

客戶名稱：
CUSTOMER：

Doc No： MES000513
Rev： A0

RoHS Comp.
Halogen Free

承認書

APPROVAL SHEET

規格敘述： AP CAP 330uF-2V ESR09
7.3X4.3X1.9mm +10~-35%,1000hrs

鈺邦料號： ACAS2R0S331E09Y

發行日期： 2011/11/29

客戶料號：

CHECKED BY



Approved by Customer
(Signing or stamping here)

Approved Date



鈺邦科技股份有限公司
APAQ TECHNOLOGY CO., LTD

廣源科技園區
苗栗縣竹南鎮公義里 11 鄰科義街 11 號
No.11, Ke-Yi St., Chunan Township, Miaoli,
Taiwan 350, R.O.C.

AP-CAP ACAS SERIES SPECIFICATION

1. Application

This specification shall be specified to chip type conductive polymer aluminum solid electrolytic capacitors of ACAS series.

2. Product Identification

ACAS 2R0 S 221 E09 □
 ① ② ③ ④ ⑤ ⑥

① Product Code

② Rated Voltage 2R0 : 2.0V
 2R5 : 2.5V

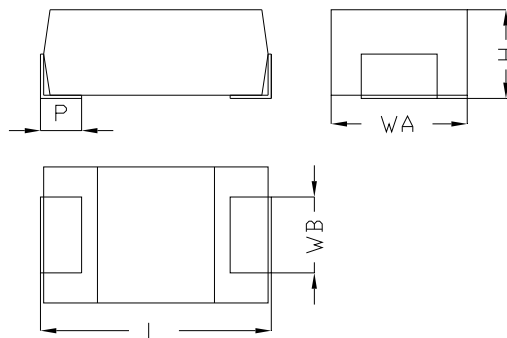
③ Case Height S : 1.9 mm
 H : 2.8 mm
 U : 4.0 mm

④ Capacitance 101 : 100 μ F
 820 : 82 μ F

⑤ ESR E18 : 18 m Ω

⑥ Suffix for special code Y : Capacitance +10 ~ -35% 、 K : Capacitance \pm 10%

3. Configuration and Dimensions



unit : mm

Case size	L	WA	WB	H	P
U	7.3 \pm 0.3	4.3 \pm 0.3	2.4 \pm 0.2	4.0 \pm 0.2	1.3 \pm 0.2
H	7.3 \pm 0.3	4.3 \pm 0.3	2.4 \pm 0.2	2.8 \pm 0.2	1.3 \pm 0.2
S	7.3 \pm 0.3	4.3 \pm 0.3	2.4 \pm 0.2	1.9 \pm 0.2	1.3 \pm 0.2

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCT OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAP ACAS SERIES SPECIFICATION

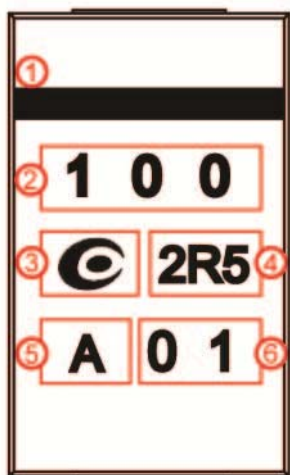
DOCUMENT NO.

MES000513

REV

A0

4. Marking



- ① : Polarity Bar (+)
- ② : Rated Capacity
- ③ : Company Logo
- ④ : Rated Voltage
- ⑤ : Year (A for 2009 、 B for 2010)
- ⑥ : Week

5. Specifications

5.1 Ratings

WV(VDC)	Cap (μ F)@120Hz	$\tan\delta$ Max. @120Hz	Leakage Current Max. (μ A)	ESR Max. (m Ω) @100kHz	Ripple Current (A r.m.s) @100kHz -55 to 105 $^{\circ}$ C	Part No.
2	100	0.06	12.0	18	2.5	ACAS2R0S101E18
	220	0.06	26.4	15	2.7	ACAS2R0S221E15
	220	0.06	26.4	9	3.0	ACAS2R0S221E09
	220	0.06	26.4	15	2.7	ACAS2R0S221E15K
	330	0.06	39.6	9	3.0	ACAS2R0S331E09
	330	0.06	39.6	6	3.5	ACAS2R0S331E06
	330	0.06	39.6	9	3.0	ACAS2R0S331E09Y
2.5	100	0.06	15.0	25	1.8	ACAS2R5S101E25
	100	0.06	15.0	18	2.5	ACAS2R5S101E18
6.3	100	0.06	25.2	15	2.7	ACAS6R3S101E15
	150	0.06	37.8	15	2.7	ACAS6R3S151E15
	150	0.06	37.8	12	3.0	ACAS6R3S151E12

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCT OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAP ACAS SERIES SPECIFICATION

DOCUMENT
NO.

MES000513

REV

A0

5.2 Environmental Performance

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +105 °C	
Rated Voltage Range		2 to 16 V.DC	
Capacitance Tolerance	at 20°C, 120Hz	±20 % (M) ; Y : +10 ~ -35% ; K : ±10 %	
Leakage Current	at 20°C after 2 minutes	$I \leq 0.06CV$ (2V.DC to 4V.DC) ; $I \leq 0.04CV$ (6.3V.DC) I : Leakage Current(μA), C : Rated Capacitance(μF), V : Rated Voltage(V)	
Surge Voltage	-55 to +105°C	Rated voltage × 1.25 V	
Dissipation Factor (tanδ)	at 20°C , 120Hz	Case Height : S Type, 0.06 max. ; H Type, 0.1 max.	
Endurance	105°C, rated voltage applied,1000 hrs	Appearance	No significant damage
		Capacitance Change	±10% of the initial value
		Dissipation Factor	within initial limit
		Leakage Current	within initial limit
Damp Heat, Steady State	60°C, 90 to 95%RH, 500 hrs	Appearance	No significant damage
		Capacitance Change	+70%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial limit
		Leakage Current	within initial limit
Damp Heat, Steady State, Applied Voltage	60°C, 90 to 95%RH, rated voltage,500 hrs	Appearance	No significant damage
		Capacitance Change	+70%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial limit
		Leakage Current	within initial limit
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, 125% rated voltage, at 105°C for 30 seconds through a protective resistor(R=1KΩ)and discharge for 5min 30 seconds.	Appearance	No significant damage
		Capacitance Change	±10% of the initial value
		Dissipation Factor	within initial limit
		Leakage Current	within initial limit
Solderability	Pb-free solder Around 25% rosin melted ethanol or isopropylalcohol Temperature : 245 ± 5 °C Immersing time : 2 ± 0.5 s	More than 95% of outer terminal surface to be covered	
Resistance to Soldering Heat	Heating temperature : 235 ± 5 °C Holding time : 200 ± 10 s Measure the performance after test and cools to room temperature	Appearance	
		Capacitance Change	
		Dissipation Factor	
		Leakage Current	
Resistance to Solvents	Solvent : isopropylalcohol Immersing time : 30 ± 5 s Room temperature	No significant damage and marking readable	

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCT OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAPACAS SERIES SPECIFICATION

DOCUMENT NO.

MES000513

REV

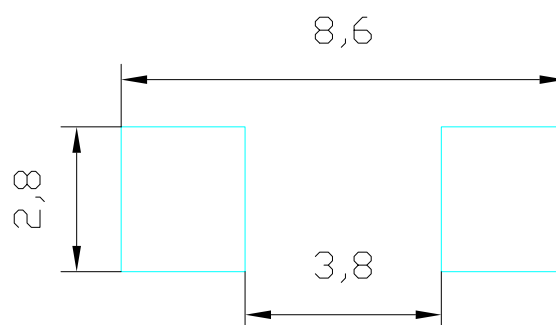
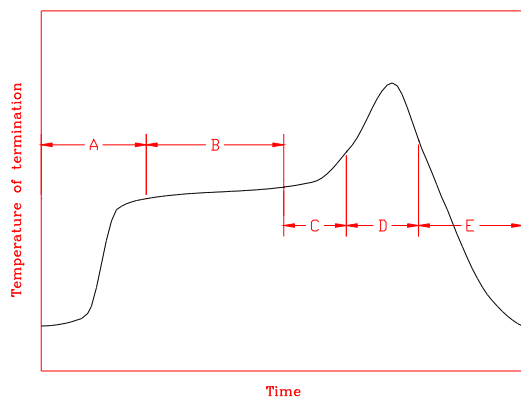
A0

5.3 Mechanical Performance

Item	Conditions	Characteristics	
Vibration	Test for 2 hours each in the directions of X-Y-Z at the frequency of 10 to 2000 Hz and amplitude of 1.5 mm(10-2000-10).	Appearance	No significant damage
		Capacitance Change	±10% of the initial value
		Dissipation Factor	within initial limit
		Leakage Current	within initial limit
Shear Force	Side push direction Force : 5 N Holding time : 10 ± 0.5s	No significant damage in appearance	

6. Reflow Condition

Recommended Pad Layout(mm)



A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd rising temperature	Preheating to 200°C	20s to 40s
D	Main heating	217°C 260°C	90s 10s
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCT OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAPACAS SERIES SPECIFICATION

DOCUMENT NO.

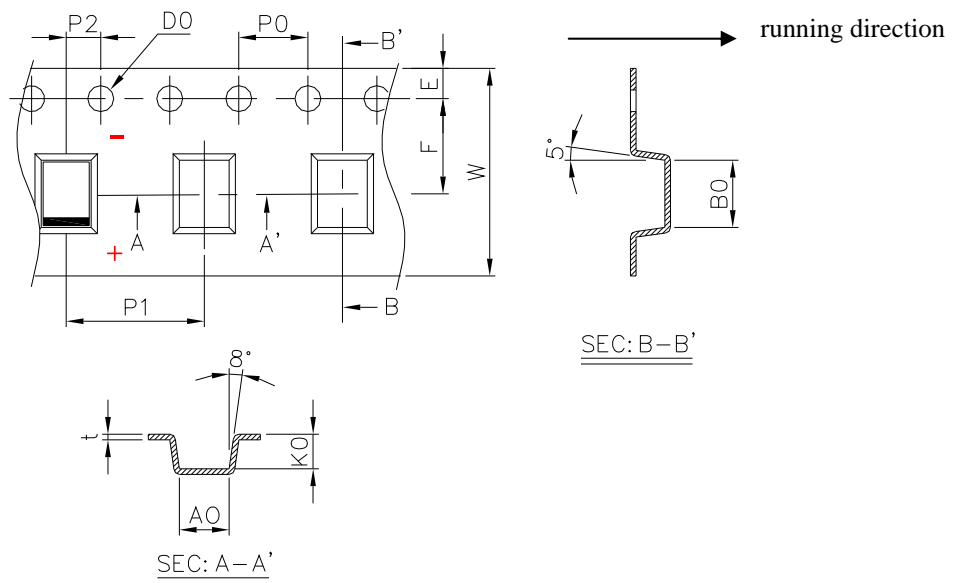
MES000513

REV

A0

7. Taping Packing and Label Marking

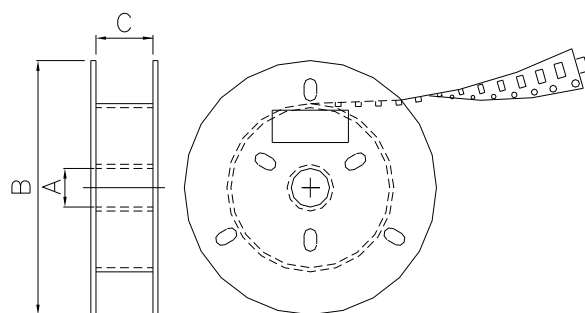
7.1 Carrier Tape Dimensions



unit : mm

	W	P1	E	F	D0	P0	P2	A0	B0	K0	t
Dimension	12.00	8.00	1.75	5.50	1.50	4.00	2.00	4.70	7.60	2.10	0.26
Tolerance	±0.30	±0.10	±0.10	±0.10	+ 0.10 - 0.00	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10

7.2 Taping Reel Dimensions



Reel Dimension (mm)		
A	B	C
13.5±0.5	330±1.0	13.5±0.5

7.3 Label Marking

The label specified as follows shall be put on the side of reel.

- (1) Part No.
- (2) Quantity. (3.5 kpcs / reel)
- (3) Lot No.

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAPACAS SERIES SPECIFICATION

DOCUMENT NO.

MES000513

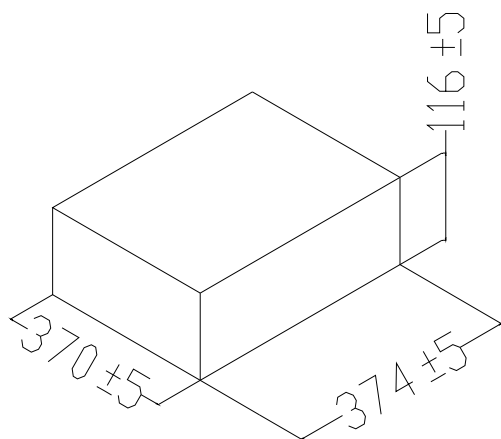
REV

A0

7.4 Dimension of inner and outer carton box

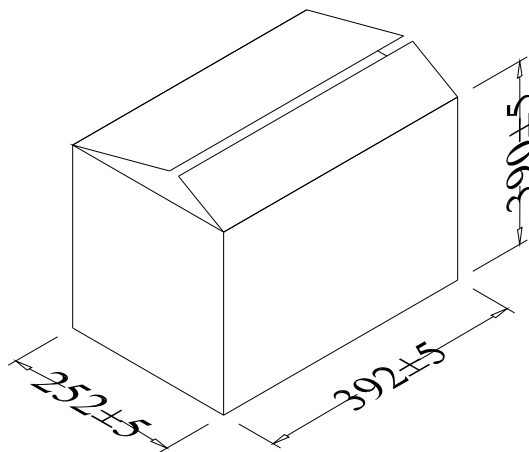
3.5 kpcs capacitors were packed in a taping reel, 6 reels were packed in a inner carton box (W374*D370*H116mm) and 2 inner carton box were packed in a outer shipping carton box (W392*D252*H390mm), 42kpcs capacitors in a outer carton box.

Inner Carton Box



unit : mm

Outer Carton Box



unit : mm

8. Precautions for Handling

8.1 Storage : Product Should be stored in a moisture proof environment. Store in the location without direct sunlight and that has temperature range between 5°C and 30°C and a relative humidity less than 70% generally.

It is preferable to store for no more than 1 year under the above condition. Upon opening the moisture barrier bag, component should be mounted within 7 days to prevent moisture absorption.

8.2 Environment : Capacitors are not subject to direct contact with water, salt water, chemically gas, acidic and alkaline environment.

8.3 Disposal : Treat Capacitors as industrial waste because they consist of various metals and resin.

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF APAQ TECHNOLOGY CO. LTD AND SHALL NOT BE REPRODUCED OR USED AS THE BASIC FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.



鈺邦科技股份有限公司

APAQ TECHNOLOGY CO., LTD

DESIGNED BY : Mark

DRAWN BY : 張坤煌

CHECKED BY : Mark

APPROVED BY : 樊雨心

TITLE : AP-CAPACAS SERIES SPECIFICATION

DOCUMENT NO.

MES000513

REV

A0