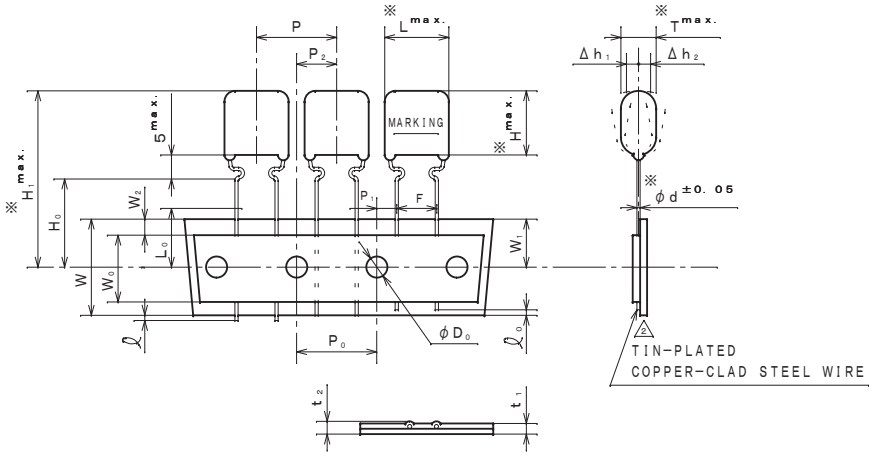
THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μF)	DIMENSIONS ※L	※T	※H	※d	※H₁
ECQE2A103R() F	250VAC	0.01	12.5	5.5	10.8	0.6	32.8
〃 2A123R() F	〃	0.012	〃	6.0	11.5	〃	33.5
〃 2A153R() F	〃	0.015	〃	6.3	9.9	〃	31.9
〃 2A183R() F	〃	0.018	〃	6.0	11.9	〃	33.9
〃 2A223R() F	〃	0.022	〃	〃	11.5	〃	33.5
〃 2A273R() F	〃	0.027	〃	5.5	10.9	〃	32.9
〃 2A333R() F	〃	0.033	〃	6.0	11.9	〃	33.9
〃 2A393R() F	〃	0.039	〃	〃	13.4	〃	35.4
〃 2A473R() F	〃	0.047	〃	6.5	14.4	〃	36.4

└ TOL. SYMBOL (J or K or M)



ITEM CODE NUMBER STRUCTURE

ECQE 2A103RKF (250VAC, 0.01μF, ±10%)

- Radial leads
- Capacitance tolerance (J=±5%, K=±10%, M=±20%)
- Ammo packing
- Forming lead type
- Capacitance
- Rated voltage (2A…250VAC)

SYMBOL	ITEM	DIMENSION	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	9.5min.	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	0max.	
ℓ_0	Lead-wire depression	7.0max.	
ϕD_0	Feed hole diameter	4.0±0.2	
t_1	Total tape thickness	0.7±0.2	Total thickness including the hold down tape.
t_2	Total thickness	1.5max.	
L_0	Length of snipped lead	11.0max.	

CONSTRUCTION

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

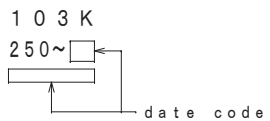
MARKING

Marking comprises capacitance, capacitance tolerance, rated voltage and date code.

PROPERTIES

Capacitance	:See table	at 1kHz
Capacitance tolerance	:±5%(J), ±10%(K), ±20%(M)	at 1kHz
Rated voltage	:250VAC	
Withstand voltage (terminal-terminal)	:250VAC×230% for 60s	
(terminal-enclosure)	:1500VAC for 60s	
Insulation resistance	:≧2000MΩ at 500VDC, 20℃ for 60s	
Dissipation factor	:≦1.0% at 1kHz, 20℃	
Category temperature range	: △7 From −40℃ to +105℃ (including temperature rise on unit surface)	

MARKING EXAMPLE



ALTERATION

ISSUE	DESCRIPTION	DATE
△3	Company name changed	Oct. 1 2004
△4	Company name changed	Apr. 1 2005
△5	Company name changed	Apr. 1 2006
△6	Company name changed	Apr. 1 2008
△7	Change:category temperature range (−40℃~+85℃→−40℃~+105℃)	Dec. 21 2010
△8	Company name changed	Apr. 1 2012
△9	Company name changed	Apr. 1 2013
△10	Company name changed	Apr. 1 2015
△11	Company name changed	Apr. 1 2022

SPECIFICATIONS No.
TEA7077H

DESIGN	M.MEKADA
CHECKED	H.ICHIDA
APPROVAL	T.KATO
ESTABLISHMENT	Dec. 25. 1997
TYPE NAME	ECQE2A***R() F
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-771E (1/2)

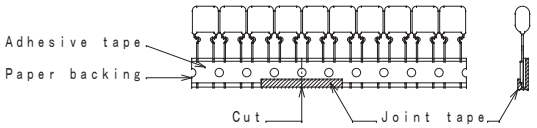
Film Capacitor Business Unit
Device Solutions Business Division
Panasonic Industry Co., Ltd.

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

THIRD ANGLE PROJECTION

Note 1. No more than 3 consecutive missing is permitted.

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



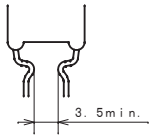
A tape sliding shall not exceed in an allowance of "P_0" dimension.
A joint tape put on the back side of paper backing, and turn up the lower part to the front.

Note 3. Marking on components may not be the same side.

Note 4. The tape adhesion is more than 3.92N(400gf)/25mm.

Note 5. A tape trailer having at least 3 feed holes is required at the end of the tape.

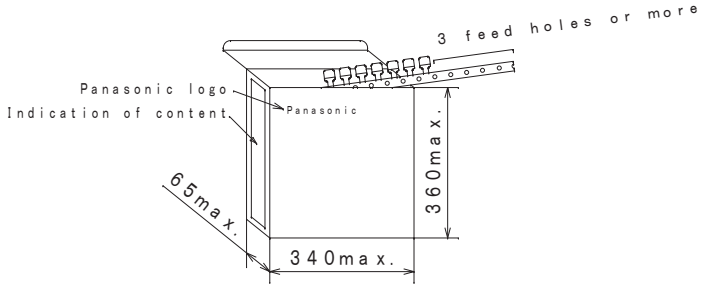
Note 6. The lead crimping shape shows as follows.



Packing specification

1. Case size

Ammo pack



2. Packing quantity

Capacitance range	Packing quantity
0.01~0.047μF	1000

3. 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	ECQE2A***R()F
DRAWING No.	CT-H-771E (2/2)

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

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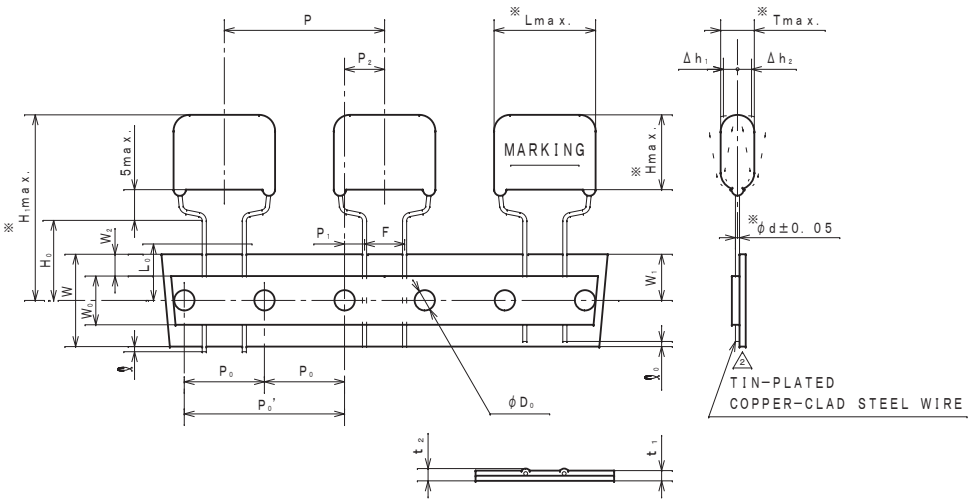
THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μF)	DIMENSIONS ※L	※T	※H	※d	※H₁
ECQE2A563R () F	250VAC	0.056	18.5	5.4	10.5	0.6	32.5
〃 2A683R () F	〃	0.068	〃	5.8	11.0	〃	33.0
〃 2A823R () F	〃	0.082	〃	6.3	12.0	〃	34.0
〃 2A104R () F	〃	0.1	〃	〃	14.0	〃	36.0
〃 2A124R () F	〃	0.12	〃	6.8	14.5	0.8	36.5
〃 2A154R () F	〃	0.15	〃	7.5	15.4	〃	37.4
〃 2A184R () F	〃	0.18	〃	8.0	16.0	〃	38.0
〃 2A224R () F	〃	0.22	〃	9.0	16.9	〃	38.9

└ TOL. SYMBOL (J or K or M)



ITEM CODE NUMBER STRUCTURE

ECQE 2A563RKF (250VAC, 0.056μF, ±10%)

- Radial leads
- Capacitance tolerance (J=±5%, K=±10%, M=±20%)
- Ammo packing
- Forming lead type
- Capacitance
- Rated voltage (2A…250VAC)

SYMBOL	ITEM	DIMENSION	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	〃	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	12.5min.	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	$16.0^{+1.0}_{0}$	
t	Lead-wire protrusion	0max.	
t_0	Lead-wire depression	7.0max.	
ϕD_0	Feed hole diameter	4.0±0.2	
t_1	Total tape thickness	0.7±0.2	Total thickness including the hold down tape.
t_2	Total thickness	1.5max.	
L_0	Length of snipped lead	11.0max.	

ALTERATION

ISSUE	DESCRIPTION	DATE
3	Company name changed	Oct. 1 2004
4	Company name changed	Apr. 1 2005
5	Company name changed	Apr. 1 2006
6	Company name changed	Apr. 1 2008
7	Change:category temperature range (-40℃~+85℃→-40℃~+105℃)	Dec. 21 2010
8	Company name changed	Apr. 1 2012
9	Company name changed	Apr. 1 2013
10	Company name changed	Apr. 1 2015
11	Company name changed	Apr. 1 2022

SPECIFICATIONS No.
TEA7078H

CONSTRUCTION

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

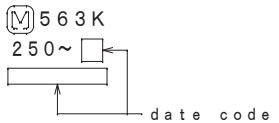
MARKING

Marking comprises capacitance, capacitance tolerance, rated voltage, manufacturer's trademark and date code.

PROPERTIES

Capacitance	:See table	at 1kHz
Capacitance tolerance	:±5%(J), ±10%(K), ±20%(M)	at 1kHz
Rated voltage	:250VAC	
Withstand voltage (terminal-terminal)	:250VAC×230% for 60s	
(terminal-enclosure)	:1500VAC for 60s	
Insulation resistance	:≧2000MΩ at 500VDC, 20℃ for 60s	
Dissipation factor	:≦1.0% at 1kHz, 20℃	
Category temperature range	: 7 From -40℃ to +105℃ (including temperature rise on unit surface)	

MARKING EXAMPLE



DESIGN	M.MEKABA
CHECKED	H.ICHIDA
APPROVAL	T.KATO
ESTABLISHMENT	Mar. 5.1992
TYPE NAME	ECQE2A***R () F
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-223E (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.

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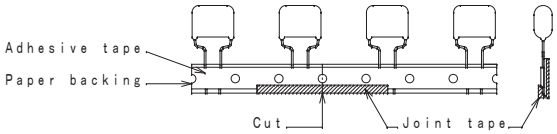

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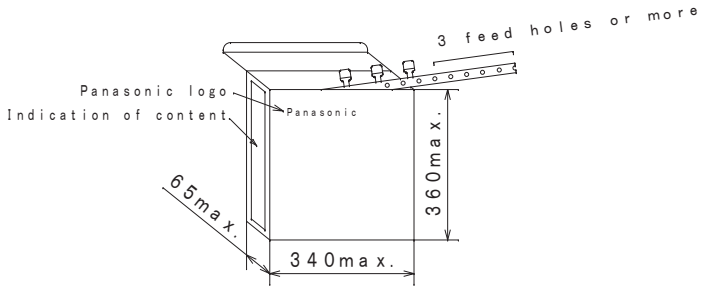
Note 4. The tape adhesion is more than 3.92N(400gf)/25mm.

Note 5. A tape trailer having at least 3 feed holes is required at the end of the tape.

Packing specification

1. Case size

Ammo pack



2. Packing quantity

Capacitance range	Packing quantity
0.056~0.12μF	500
0.15, 0.18μF	400
0.22μF	300

3. 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
ECQE2A***R() F

DRAWING No.
CT-H-223E (2/2)

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