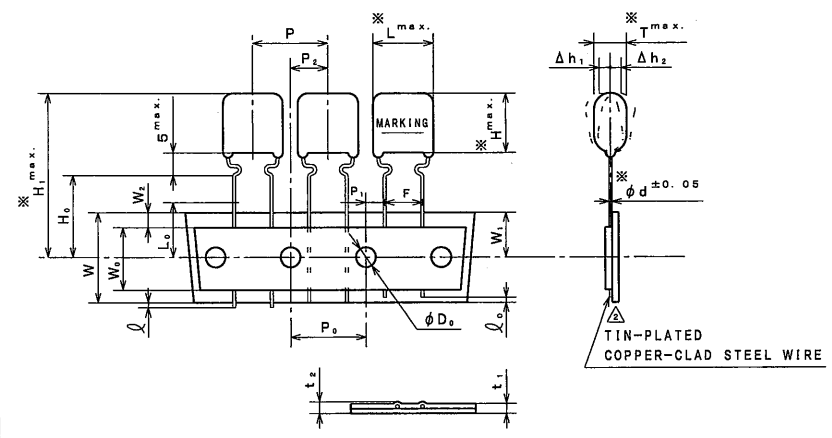


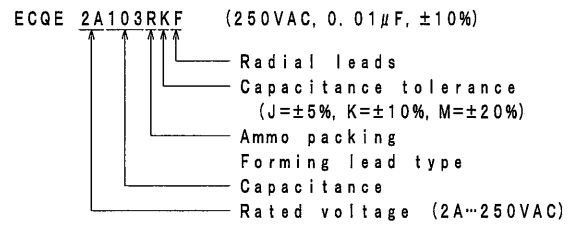
THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μF)	DIMENSIONS				
			※L	※T	※H	※d	※H ₁
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



ALTERATION		
ISSUE	DESCRIPTION	DATE
△	Modification	Jun. 20 2002
△	Company name changed	Oct. 1 2004
△	Company name changed	Apr. 1 2006
△	Company name changed	Apr. 1 2006
△	Company name changed	Apr. 1 2008
△	Change: category temperature range (-40°C~+85°C~+105°C)	Dec. 21 2010
△	Company name changed	Apr. 1 2012
△	Company name changed	Apr. 1 2013
△	Company name changed	Apr. 1 2015

SPECIFICATIONS No. TEA7077H

SYMBOL	ITEM	DIMENSION	REMARKS
P	Pitch of component	15.0±1.0	Tilt of component and curvature of leads shall be included.
P ₂	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±0.2	
Δh ₁	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	
‡	Lead-wire protrusion	0max.	
‡ 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 snapped 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.

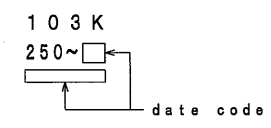
MARKING

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)	: 250VACx230% for 60s	
(terminal-enclosure)	: 1500VAC for 60s	
Insulation resistance	: ≥2000MΩ at 500VDC, 20°C for 60s	
Dissipation factor	: ≤1.0% at 1kHz, 20°C	
Category temperature range	: △ From -40°C to +105°C	(including temperature rise on unit surface)

MARKING EXAMPLE

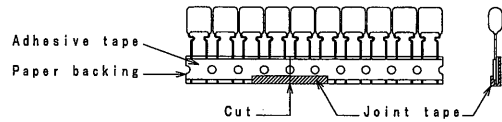


Reference

DESIGN	<i>M. Imamura</i>
CHECKED	<i>K. Oshiki</i>
APPROVAL	<i>T. Takeita</i>
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)	

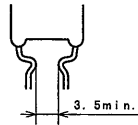
Toyama-Matsue Plant
Device Solutions Business Division
Panasonic Corporation

- Note 1. No more than 3 consecutive missing is permitted.
 Note 2. A tape conjunction and a tape discrepancy specify as follows.



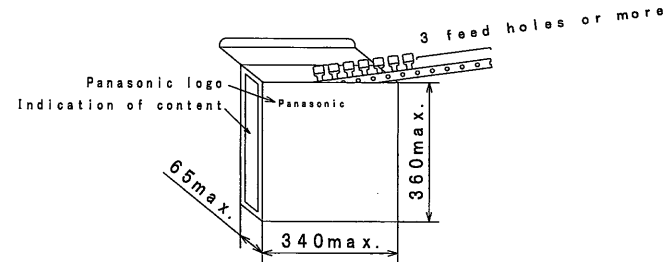
A tape sliding shall not exceed in an allowance of "P₀" dimension.
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

- 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

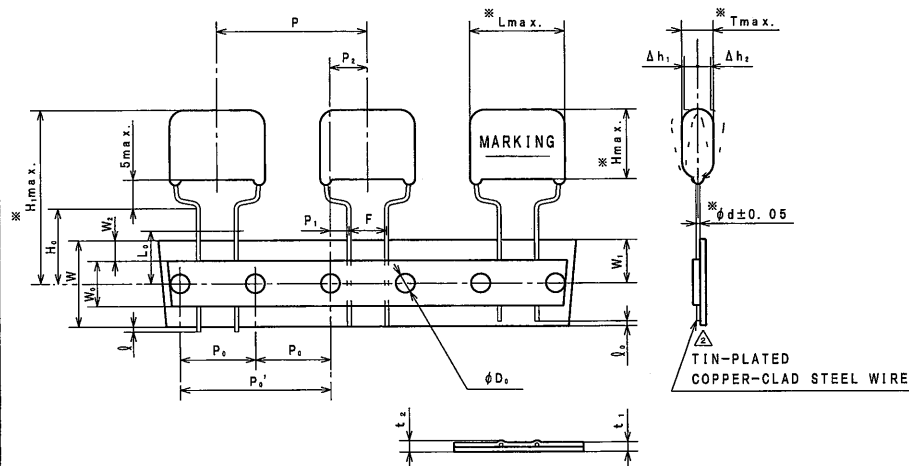
TYPE NAME	ECQE2A***R () F
DRAWING No.	CT-H-771E (2/2)

Toyama-Matsue Plant
 Device Solutions Business Division
 Panasonic Corporation

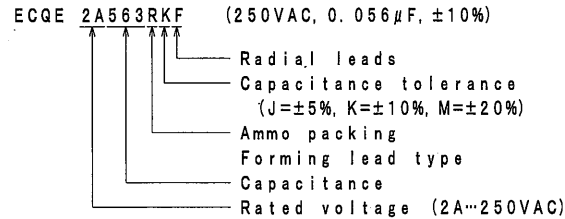
THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μF)	DIMENSIONS				
			※L	※T	※H	※d	※H ₁
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



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±0.5	
Δh _{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 ^{+0.5} ₀	
g	Lead-wire protrusion	0max.	
g 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 snapped 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, 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°C for 60s
 Dissipation factor : ≤1.0% at 1kHz, 20°C
 Category temperature range : △ From -40°C to +105°C (including temperature rise on unit surface)

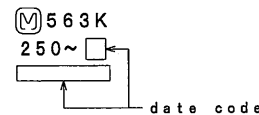
ALTERATION		
ISSUE	DESCRIPTION	DATE
△2	Modification	Jun. 20 2002
△3	Company name changed	Oct. 1 2004
△4	Company name changed	Apr. 1 2005
△5	Company name changed	Apr. 1 2006
△6	Company name changed	Apr. 1 2008
△7	Change: category temperature range (-40°C~+85°C~+40°C~+105°C)	Dec. 21 2010
△8	Company name changed	Apr. 1 2012
△9	Company name changed	Apr. 1 2013
△10	Company name changed	Apr. 1 2015

SPECIFICATIONS No. TEA7078H

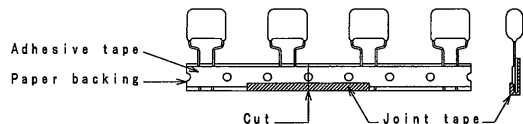
Reference

DESIGN	<i>Ch. Inohara</i>
CHECKED	<i>K. Beaka</i>
APPROVAL	<i>Y. Takata</i>
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)

MARKING EXAMPLE



- Note 1. No more than 2 consecutive missing is permitted.
 Note 2. A tape conjunction and a tape discrepancy specify as follows.

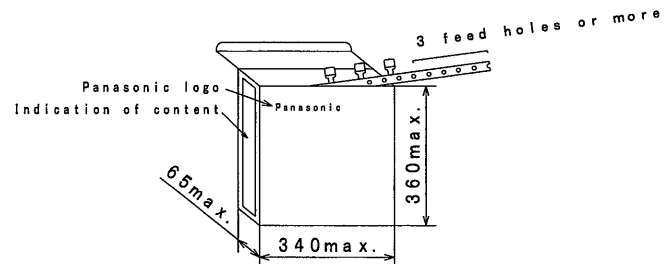


A tape sliding shall not exceed in an allowance of "P₀" dimension.
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

- 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.

Packing specification

1. Case size
Ammo pack



2. Packing quantity

Capacitance range	Packing quantity
0.056~0.12 μ F	500
0.15, 0.18 μ F	400
0.22 μ F	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)

Toyama-Matsue Plant
 Device Solutions Business Division
 Panasonic Corporation