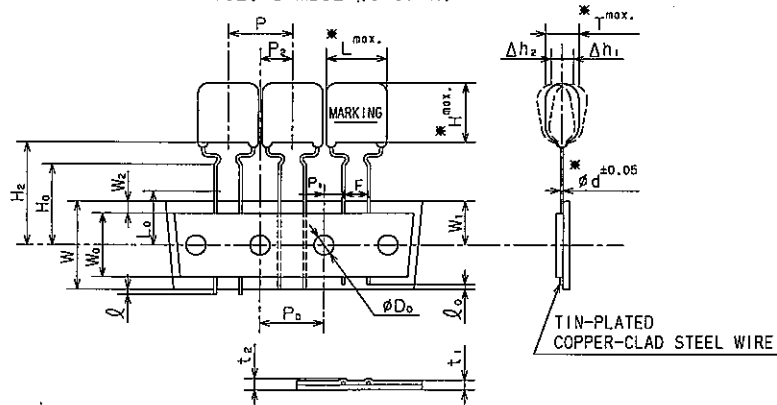


THIRD ANGLE PROJECTION

ITEM CODE	RATED VOLTAGE	CAP. ( $\mu$ F)	DIMENSIONS			
			* L	* T	* H	* d
ECQE2103()B3	250VDC	0.01	7.9	4.2	7.1	0.5
# 2123()B3	#	0.012	#	#	#	#
# 2153()B3	#	0.015	#	#	#	#
# 2183()B3	#	0.018	#	4.3	7.2	#
# 2223()B3	#	0.022	#	#	#	#
# 2273()B3	#	0.027	#	#	#	#
# 2333()B3	#	0.033	#	#	#	#
# 2393()B3	#	0.039	#	4.5	7.4	#
# 2473()B3	#	0.047	#	#	#	#
# 2563()B3	#	0.056	#	4.7	7.7	#
# 2683()B3	#	0.068	#	5.1	8.0	#
# 2823()B3	#	0.082	#	5.4	8.6	#
# 2104()B3	#	0.1	#	5.9	9.0	#
# 2124()B3	#	0.12	#	5.7	10.6	#
# 2154()B3	#	0.15	#	6.3	11.2	#
# 2184()B3	#	0.18	10.3	5.0	9.7	#
# 2224()B3	#	0.22	#	5.4	10.1	#
# 2274()B3	#	0.27	#	5.9	10.8	#
# 2334()B3	#	0.33	#	6.4	11.3	#
# 2394()B3	#	0.39	12.3	5.7	10.9	0.6
# 2474()B3	#	0.47	#	6.2	11.4	#
# 2564()B3	#	0.56	#	6.7	11.9	#
# 2684()B3	#	0.68	#	7.3	12.7	#

TOL. SYMBOL (J or K)



**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**

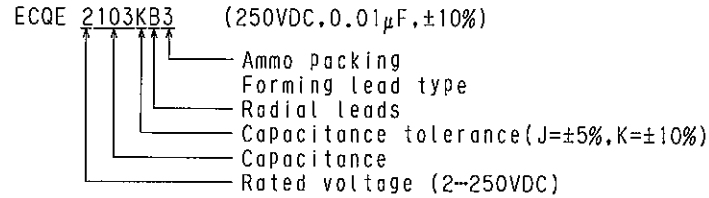
Marking comprises capacitance, capacitance tolerance, rated voltage and date code.

**PROPERTIES**

Capacitance : See table at 1kHz.  
 Capacitance tolerance :  $\pm 5\%$ (J),  $\pm 10\%$ (K) at 1kHz.  
 Rated voltage : 250VDC  
 Withstand voltage (terminal-terminal) : 250VDC  $\times 150\%$  for 60s  
 Insulation resistance :  $\geq 9000\text{M}\Omega$  ( $C \leq 0.33\mu\text{F}$ ) at 100VDC, 20°C for 60s  
 :  $\geq 3000\text{M}\Omega \cdot \mu\text{F}$  ( $C > 0.33\mu\text{F}$ ) at 100VDC, 20°C for 60s  
 Dissipation factor :  $\leq 1.0\%$  at 1kHz, 20°C  
 Operating temperature range : From -40°C to +85°C  
 (including temperature rise on unit surface)

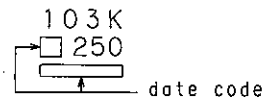
DO NOT SCALE DRAWING REVISIONS INDICATED BY  $\Delta$  ALL DIMENSIONS ARE IN MILLIMETERS

**ITEM CODE NUMBER STRUCTURE**



SYMBOL	ITEM	DIMENSION	REMARKS
P	Pitch of component	12.7 $\pm$ 1.0	Tilt of component and curvature of leads shall be included.
P <sub>0</sub>	Feed hole pitch	12.7 $\pm$ 0.2	
P <sub>1</sub>	Feed hole center to lead	3.85 $\pm$ 0.5	
P <sub>2</sub>	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	
$\Delta$ h <sub>1,2</sub>	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 <sub>0</sub>	Adhesive tape width	9.5min.	The hold down tape shall not protrude beyond the carrier tape.
W <sub>1</sub>	Hole position	9.0 $\pm$ 0.5	
W <sub>2</sub>	Hold-down tape position	0-3.0	
H <sub>2</sub>	Component height	22.0 $\pm$ 0.75	
H <sub>0</sub>	Lead-wire clinch height	16.0 $\pm$ 0.5	
t	Lead-wire protrusion	0max.	
t <sub>0</sub>	Lead-wire depression	7.0max.	
$\phi$ D <sub>0</sub>	Feed hole diameter	4.0 $\pm$ 0.2	
t <sub>1</sub>	Total tape thickness	0.7 $\pm$ 0.2	Total thickness including the hold down tape.
t <sub>2</sub>	Total thickness	1.5max.	
L <sub>0</sub>	Length of snipped lead	11.0max.	

**MARKING EXAMPLE**



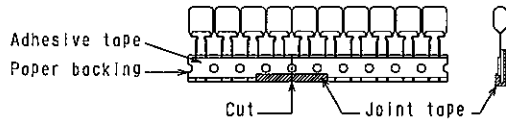
**Reference**

DESIGN	S. Yoshizawa
CHECKED	M. Nishihara
APPROVAL	M. Magawa
ESTABLISHMENT	Jun. 15, 1999
TYPE NAME	ECQE2***()B3
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-A43E (1/2)

**Panasonic** Electronic Circuit Capacitor Business Unit,  
Panasonic Electronic Devices Co., Ltd.

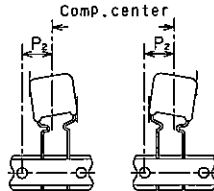
ALTERATION		
ISSUE	DESCRIPTION	DATE
$\Delta$	Modification	Aug. 27 1999
$\Delta$	Company name changed	Oct. 1 2004
$\Delta$	Company name changed	Apr. 1 2005

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

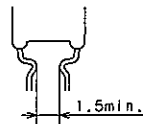


A tape sliding shall not exceed in an allowance of "P<sub>0</sub>" dimension.  
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

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 P<sub>1</sub> and P<sub>2</sub> dimension shall be measured as shown in the figure after the adhesive tape placing upward.  
 (measuring from the center of sprocket hold to the right.)  
 2)The P<sub>2</sub> dimension shall be measured between center of a vertical shadow plane for tape plan and center of sprocket hole.

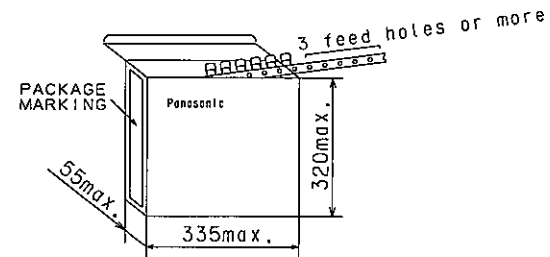


Note 7. The lead crimping shape shows as follows.



Packing specification

△ 1. Case size  
 Ammo pack



△ 2. Packing quantity

Capacitance range	Packing quantity
0.01~0.033μF	2000
0.039~0.082μF	1500
0.12, 0.18μF	
0.22μF	

Capacitance range	Packing quantity
0.1, 0.15μF	1000
0.27~0.68μF	

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  
 ECQE2\*\*\*()B3  
 DRAWING No.  
 CT-H-A43E (2/2)

**Panasonic** Electronic Circuit Capacitor Business Unit,  
 Panasonic Electronic Devices Co., Ltd.

THIRD ANGLE PROJECTION

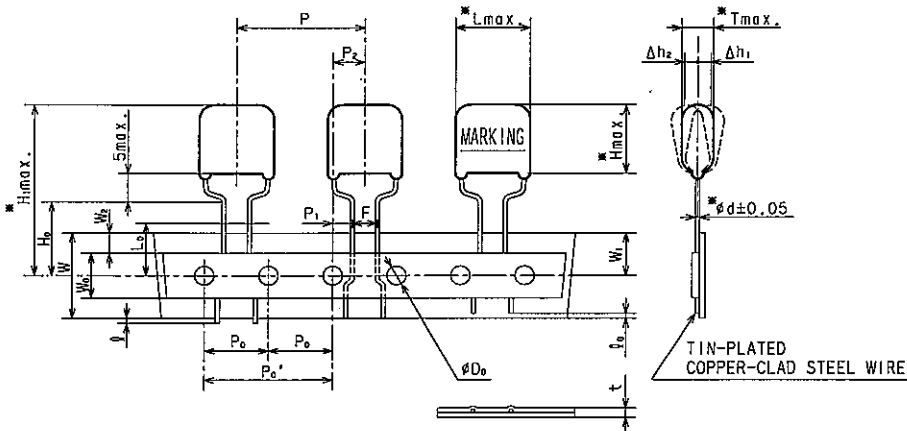
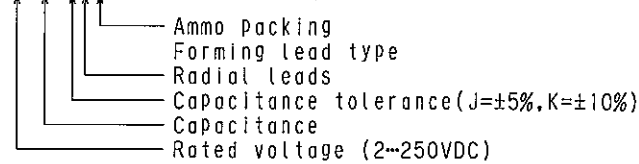
ITEM CODE	RATED VOLTAGE	CAP. ( $\mu$ F)	DIMENSIONS				
			* L	* T	* H	* d	* H <sub>1</sub>
ECQE2824()B3	250VDC	0.82	15.3	6.3	13.3	0.6	34.8
# 2105()B3	#	1.0	#	7.0	14.0	#	35.5
# 2125()B3	#	1.2	#	7.6	14.6	#	36.1
# 2155()B3	#	1.5	#	8.6	15.7	#	37.2

TOL. SYMBOL (J or K)

ALTERATION		
ISSUE	DESCRIPTION	DATE
△	Modification	Aug. 27 1999
△	Company name changed	Oct. 1 2004
△	Company name changed	Apr. 1 2005

ITEM CODE NUMBER STRUCTURE

ECQE 2824KB3 (250VDC, 0.82 $\mu$ F,  $\pm$ 10%)



SYMBOL	ITEM	DIMENSION	REMARKS
P	Pitch of component	25.4 $\pm$ 1.0	Tilt of component and curvature of leads shall be included.
P <sub>0</sub>	Feed hole pitch	12.7 $\pm$ 0.2	
P <sub>0</sub> '	#	25.4 $\pm$ 0.2	
P <sub>1</sub>	Feed hole center to lead	3.85 $\pm$ 0.5	
P <sub>2</sub>	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 $\pm$ 0.8	
Δh <sub>1,2</sub>	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 <sub>0</sub>	Adhesive tape width	12.5min.	The hold down tape shall not protrude beyond the carrier tape.
W <sub>1</sub>	Hole position	9.0 $\pm$ 0.5	
W <sub>2</sub>	Hold-down tape position	0-3.0	
H <sub>0</sub>	Lead-wire clinch height	16.0 $\pm$ 0.5	
f	Lead-wire protrusion	0max.	
t <sub>0</sub>	Lead-wire depression	7.0max.	
φD <sub>0</sub>	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 <sub>0</sub>	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.

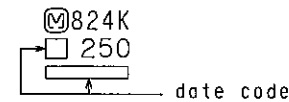
MARKING

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

PROPERTIES

Capacitance : See table at 1kHz.  
Capacitance tolerance :  $\pm$ 5%(J),  $\pm$ 10%(K) at 1kHz.  
Rated voltage : 250VDC  
Withstand voltage (terminal-terminal) : 250VDC $\times$ 150% for 60s  
Insulation resistance :  $\geq$ 3000M $\Omega$ · $\mu$ F at 100VDC, 20°C for 60s  
Dissipation factor :  $\leq$ 1.0% at 1kHz, 20°C  
Operating temperature range : From -40°C to +85°C  
(including temperature rise on unit surface)

MARKING EXAMPLE

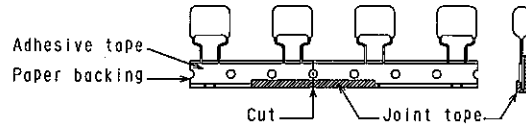


Reference

DESIGN	8.405129-
CHECKED	M. Nishikawa
APPROVAL	M. Nagaoaka
ESTABLISHMENT	Jun. 15, 1999
TYPE NAME	ECQE2***()B3
NAME	Metallized Polyester Film Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	CT-H-A44E (1/2)

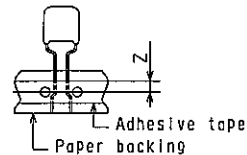
**Panasonic** Electronic Circuit Capacitor Business Unit,  
Panasonic Electronic Devices Co., Ltd.

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



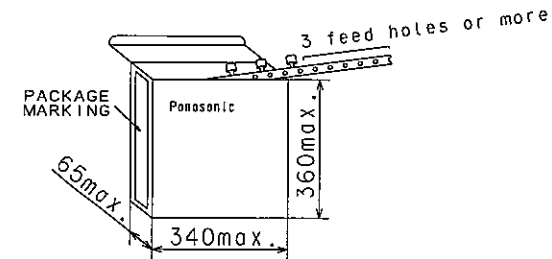
A tape sliding shall not exceed in an allowance of "P<sub>0</sub>" dimension.  
 A joint tape put on the back side of paper backing, and turn up the lower part to the front.

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. Forming place shall be inside of the Z dimension.



Packing specification

1. Case size  
Ammo pack



△ 2. Packing quantity

Capacitance range	Packing quantity
0.82 $\mu$ F	600
1.0, 1.2 $\mu$ F	500
1.5 $\mu$ F	400

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 clipping.)
- 3) The packing box must be handled with care and never thrown out.

**Reference**

TYPE NAME	ECQE2***()B3
DRAWING No.	CT-H-A44E (2/2)

**Panasonic** Electronic Circuit Capacitor Business Unit,  
 Panasonic Electronic Devices Co., Ltd.