

THIRD ANGLE PROJECTION

Type designation	Part No.	Cap.		Dimensions						
		( $\mu$ F)	(*)	L	T	H	F	d	P	Q
ECQUA	ECQUAAV104**	0.1	(104)	18.5	8.0	12.5	15.0	0.6	0 $\pm$ 0.8	1.8
"	" AV124**	0.12	(124)	"	"	"	"	"	"	"
"	" AV154**	0.15	(154)	"	"	"	"	"	"	"
"	" AV184**	0.18	(184)	"	"	16.5	"	"	"	"
"	" AV224**	0.22	(224)	"	"	"	"	"	"	"
"	" AV274**	0.27	(274)	"	9.0	18.0	"	"	"	"
"	" AV334**	0.33	(334)	"	"	"	"	"	"	"
"	" AV394**	0.39	(394)	"	11.0	20.0	"	"	"	"
"	" AV474**	0.47	(474)	26.0	9.0	16.0	22.5	0.8	"	"
"	" AV564**	0.56	(564)	"	12.0	19.0	"	"	"	"
"	" AV684**	0.68	(684)	"	"	"	"	"	"	"
"	" AV824**	0.82	(824)	"	14.0	21.0	"	"	"	"
"	" AV105**	1.0	(105)	"	"	"	"	"	"	"

T1 $\pm$ 10% (K)  
S1 $\pm$ 20% (M)

ITEM CODE NUMBER STRUCTURE

ECQUA AV 104 S1 (310VAC, 0.1 $\mu$ F,  $\pm$ 20%)

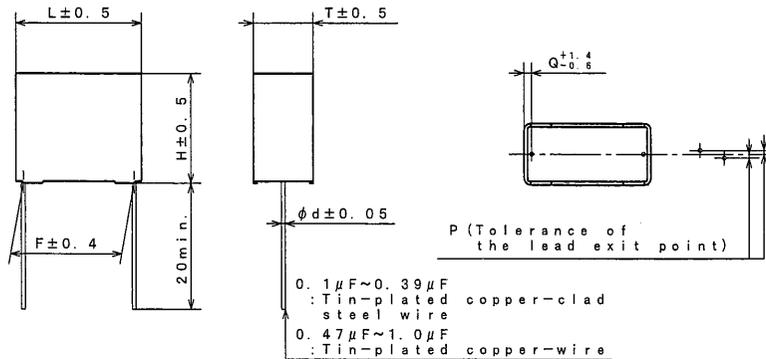
↑ Short leads  
 ↑ Capacitance tolerance (T1 $\pm$ 10%, S1 $\pm$ 20%)  
 ↑ Capacitance (\*)  
 ↑ Rated voltage (AV...310VAC)

PACKING QUANTITY

Capacitance range ( $\mu$ F)	Quantity (pcs.)
0.1 ~ 0.15	1200
0.18 ~ 0.22	900
0.27 ~ 0.33	700
0.39	500
0.47	600
0.56 ~ 0.68	400
0.82 ~ 1.0	300

QUANTITY of MINIMUM ORDER

Capacitance range ( $\mu$ F)	Quantity (pcs.)
0.1 ~ 0.15	1000
0.18 ~ 0.22	900
0.27 ~ 0.33	700
0.39	500
0.47	600
0.56 ~ 0.68	400
0.82 ~ 1.0	300



\*F: Regulation of the root

ALTERATION		
ISSUE	DESCRIPTION	DATE

SPECIFICATIONS No.

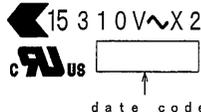
For Automotive

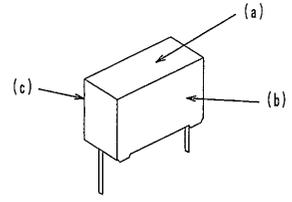
Reference

DESIGN	K. Miyahara
CHECKED	N. Fukushima
APPROVAL	K. Takemura
ESTABLISHMENT	May. 19. 2020
TYPE NAME	ECQUAAV***T1 ECQUAAV***S1
NAME	Safety Standard approval Metallized Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	J024B-J-E (1/2)

Toyama-Matsue Plant  
Device Solutions Business Division  
Panasonic Corporation

THIRD ANGLE PROJECTION

(a) SIDE	(b) or (c) SIDE
 ECQUA104K	 date code



(Note) Only  $\pm 10\%$  as capacitance tolerance to be marked as "K"

Note When applying for the agency, designate the capacitor in the following form, "ECQUA, 0.33 $\mu$ F"  
The part number need not be specified.

North America      UL60384-14  
                          CAN/CSA-E60384-14

Europe                IEC60384-14  
                          EN60384-14

CLASS X2

CONSTRUCTION

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

MARKING

Marking comprises capacitance, capacitance tolerance (K only), rated voltage, type designation, capacitor classification, manufacturer's trademark, recognition mark and date code.

PROPERTIES

Capacitance	: See table	at 1kHz
Capacitance tolerance	: $\pm 10\%$ (K), $\pm 20\%$ (M)	at 1kHz
Rated voltage	: 310VAC	
Withstand voltage (terminal-terminal)	: 713VAC or 1768VDC	} for 60s
(terminal-enclosure)	: 2120VAC	
Insulation resistance	: $\geq 15000\Omega$ ( $C \leq 0.33\mu F$ )	} at 100VDC for 60s, 20°C
	: $\geq 5000\Omega \cdot \mu F$ ( $C > 0.33\mu F$ )	
	: $\geq 2000\Omega$ ( $C \leq 0.47\mu F$ )	
Dissipation factor	: $\leq 0.1\%$	at 1kHz, 20°C
Category temperature range	: From -40°C to +110°C	

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Reference

TYPE-NAME	ECQUAAV***T1 ECQUAAV***S1
DRAWING No.	J024B-J-E (2/2)

Toyama-Matsue Plant  
Device Solutions Business Division  
Panasonic Corporation

THIRD ANGLE PROJECTION

Type designation	Part No.	Cap.		Dimensions						
		( $\mu$ F)	(*)	L	T	H	F	d	P	Q
ECQUA	ECQUAAV224**	0.22	(224)	26.0	7.0	14.0	22.5	0.8	0 $\pm$ 0.8	1.8
"	" AV274**	0.27	(274)	"	8.0	15.0	"	"	"	"
"	" AV334**	0.33	(334)	"	"	"	"	"	"	"
"	" AV394**	0.39	(394)	"	9.0	16.0	"	"	"	"

Q1 =  $\pm$ 10% (K)  
R1 =  $\pm$ 20% (M)

ALTERATION		
ISSUE	DESCRIPTION	DATE
SPECIFICATIONS No.		

ITEM CODE NUMBER STRUCTURE

ECQUA AV224R1 (310VAC, 0.22 $\mu$ F,  $\pm$ 20%)

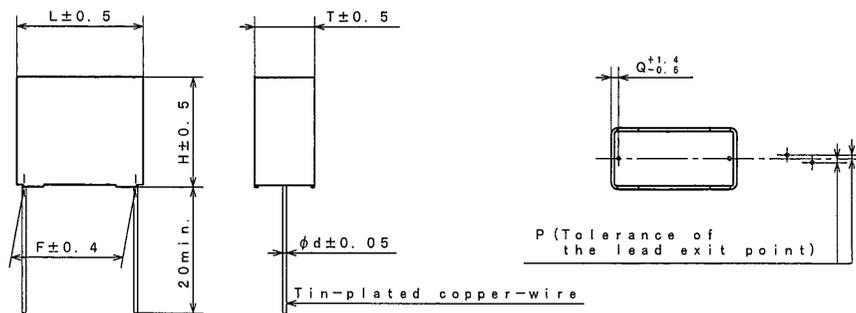
ECQUA: Type designation  
 AV: Rated voltage (AV...310VAC)  
 224: Capacitance (\*)  
 R1: Short leads  
     Capacitance tolerance (Q1= $\pm$ 10%, R1= $\pm$ 20%)

PACKING QUANTITY

Capacitance range ( $\mu$ F)	Quantity (pcs.)
0.22	900
0.27 ~ 0.33	700
0.39	600

QUANTITY of MINIMUM ORDER

Capacitance range ( $\mu$ F)	Quantity (pcs.)
0.22	900
0.27 ~ 0.33	700
0.39	600



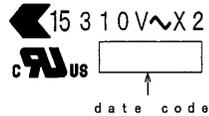
·F: Regulation of the root

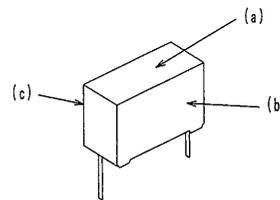
For Automotive

Reference

DESIGN	<i>K. M. K.</i>
CHECKED	<i>K. S. K.</i>
APPROVAL	<i>K. S. K.</i>
ESTABLISHMENT	May. 19. 2020
TYPE NAME	ECQUAAV***Q1 ECQUAAV***R1
NAME	Safety Standard approval Metallized Capacitor
DRAWING NAME	PRODUCT DRAWING
DRAWING No.	J027B-J-E (1/2)

THIRD ANGLE PROJECTION

(a) SIDE	(b) or (c) SIDE
 ECQUA224K	 date code



(Note) Only  $\pm 10\%$  as capacitance tolerance to be marked as "K"

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The part number need not be specified.

North America      UL60384-14  
CAN/CSA-E60384-14

Europe              IEC60384-14  
EN60384-14

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Capacitance tolerance	: $\pm 10\%$ (K), $\pm 20\%$ (M)	at 1kHz
Rated voltage	: 310VAC	
Withstand voltage (terminal-terminal)	: 713VAC or 1768VDC	} for 60s
(terminal-enclosure)	: 2120VAC	
Insulation resistance	: $\geq 15000\Omega$ (C $\leq 0.33\mu$ F)	} at 100VDC for 60s, 20°C
	: $\geq 5000\Omega \cdot \mu$ F (C $> 0.33\mu$ F)	
	: $\geq 2000\Omega$ (C $\leq 0.47\mu$ F)	
Dissipation factor	: $\leq 0.1\%$	at 1kHz, 20°C
Category temperature range	: From -40°C to +110°C	

For Automotive

Reference

TYPE NAME
ECQUAAV***Q1
ECQUAAV***R1
DRAWING No.
J027B-J-E (2/2)

Toyama-Matsuo Plant  
Device Solutions Business Division  
Panasonic Corporation