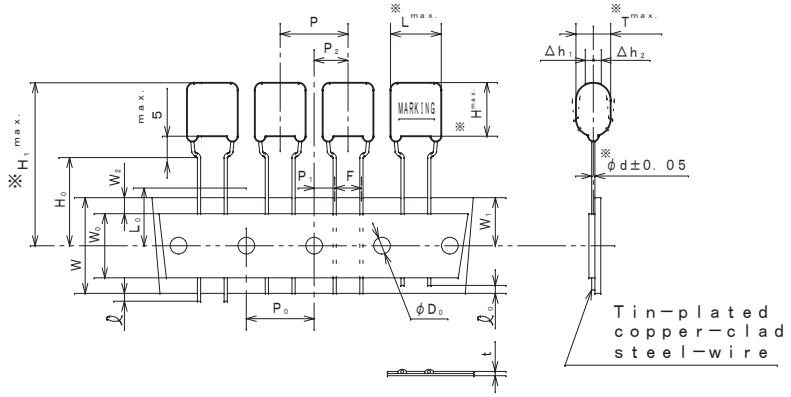
THIRD ANGLE PROJECTION

ITEM CODE	CAP.	DIMENSIONS				
	μF (*)	※L	※T	※H	※H_1	※d
ECWFD2J473 () 4	0.047 (473)	12.6	4.4	7.8	29.8	0.6
〃 2J563 () 4	0.056 (563)	〃	4.7	8.1	30.1	〃
〃 2J683 () 4	0.068 (683)	〃	5.0	8.4	30.4	〃
〃 2J823 () 4	0.082 (823)	〃	5.4	8.7	30.7	〃
〃 2J104 () 4	0.1 (104)	〃	5.8	9.2	31.2	〃
〃 2J124 () 4	0.12 (124)	〃	6.2	9.6	31.6	〃
〃 2J154 () 4	0.15 (154)	〃	6.8	10.2	32.2	〃
〃 2J184 () 4	0.18 (184)	〃	7.4	10.7	32.7	〃
〃 2J224 () 4	0.22 (224)	〃	8.1	11.4	33.4	〃



ALTERATION		
ISSUE	DESCRIPTION	DATE
1	Add:Note 6.	Jan. 24 2018
2	Company name changed	Apr. 1 2022
SPECIFICATIONS No.		

ITEM CODE NUMBER STRUCTURE

ECWFD 2J 104 J 4 (630VDC, 0.1μF, ±5%)

- 4 — Ammo packing Forming lead type
- J — Capacitance tolerance (J=±5%, K=±10%)
- 104 — Capacitance : See table (*)
- 2J — Rated voltage (2J・・・630VDC)

MARKING EXAMPLE

WFD2J
104J□
date code

SYMBOL	ITEM	VALUE	TOLERANCE	REMARKS
P	Pitch of component	15.0	±1.0	Tilt of component and curvature of leads shall be included.
P_0	Feed hole pitch	15.0	±0.2	
P_1	Feed hole center to lead	3.75	±0.5	
P_2	Hole center to comp. center	7.5	±1.3	Tilt of component due to curvature of leads shall be included.
F	Lead-to-lead distance	7.5	$^{+0.8}_{-0.2}$	
$\Delta h_{1,2}$	Component alignment	0~2.0		Tilt of component due to curvature of leads shall be included.
W	Paper backing width	18.0	±0.5	
W_0	Adhesive tape width	12.5	min.	The hold down tape shall not protrude beyond the carrier tape.
W_1	Hole position	9.0	±0.5	
W_2	Hold-down tape position	0~3.0		
H_0	Lead-wire clinch height	16.0	$^{+1.0}_{0}$	
ℓ	Lead wire protrusion	0	max.	
ℓ_P	Lead wire depression	7.0	max.	
ϕD_0	Feed hole diameter	4.0	±0.2	
t	Total tape thickness	0.7	±0.2	Total thickness including the hold down tape.
L_0	Length of snipped lead	11.0	max.	

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 "WFD" and manufacturer's date code.

PROPERTIES

*Capacitance	:	See table at 1kHz.
*Capacitance tolerance	:	±5%(J), ±10%(K) at 1kHz.
*Rated voltage	:	630VDC (Derating of rated voltage by 1.0%/℃ at more than 85℃)
*Withstand voltage(terminal-terminal)	:	630VDC×150% for 60s
*Insulation resistance	:	≧9000MΩ at 500VDC, 20℃ for 60s
*Dissipation factor	:	≦0.1% at 1kHz, 20℃
*Category temperature range (including temperature rise on unit surface)	:	From −40℃ to +105℃

QUANTITY of MINIMUM ORDER

Capacitance range (μF)	Quantity (pcs.)
0.047	1300
0.056 ~ 0.068	1200
0.082 ~ 0.1	1000
0.12 ~ 0.15	900
0.18 ~ 0.22	700

DESIGN	M.MEKADA
CHECKED	T.YAMADA
APPROVAL	T.KATO
ESTABLISHMENT	Jan.18.2017
TYPE NAME	ECWFD2J***() 4
NAME	Metallized Polypropylene Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	G005J-J-E(1/2)

REFERENCE

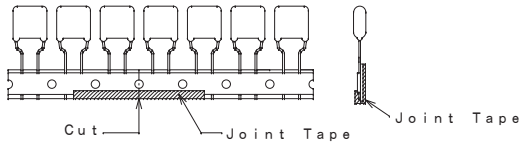
Film Capacitor Business Unit
Device Solutions Business Division
Panasonic Industry Co., Ltd.

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS

THIRD ANGLE PROJECTION

Note 1. No more than 2 consecutive missing is permitted.

Note 2. A tape conjunction and a tape discrepancy specify as follows.



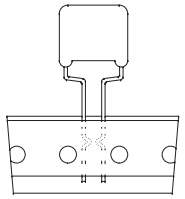
A tape sliding shall not exceed in an allowance of "P_0" dimension.
A joint tape put on the back side of paper backing, and turn up the lower part to the front.

Note 3. A tape trailer having at least 3 feed holes is required at the end of the tape.

Note 4. Marking on components may not be the same side.

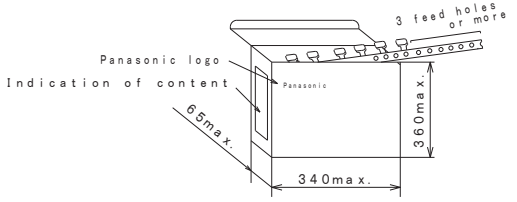
Note 5. The tape adhesion is more than 3.92N(400gf)/25mm.

△1 Note 6. The lead clinch at the tape, shows as follows.



Packing specification

1. Case size (Ammo pack)



2. Packing quantity

Capacitance range (μF)	Quantity (pcs.)
0.047	1300
0.056~0.068	1200
0.082~0.1	1000
0.12 ~0.15	900
0.18 ~0.22	700

Handling notes

1) One package must be packed one product only.
2) The storage must be stacked 5 boxes or less.
   (Surface printed placing upward)
   (For prevention from displacement of capacitors and damage of lead crimping)
3) The packing box must be handled with care and never thrown out.

REFERENCE

TYPE NAME	ECWFD2J***()4
DRAWING No.	G005J-J-E(2/2)

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

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS

THIRD ANGLE PROJECTION

ITEM CODE	CAPACITANCE μF (*)	DIMENSIONS ※L	※T	※H	※H_1	※d
ECWFD2J274 () 4	0.27 (274)	17.8	6.0	11.0	33.0	0.8
〃 2J334 () 4	0.33 (334)	〃	6.6	11.5	33.5	〃
〃 2J394 () 4	0.39 (394)	〃	7.1	12.0	34.0	〃
〃 2J474 () 4	0.47 (474)	〃	7.8	12.7	34.7	〃
〃 2J564 () 4	0.56 (564)	〃	8.4	13.3	35.3	〃
〃 2J684 () 4	0.68 (684)	〃	9.3	14.2	36.2	〃
〃 2J824 () 4	0.82 (824)	〃	10.2	15.1	37.1	〃

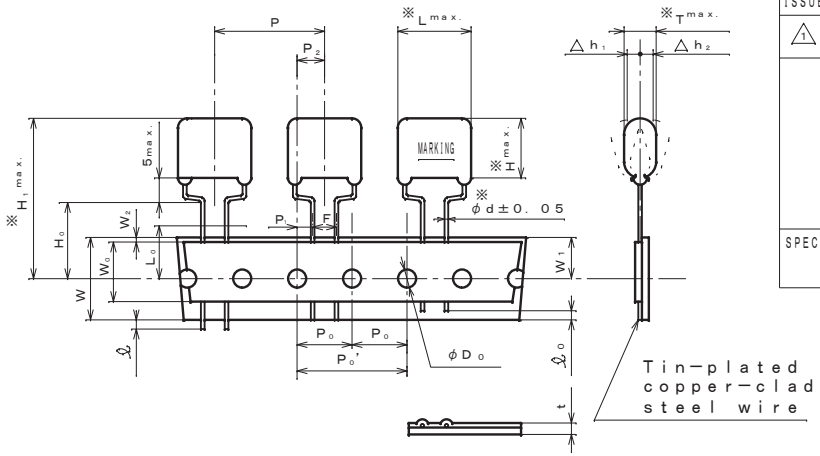
ITEM CODE NUMBER STRUCTURE

ECWFD 2J 274 J 4 (630VDC, 0.27μF, ±5%)

- 4 — Ammo packing Forming lead type
- J — Capacitance tolerance (J=±5%, K=±10%)
- 274 — Capacitance : See table (*)
- 2J — Rated voltage (2J・・・630VDC)

MARKING EXAMPLE

WFD2J
274J□
date code



SYMBOL	ITEM	VALUE	TOLERANCE	REMARKS
P	Pitch of component	30.0	±1.0	Tilt of component and curvature of leads shall be included.
P_0'	Feed hole pitch	30.0	±0.2	
P_0	Feed hole pitch	15.0	±0.2	
P_1	Feed hole center to lead	3.75	±0.5	
P_2	Hole center to comp. center	7.5	±1.3	Tilt of component due to curvature of leads shall be included.
F	Lead-to-lead distance	7.5	$^{+0.8}_{-0.2}$	
$\Delta h_{1,2}$	Component alignment	0~2.0		Tilt of component due to curvature of leads shall be included.
W	Paper backing width	18.0	±0.5	
W_0	Adhesive tape width	12.5	min.	The hold down tape shall not protrude beyond the carrier tape.
W_1	Hole position	9.0	±0.5	
W_2	Hold-down tape position	0~3.0		
H_0	Lead-wire clinch height	16.0	$^{+1.0}_{0}$	
ℓ	Lead wire protrusion	0	max.	
ℓ_0	Lead wire depression	7.0	max.	
ϕD_0	Feed hole diameter	4.0	±0.2	
t	Total tape thickness	0.7	±0.2	Total thickness including the hold down tape.
L_0	Length of snipped lead	11.0	max.	

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 "WFD" and manufacturer's date code.

PROPERTIES

Capacitance	: See table at 1kHz
Capacitance tolerance	: ±5%(J), ±10%(K) at 1kHz.
Rated voltage	: 630VDC (Derating of rated voltage by 1.0%/℃ at more than 85℃)
Withstand voltage	: 630VDC×150% for 60s
Insulation resistance	: ≧9000MΩ (C≦0.33μF) at 500VDC, 20℃ for 60s
	: ≧3000MΩ・μF (C>0.33μF) at 500VDC, 20℃ for 60s
Dissipation factor	: ≦0.1% at 1kHz, 20℃
Category temperature range (including temperature rise on unit surface)	: From −40℃ to +105℃

QUANTITY of MINIMUM ORDER

Capacitance range (μF)	Quantity (pcs.)
0.27	500
0.33 ~ 0.47	400
0.56 ~ 0.82	300

ALTERATION		
ISSUE	DESCRIPTION	DATE
1	Company name changed	Apr. 1 2022

SPECIFICATIONS No.

DESIGN	M. MEKADA
CHECKED	T. YAMADA
APPROVAL	T. KATO
ESTABLISHMENT	Jan. 18. 2017
TYPE NAME	ECWFD 2J***() 4
NAME	METALLIZED POLYPROPYLENE CAPACITOR
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	G006J-J-E(1/2)

REFERENCE

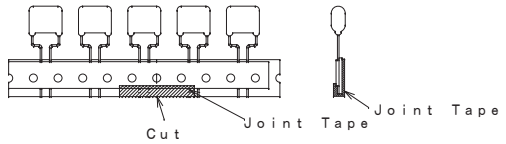
Film Capacitor Business Unit
Device Solutions Business Division
Panasonic Industry Co., Ltd.

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS

THIRD ANGLE PROJECTION

Note 1. No more than 2 consecutive missing is permitted.

Note 2. A tape conjunction and a tape discrepancy specify as follows.



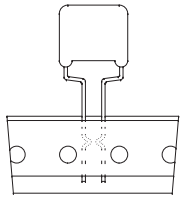
A tape sliding shall not exceed in an allowance of "P_0" dimension.
A joint tape put on the back side of paper backing, and turn up the lower part to the front.

Note 3. A tape trailer having at least 3 feed holes is required at the end of the tape.

Note 4. Marking on components may not be the same side.

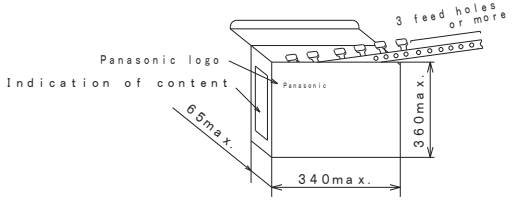
Note 5. The tape adhesion is more than 3.92N(400gf)/25mm.

Note 6. The lead clinch at the tape, shows as follows.



Packing specification

1. Case size (Ammo pack)



2. Packing quantity

Capacitance range (μF)	Quantity (pcs.)
0.27	500
0.33~ 0.47	400
0.56~ 0.82	300

Handling notes

1) One package must be packed one product only.
2) The storage must be stacked 5 boxes or less.
(Surface printed placing upward)
(For prevention from displacement of capacitors and damage of lead crimping)
3) The packing box must be handled with care and never thrown out.

REFERENCE

TYPE NAME	ECWFD 2J***()4
DRAWING No.	G006J-J-E(2/2)

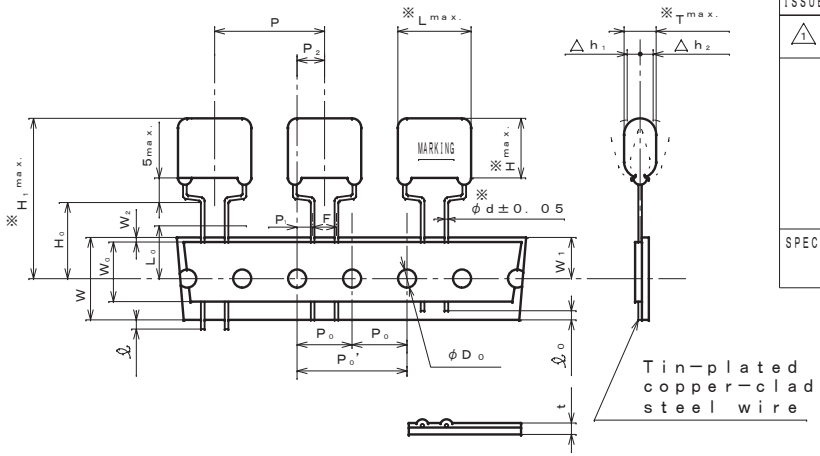
Film Capacitor Business Unit
Device Solutions Business Division
Panasonic Industry Co., Ltd.

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS

THIRD ANGLE PROJECTION

ITEM CODE	CAPACITANCE μF (*)	DIMENSIONS ※L	※T	※H	※H_1	※d
ECWFD2J105**	1.0 (105)	17.8	11.2	16.1	38.1	0.8

P4=±5%(J)
Q4=±10%(K)



ALTERATION		
ISSUE	DESCRIPTION	DATE
1	Company name changed	Apr. 1 2022

SPECIFICATIONS No.

SYMBOL	ITEM	VALUE	TOLERANCE	REMARKS
P	Pitch of component	30.0	±1.0	Tilt of component and curvature of leads shall be included.
P_0'	Feed hole pitch	30.0	±0.2	
P_0	Feed hole pitch	15.0	±0.2	
P_1	Feed hole center to lead	3.75	±0.5	
P_2	Hole center to comp. center	7.5	±1.3	Tilt of component due to curvature of leads shall be included.
F	Lead-to-lead distance	7.5	$^{+0.8}_{-0.2}$	
$\Delta h_{1,2}$	Component alignment	0~2.0		Tilt of component due to curvature of leads shall be included.
W	Paper backing width	18.0	±0.5	
W_0	Adhesive tape width	12.5	min.	The hold down tape shall not protrude beyond the carrier tape.
W_1	Hole position	9.0	±0.5	
W_2	Hold-down tape position	0~3.0		
H_0	Lead-wire clinch height	16.0	$^{+1.0}_{0}$	
ℓ	Lead wire protrusion	0	max.	
ℓ	Lead wire depression	7.0	max.	
φD_0	Feed hole diameter	4.0	±0.2	
t	Total tape thickness	0.7	±0.2	Total thickness including the hold down tape.
L_0	Length of snipped lead	11.0	max.	

MARKING EXAMPLE

WFD2J
105J□
date code

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 "WFD" and manufacturer's date code.

PROPERTIES

Capacitance	: See table at 1kHz
Capacitance tolerance	: ±5%(J), ±10%(K) at 1kHz.
Rated voltage	: 630VDC (Derating of rated voltage by 1.0%/℃ at more than 85℃)
Withstand voltage	: 630VDC×150% for 60s
Insulation resistance	: ≧3000MΩ・μF at 500VDC, 20℃ for 60s
Dissipation factor	: ≦0.1% at 1kHz, 20℃
Category temperature range (including temperature rise on unit surface)	: From −40℃ to +105℃

QUANTITY of MINIMUM ORDER

Capacitance range (μF)	Quantity (pcs.)
1.0	200

REFERENCE

DESIGN	M. MEKADA
CHECKED	H. YAMADA
APPROVAL	T. KATO
ESTABLISHMENT	Jan. 18. 2017
TYPE NAME	ECWFD 2J***P4 ECWFD 2J***Q4
NAME	METALLIZED POLYPROPYLENE CAPACITOR
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	G021J-J-E(1/2)

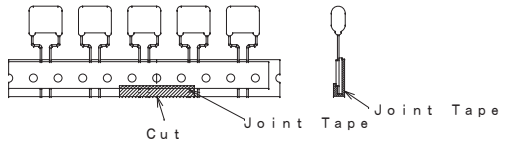
Film Capacitor Business Unit
Device Solutions Business Division
Panasonic Industry Co., Ltd.

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS

THIRD ANGLE PROJECTION

Note 1. No more than 2 consecutive missing is permitted.

Note 2. A tape conjunction and a tape discrepancy specify as follows.



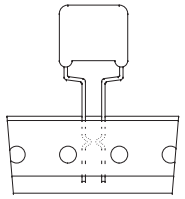
A tape sliding shall not exceed in an allowance of "P_0" dimension.
A joint tape put on the back side of paper backing, and turn up the lower part to the front.

Note 3. A tape trailer having at least 3 feed holes is required at the end of the tape.

Note 4. Marking on components may not be the same side.

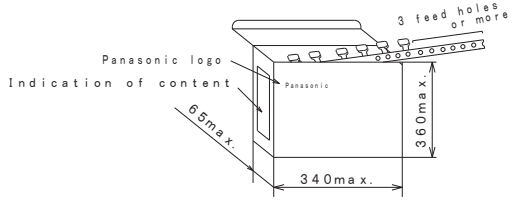
Note 5. The tape adhesion is more than 3.92N (400gf) / 25mm.

Note 6. The lead clinch at the tape, shows as follows.



Packing specification

1. Case size (Ammo pack)



2. Packing quantity

Capacitance range (μF)	Quantity (pcs.)
1.0	200

Handling notes

1) One package must be packed one product only.
2) The storage must be stacked 5 boxes or less.
(Surface printed placing upward)
(For prevention from displacement of capacitors and damage of lead crimping)
3) The packing box must be handled with care and never thrown out.

REFERENCE

TYPE NAME
ECWFD 2J***P4
ECWFD 2J***Q4

DRAWING No.
G021J-J-E (2/2)

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

DO NOT SCALE DRAWING REVISIONS INDICATED BY Δ ALL DIMENSIONS ARE IN MILLIMETERS