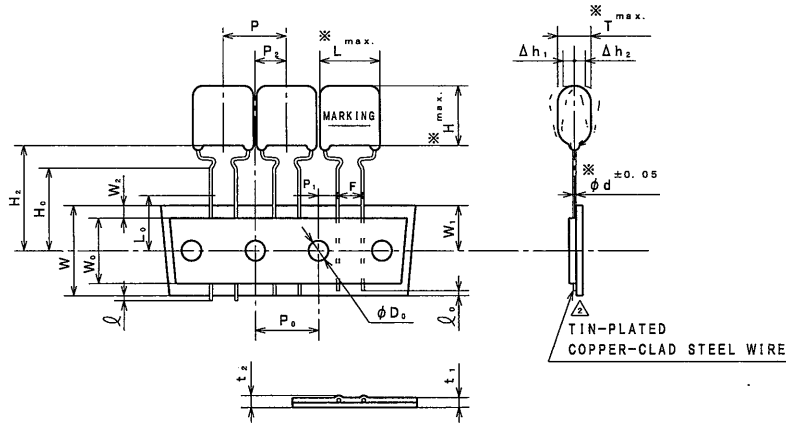
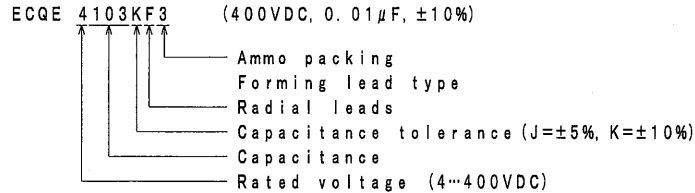


THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μF)	DIMENSIONS			
			※L	※T	※H	※d
ECQE4103 () F3	400VDC	0.01	10.3	4.3	7.4	0.6
" 4123 () F3	"	0.012	"	4.4	7.5	"
" 4153 () F3	"	0.015	"	"	"	"
" 4183 () F3	"	0.018	"	"	"	"
" 4223 () F3	"	0.022	"	4.8	7.9	"
" 4273 () F3	"	0.027	"	5.5	8.0	"
" 4333 () F3	"	0.033	"	6.0	9.0	"
" 4393 () F3	"	0.039	12.0	4.9	8.0	"
" 4473 () F3	"	0.047	"	5.0	8.3	"
" 4563 () F3	"	0.056	"	"	10.0	"
" 4683 () F3	"	0.068	"	5.4	10.5	"
" 4823 () F3	"	0.082	"	5.8	11.0	"
" 4104 () F3	"	0.1	"	6.3	12.0	"

TOL. SYMBOL (J or K)

ITEM CODE NUMBER STRUCTURE



SYMBOL	ITEM	DIMENSION	REMARKS
P	Pitch of component	12.7±1.0	Tilt of component and curvature of leads shall be included.
P ₀	Feed hole pitch	12.7±0.2	
P ₁	Feed hole center to lead	3.85±0.5	
P ₂	Hole center to comp. center	6.35±1.3	Tilt of component due to curvature of leads shall be included.
F	Lead-to-lead distance	5.0 ^{+0.2} _{-0.2}	
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	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 ₂	Component height	22.0±0.75	
H ₀	Lead-wire clinch height	16.0±0.5	
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 clipped 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.

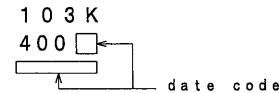
MARKING

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

PROPERTIES

Capacitance : See table at 1kHz
 Capacitance tolerance : ±5% (J), ±10% (K) at 1kHz
 Rated voltage : 400VDC \triangle (Derating of rated voltage by 1.25%/°C at more than 85°C)
 Withstand voltage : 400VDCx150% for 60s
 Insulation resistance : \geq 9000MΩ at 100VDC, 20°C for 60s
 Dissipation factor : \leq 1.0% at 1kHz, 20°C
 Category temperature range : \triangle From -40°C to +105°C (including temperature rise on unit surface)

MARKING EXAMPLE



ALTERATION		
ISSUE	DESCRIPTION	DATE
\triangle	Company name changed	Oct. 1 2004
\triangle	Company name changed	Apr. 1 2005
\triangle	Company name changed	Apr. 1 2006
\triangle	Correction: category temperature range (-40°C~+85°C→-40°C~+105°C) Addition: rated voltage (Derating of rated voltage by 1.25%/°C at more than 85°C)	Jan. 22 2008
\triangle	Company name changed Error correction	Apr. 1 2008
\triangle	Company name changed	Apr. 1 2012
\triangle	Company name changed	Apr. 1 2013
\triangle	Company name changed	Apr. 1 2015

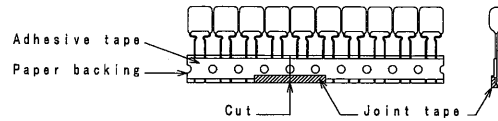
SPECIFICATIONS No. TE72032Y

Reference

DESIGN	<i>M. M. M. M.</i>
CHECKED	<i>H. Osaka</i>
APPROVAL	<i>Y. Takato</i>
ESTABLISHMENT	Apr. 27, 1987
TYPE NAME	ECQE4*** () F3
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-C016 (1/2)

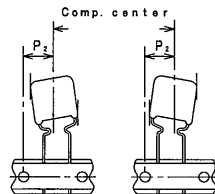
Toyama-Matsue Plant
Device Solutions Business Division
Panasonic Corporation

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

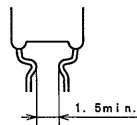


A tape sliding shall not exceed in an allowance of "P₀" dimension.
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

- 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. 1) The P₁ and P₂ dimension shall be measured as shown in the figure after the adhesive tape placing upward.
 (measuring from the center of sprocket hole to the right.)
 2) The P₂ dimension shall be measured between center of a vertical projection plane for tape plane and center of sprocket hole.

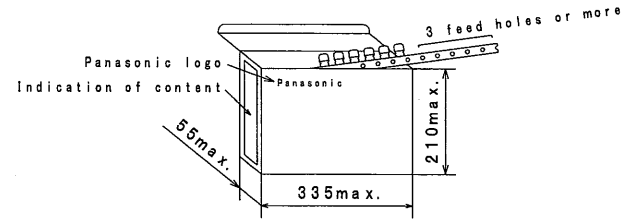


- Note 7. The lead crimping shape shows as follows.



Packing specification

1. Case size
Ammo pack



2. Packing quantity

Capacitance range	Packing quantity
0.01 ~ 0.027 μ F	1000
0.033 ~ 0.1 μ F	500

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	ECQE4*** () F3
DRAWING No.	CT-H-C016 (2/2)

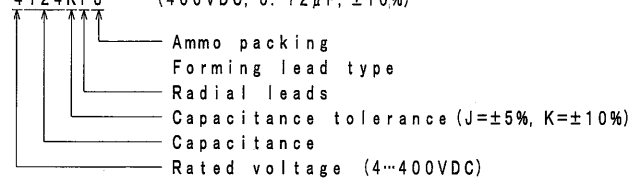
Toyama-Matsue Plant
 Device Solutions Business Division
 Panasonic Corporation

THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. (μ F)	DIMENSIONS				
			* L	* T	* H	* d	* H ₁
ECQE4124 () F3	400VDC	0.12	18.5	5.0	10.0	0.6	31.5
" 4154 () F3	"	0.15	"	"	12.4	"	33.9
" 4184 () F3	"	0.18	"	"	12.5	"	34.0
" 4224 () F3	"	0.22	"	5.9	13.0	"	34.5
" 4274 () F3	"	0.27	"	6.5	14.3	0.8	35.8
" 4334 () F3	"	0.33	"	7.0	14.9	"	36.4
" 4394 () F3	"	0.39	"	7.5	15.4	"	36.9
" 4474 () F3	"	0.47	"	7.8	17.0	"	38.5

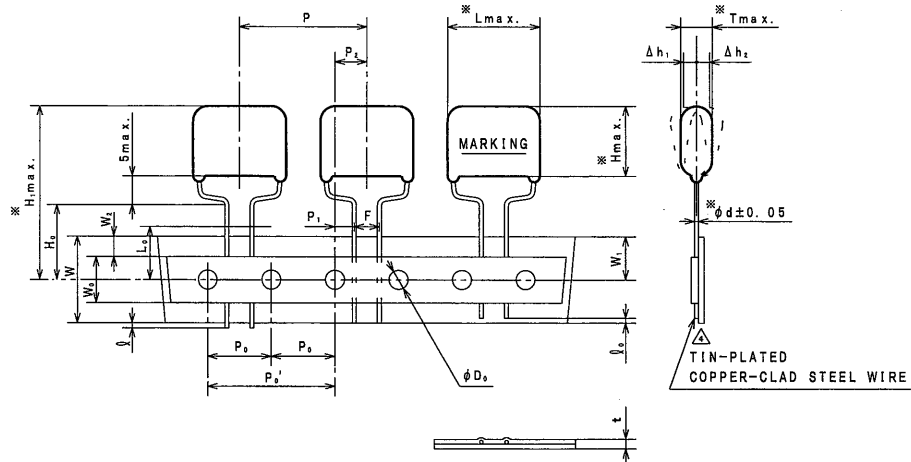
ITEM CODE NUMBER STRUCTURE

ECQE 4124KF3 (400VDC, 0.12 μ F, \pm 10%)



ALTERATION		
ISSUE	DESCRIPTION	DATE
△	Company name changed	Oct. 1 2004
△	Company name changed	Apr. 1 2005
△	Company name changed	Apr. 1 2006
△	Correction: category temperature range (-40°C~+85°C→-40°C~+105°C) Addition: rated voltage (Derating of rated voltage by 1.25%/°C at more than 85°C)	Jan. 22 2008
△	Company name changed Error correction	Apr. 1 2008
△	Company name changed	Apr. 1 2012
△	Company name changed	Apr. 1 2013
△	Company name changed	Apr. 1 2015

SPECIFICATIONS No.
TEB8250H



SYMBOL	ITEM	DIMENSION	REMARKS
P	Pitch of component	25.4 \pm 1.0	Tilt of component and curvature of leads shall be included.
P ₀	Feed hole pitch	12.7 \pm 0.2	
P _z	"	25.4 \pm 0.2	
P ₁	Feed hole center to lead	3.85 \pm 0.5	
P ₂	Hole center to comp. center	6.35 \pm 1.3	Tilt of component due to curvature of leads shall be included.
F	Lead-to-lead distance	5.0 \pm 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 \pm 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 \pm 0.5	
W ₂	Hold-down tape position	0~3.0	
H ₀	Lead-wire clinch height	16.0 \pm 0.5	
f	Lead-wire protrusion	0max.	
f ₀	Lead-wire depression	7.0max.	
φD ₀	Feed hole diameter	4.0 \pm 0.2	
t	Total tape thickness	0.7 \pm 0.2	Total thickness including the hold down tape.
L _s	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.

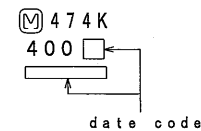
MARKING

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

PROPERTIES

Capacitance : See table at 1kHz
 Capacitance tolerance : \pm 5% (J), \pm 10% (K) at 1kHz
 Rated voltage : 400VDC △△ (Derating of rated voltage by 1.25%/°C at more than 85°C)
 Withstand voltage : 400VDC \times 150% for 60s
 Insulation resistance : \geq 3000M Ω · μ F (C>0.33 μ F) at 100VDC, 20°C for 60s
 : \geq 9000M Ω (C \leq 0.33 μ F) at 100VDC, 20°C for 60s
 Dissipation factor : \leq 1.0% at 1kHz, 20°C
 Category temperature range : △ From -40°C to +105°C (including temperature rise on unit surface)

MARKING EXAMPLE

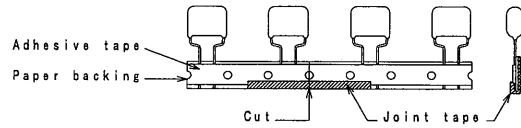


Reference

DESIGN	Ap. Mchigoda
CHECKED	K. Ozaki
APPROVAL	Y. Takata
ESTABLISHMENT	Apr. 28, 1994
TYPE NAME	ECQE4*** () F3
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-154E (1/2)

Toyama-Matsue Plant
Device Solutions Business Division
Panasonic Corporation

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

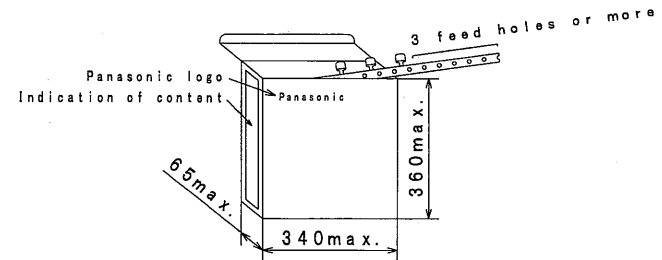


A tape sliding shall not exceed in an allowance of "P₀" dimension.
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

- 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
0.12~0.47#F	500

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	ECQE4*** () F3
DRAWING No.	CT-H-154E (2/2)

Toyama-Matsue Plant
 Device Solutions Business Division
 Panasonic Corporation