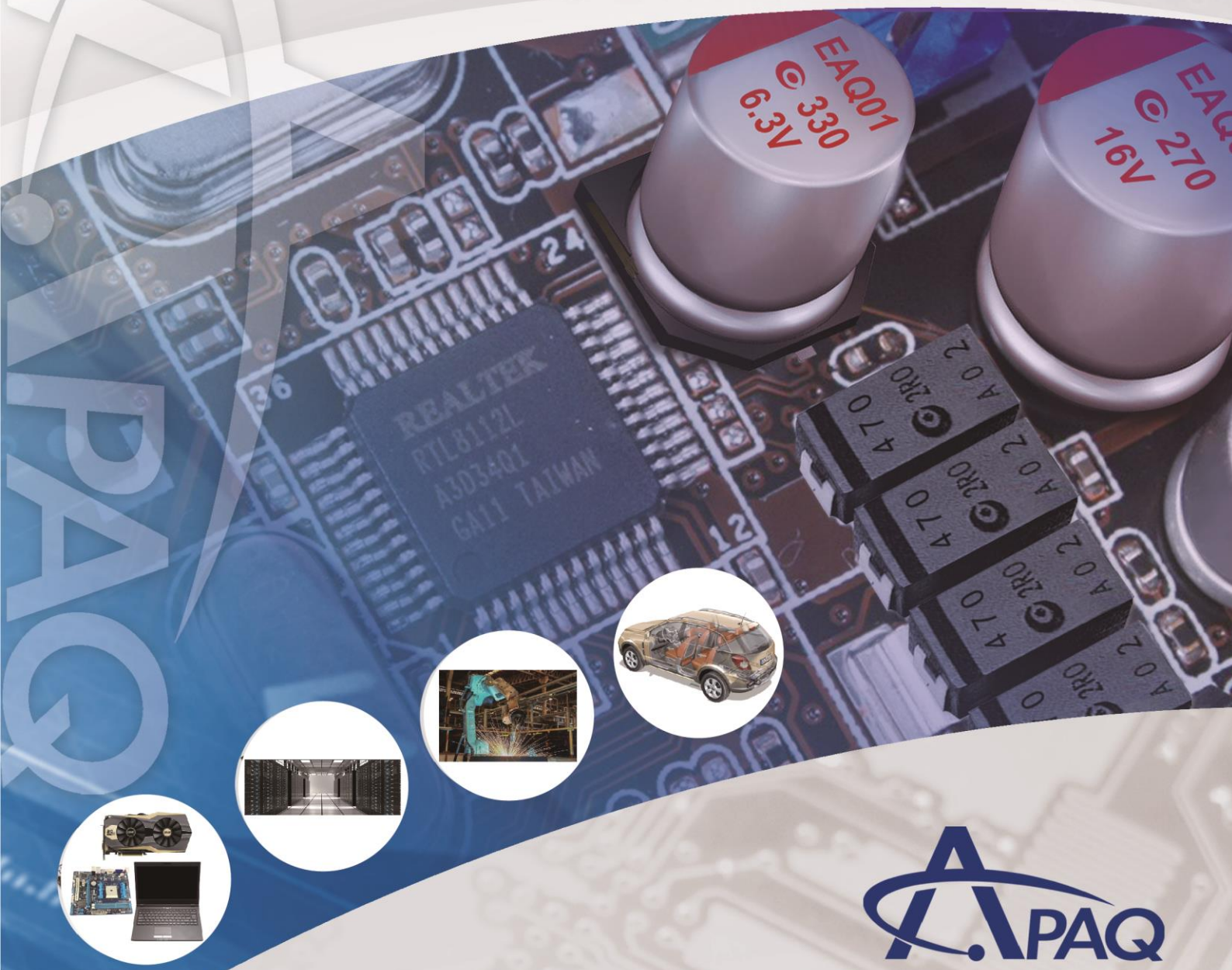


APAQ TECHNOLOGY CO., LTD.

鈺邦科技股份有限公司

www.apaq.com.tw

Conductive Polymer Aluminum Solid Capacitors

Radial Type

AREA series	105°C 2000H 2.5~16V Standard	06X5 06X8 08X8 08A2 10A2
AREC series	105°C 2000H 2.5~16V High Current	06X8 08X8 08A2 10A2
AREP series	105°C 3000H 6.3~35V Power	05X7 1010 05X8 10A0 06X5 10A2 06X8 10A6 06A0 10B0 06A1 08X8 0811 08A2 08A6 08B0
AR5K series	105°C 5000H 2.5~16V Long Life	04X5 05X8 06X5 06X8 08X8 08A2 10A2
ARHA series	105°C 5000H 25~100V High Voltage	06X5 06X8 08X8 08A2 08A6 08B0 10A2 10A6 10B0
AR5P series	105°C 5000H 6.3~35V Power	06X8 08X8 08A0 08A2 08A6 08B0 10A2 10A6 10B0
ARHE series	125°C 1000H 2.5~63V High Endurance	06X8 06A0 08X8 08A2 08A6 10A2 10A6 10B0
ARHT series	125°C 2000H 25~63V High Reliability	08X8 08A2 10A2
ARUP series	125°C 2000H 6.3~35V Power	06X8 08X8 08A2 08A6 10A2 10A6 10B0

SMD Type

AVEA series	105°C 2000H 2.5~25V Standard	0506 0645 0606 0610 0807 0810 0812 1012
AV5K series	105°C 5000H 2.5~25V Long Life	0506 0645 0606 0608 0610 0807 0810 0812 1012
AVHA series	105°C 5000H 25~100V High Voltage	0606 0608 0807 0810 0812 1012

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

SMD Type

AVMA series	105°C 10000H 16~80V	0608 0810 1010 1012
AVMC series	125°C 4000H 25~80V	0608 0810 0812 1010 1012

Conductive Polymer Aluminum Electrolytic Capacitors

CAP

ACAS series	105°C 2000H 2~25V Standard	7343/D
ACAH series	105°C 2000H 2~25V High Capacitance	7343/D
ACTH series	125°C 1000H 2~25V High Reliability	7343/D
ACAL series	105°C 2000H 2~2.5V	7343/D

APAQ Part numbering system

◆ Radial Lead Type

160	AREP	102	M	08A6	PFBT
1. Rated voltage	2. Series code	3. Capacitance	4. Cap tolerance	5. Size code	6. Special code

1. Rated voltage

Rated voltage(V)	2	2.5	3	4	6.3	6.8	7.5	10	12	16	20	25	35	50	63	80	100
Rated voltage code	2R0	2R5	3R0	4R0	6R3	6R8	7R5	100	120	160	200	250	350	500	630	800	101

2. Series code

Please refer to Page 1.

3. Capacitance

Capacitance (uF)	3.3	10	22	47	82	100	120	180	270	330	470	1000	1200	1500	2200
Capacitance code	3R3	100	220	470	820	101	121	181	271	331	471	102	122	152	222

4. Cap tolerance

Cap tolerance	±20%
Cap tolerance code	M

5. Outer dimensions

(1) Radial Lead Type

Case diameter

ΦD(mm)	4	5	5.5	6.3	8	10
Code	04	05	55	06	08	10

Case length

Code	X5	X7	X8	A0	A1	A2	A6	B0
L(mm)	5	7	8	10	11	12	16	20
α(mm)	-0.5~1	-0.5~1	-0.5~1	-0.5~1	-0.5~1	-0.5~1	-0.5~1	-0.5~1

(2) Surface Mount Type

Case diameter

ΦD(mm)	5	6.3	8	10
Code	05	06	08	10

Case length

Code	45	06	07	08	10	12	12
L(mm)	4.5	5.8	6.8	7.5	9.7	12	12.3
α(mm)	-0.2~0.1	-0.2~0.2	-0.2~0.2	-0.5~0.5	-0.3~0.3	-0.5~0.5	-0.2~0.2

6. Special code

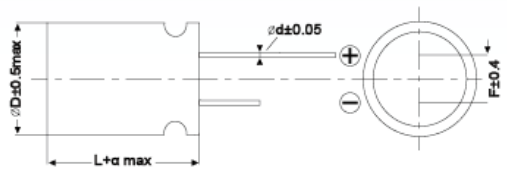
Marking	C	Cool Gray
Features	EXX	E15：ESR=15mΩ
	LXX	L10：0.1CV L50：0.5CV
Dimension	P00	Standard (Postive pin 19±0.3mm Negative pin 15±0.3mm)
	PXX	P26：pin length=2.6+0.2/-0.3mm
	PFB	F=2.5mm
Package	T	Taping

APAQ Packing specifications

◆ Radial Lead Type

1.Long lead

1-1.Dimension

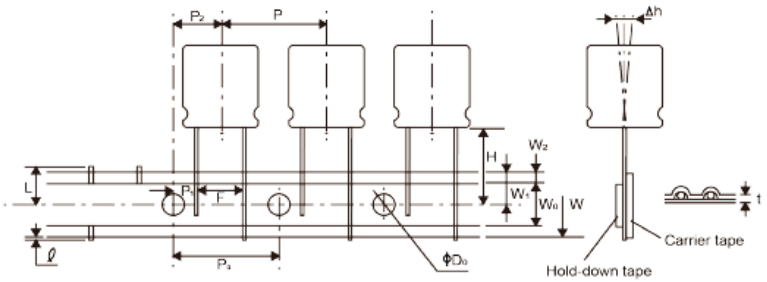


Unit : mm

Size Code	ΦD±0.5	L	α	Φd±0.5	F±0.5
04X5	4	5	-0.5~1	0.45	1.5
05X7	5	7	-0.5~1	0.5	2
05X8	5	8	-0.5~1	0.5	2
06X5	6.3	5	-0.5~1	0.45	2.5
06X8	6.3	8	-0.5~1	0.6	2.5
06A0	6.3	10	-0.5~1	0.6	2.5
06A1	6.3	11	-0.5~1	0.6	2.5
08X8	8	8	-0.5~1	0.6	3.5
08A0	8	10	-0.5~1	0.6	3.5
08A2	8	12	-0.5~1	0.6	3.5
08A6	8	16	-0.5~1	0.6	3.5
08B0	8	20	-0.5~1	0.6	3.5
10A0	10	10	-0.5~1	0.6	5
10A2	10	12	-0.5~1	0.6	5
10A6	10	16	-0.5~1	0.6	5
10B0	10	20	-0.5~1	0.6	5

2.Taping

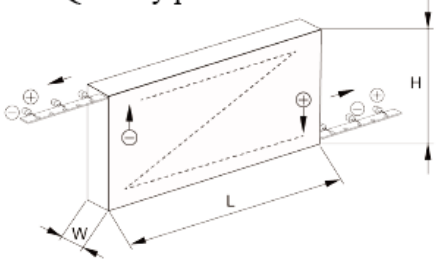
2-1.Dimension



Unit : mm

Size Code	F	P	P0	P1	P2	△h	W	W0	W1	W2	H	ΦD0	t	ℓ	L
Tolerance	+0.8 −0.2	±1.0	±0.2	±0.5	±1.0	±1.0	±0.5	min	±0.5	max	±0.75	±0.2	±0.3	max	max
05X7	2.0	12.7	12.7	5.35	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
05X8	2.0	12.7	12.7	5.35	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
06X5	2.5	12.7	12.7	5.10	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
06X8	2.5	12.7	12.7	5.10	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
06A0	2.5	12.7	12.7	5.10	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
06A1	2.5	12.7	12.7	5.10	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
08X8	3.5	12.7	12.7	4.60	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
08A2	3.5	12.7	12.7	4.60	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
08A6	3.5	12.7	12.7	4.60	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
08B0	3.5	12.7	12.7	4.60	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
10A0	5.0	12.7	12.7	3.85	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
10A2	5.0	12.7	12.7	3.85	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
10A6	5.0	12.7	12.7	3.85	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11
10B0	5.0	12.7	12.7	3.85	6.35	0	18	9.5	9	2.5	18.5	4	0.6	0	11

2-2.Quantity per box



● Dimension

Size	L(mm) max	W(mm) max	H(mm) max
06X5	335	39	260
05X7/05X8 06X8/08X8	335	42	260
06A0/06A1 08A2/10A0 10A2	335	45	260
08A6/08B0	335	53	260
10A6/10B0	335	55	260

● Package quantity

Size code(D)	Quantities(pcs)
Φ5	2,000
Φ6.3	2,000
Φ8	1,200
Φ10	650

3. Bagged packing

3-1. Packing quantity

● Long lead type

Case size	PE bag	Inner box	Outer box
Φ4	1,000 pcs	12 bags (12,000 pcs)	5 inner boxes (60,000 pcs)
Φ5	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ6X8	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ6X10	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ6X11	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ8X12	400 pcs	4 bags (1,600 pcs)	5 inner boxes (8,000 pcs)
Φ8X16	300 pcs	4 bags (1,200 pcs)	5 inner boxes (6,000 pcs)
Φ8X20	300 pcs	4 bags (1,200 pcs)	5 inner boxes (6,000 pcs)
Φ10X12	300 pcs	4 bags (1,200 pcs)	5 inner boxes (6,000 pcs)
Φ10X16	200 pcs	4 bags (800 pcs)	5 inner boxes (4,000 pcs)
Φ10X20	200 pcs	4 bags (800 pcs)	5 inner boxes (4,000 pcs)

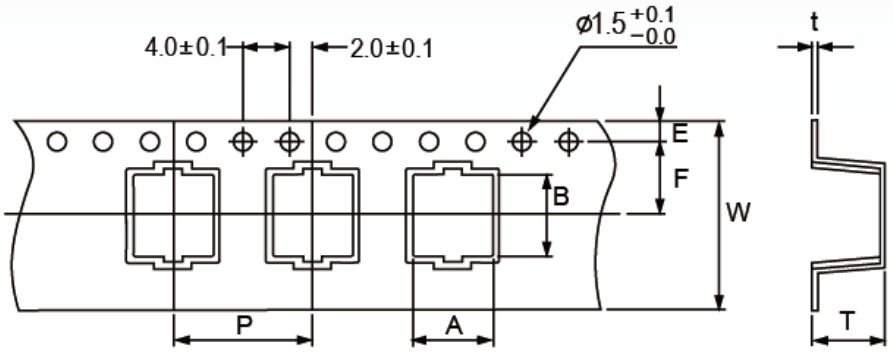
● Cutting type

Case size	PE bag	Inner box	Outer box
Φ4	1,000 pcs	24 bags (24,000 pcs)	5 inner boxes (120,000 pcs)
Φ5	500 pcs	8 bags (4,000 pcs)	5 inner boxes (20,000 pcs)
Φ6X8	500 pcs	8 bags (4,000 pcs)	5 inner boxes (20,000 pcs)
Φ6X10	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ6X11	500 pcs	6 bags (3,000 pcs)	5 inner boxes (15,000 pcs)
Φ8X12	500 pcs	4 bags (2,000 pcs)	5 inner boxes (10,000 pcs)
Φ8X16	500 pcs	4 bags (2,000 pcs)	5 inner boxes (10,000 pcs)
Φ8X20	400 pcs	4 bags (1,600 pcs)	5 inner boxes (8,000 pcs)
Φ10X12	500 pcs	4 bags (2,000 pcs)	5 inner boxes (10,000 pcs)
Φ10X16	400 pcs	4 bags (1,600 pcs)	5 inner boxes (8,000 pcs)
Φ10X20	350 pcs	4 bags (1,400 pcs)	5 inner boxes (7,000 pcs)

APAQ Packing specifications

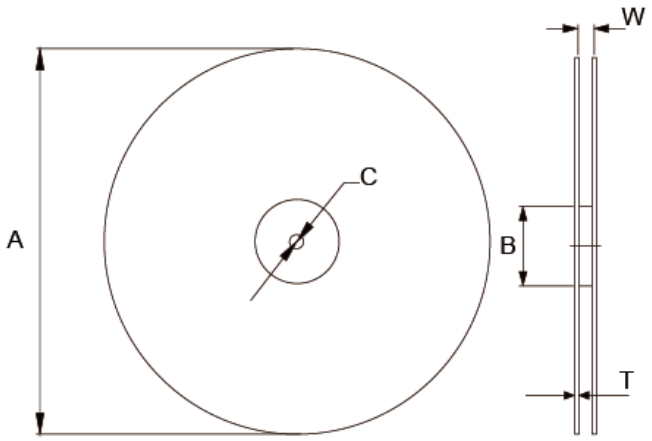
◆ Surface Mount Type

1. Carrier tape dimensions



Size Code(mm)	W	A	B	F	E	P	T	t
Tolerance	±0.3	±0.2	±0.2	±0.1	±0.1	±0.1	±0.2	±0.05
0506	12	5.7	5.7	5.5	1.75	12	6.2	0.4
0645	16	6.8	6.8	7.5	1.75	12	4.8	0.4
0606	16	6.8	6.8	7.5	1.75	12	6.3	0.4
0610	16	7	7	7.5	1.75	12	10	0.5
0807	24	8.7	8.7	11.5	1.75	12	7.2	0.5
0810	24	8.7	8.7	11.5	1.75	16	10	0.5
0812	24	8.7	8.7	11.5	1.75	16	12	0.5
1012	24	10.7	8.7	11.5	1.75	16	13	0.5

2. Reel dimensions



● Reel dimensions

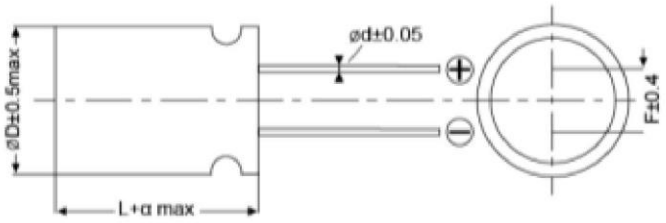
Size Code(mm)	A	B	C	W	T
Tolerance	±2	±0.5	±0.5	±0.8	±0.3
Φ5	381	100	13	13.5	2.5
Φ6	381	100	13	16.5	2.5
Φ8	381	100	13	25.9	2.5
Φ10	381	100	13	25.9	2.5

● Quantity per reel/box

Case size (mm)	1 Reel	1 Box
0506	1,200 pcs	7,200 pcs (6 reels)
0645	1,500 pcs	9,000 pcs (6 reels)
0606	1,200 pcs	7,200 pcs (6 reels)
0610	750 pcs	4,500 pcs (6 reels)
0807	1,000 pcs	5,000 pcs (5 reels)
0810	500 pcs	2,500 pcs (5 reels)
0812	400 pcs	2,000 pcs (5 reels)
1012	450 pcs	2,250 pcs (5 reels)

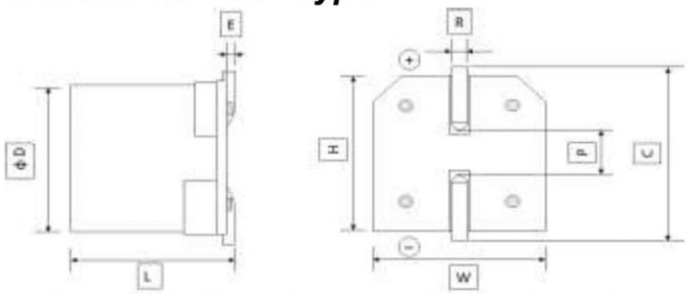
Size Code

Specifications for Radial Type



Size code	ϕD±0.5 (mm)	L (mm)	α (mm)	ϕd±0.05 (mm)	F±0.4 (mm)
04X5	4	5	-0.5~1	0.45	1.5
05X7	5	7	-0.5~1	0.5	2
05X8	5	8	-0.5~1	0.5	2
06X5	6.3	5	-0.5~1	0.45	2.5
06X8	6.3	8	-0.5~1	0.6	2.5
06A0	6.3	10	-0.5~1	0.6	2.5
06A1	6.3	11	-0.5~1	0.6	2.5
08X8	8	8	-0.5~1	0.6	3.5
08A0	8	10	-0.5 ~1	0.6	3.5
08A2	8	12	-0.5~1	0.6	3.5
08A6	8	16	-0.5~1	0.6	3.5
08B0	8	20	-0.5~1	0.6	3.5
10A0	10	10	-0.5~1	0.6	5
10A2	10	12	-0.5~1	0.6	5
10A6	10	16	-0.5~1	0.6	5
10B0	10	20	-0.5~1	0.6	5

Specifications for SMD Type



Size code	ψD±0.5	L	α	E	W±0.2	H±0.2	C±0.2	R	P±0.3
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0506	5	5.8	±0.2	0.00~0.20	5.3	5.3	6	0.5~0.8	1.4
0645	6.3	4.5	-0.2~+0.1	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0606	6.3	5.8	±0.2	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0608	6.3	7.5	±0.5	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1

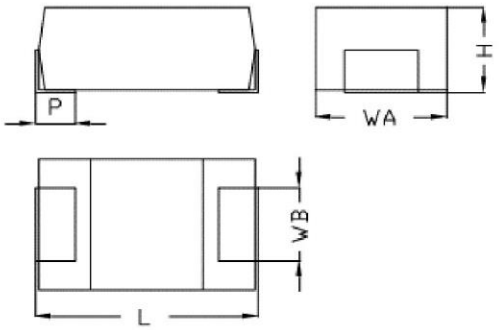
Size code	ψD±0.5	L	α	E	W±0.2	H±0.2	C±0.2	R	P±0.3
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0608（Hybrid）	6.3	7.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0610	6.3	9.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.6~0.9	2.1
0807	8	6.8	±0.2	0.00~0.20	8.3	8.3	9	0.8~1.1	2.9
0810	8	9.7	±0.3	0.00~0.20	8.3	8.3	9	0.8~1.1	2.9
0812	8	12	±0.5	0.00~0.20	8.3	8.3	9	0.8~1.1	3.2
1010	10	10.2	±0.3	0.00~0.20	10.3	10.3	11	0.8~1.1	4.6
1012	10	12.3	±0.2	0.00~0.20	10.3	10.3	11	0.8~1.1	4.6

Note:

1) *Approved materials follow original rule.*
2) *New materials are named by new rules to release and based on new encoding rules to build part number.*
3) *Height encoding rules: X means 0. A means 1. B means 2.*

   X6=06+α、X7=07+α、A1=11+α、A2=12+α、B0=20+α
4) *SMD Type keeps original encoding rules*

Specifications for Cap Type



Series	Case Size	L (mm)	WA (mm)	WB (mm)	H (mm)	P (mm)
ACAS	S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.2	1.3±0.2
ACAH	S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.3	1.3±0.2
ACTH	S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.3	1.3±0.2

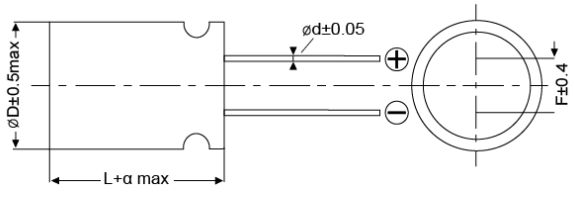
AREA Series Standard

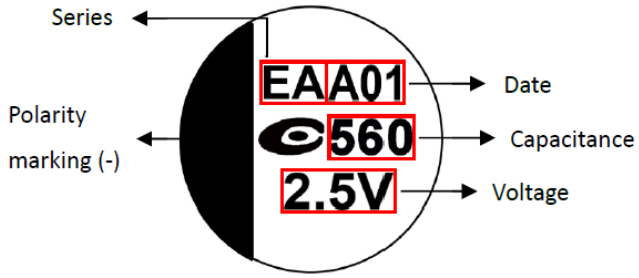
- Standard radial lead type
- Rated voltage:2.5~16Vdc
- Endurance: 2,000hrs at 105℃
- Suitable for DC-DC converters, Voltage regulators and Decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	2.5 to 16Vdc
Rated Capacitance Range	100 to 1000 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
durance	105℃, 2000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





SIZE Code	øD± 0.5max	L	α	ød± 0.05	F± 0.4
06X5	6.3	5.0	-0.5~1.0	0.45	2.5
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5

Product Specifications are subject to change without notice.

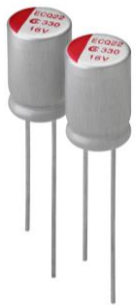
AREA Series Standard

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/ 20°C, 100k to 300kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
2.5 (2.9)	560	06X5	280	10	3,900	2R5AREA561M06X5
	820	08X8	410	10	5,230	2R5AREA821M08X8
6.3 (7.2)	220	06X5	277	15	3,160	6R3AREA221M06X5
	330	06X5	416	17	3,390	6R3AREA331M06X5
	470	08X8	592	15	4,210	6R3AREA471M08X8
	820	08A2	1,033	12	4,710	6R3AREA821M08A2
16 (18.4)	100	06X5	320	24	2,490	160AREA101M06X5
	100	06X8	320	25	2,820	160AREA101M06X8
	1,000	10A2	3,200	12	5,400	160AREA102M10A2

AP-CON Aluminum Solid Electrolytic Capacitor

AREC Series High Current

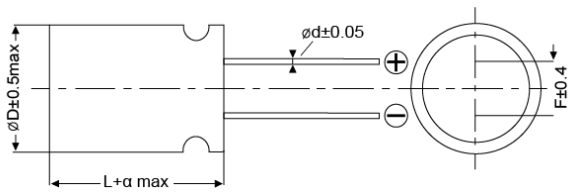


- Super low ESR, High ripple current capability
- Rated voltage:2.5~16Vdc
- Endurance 2000hrs at 105℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

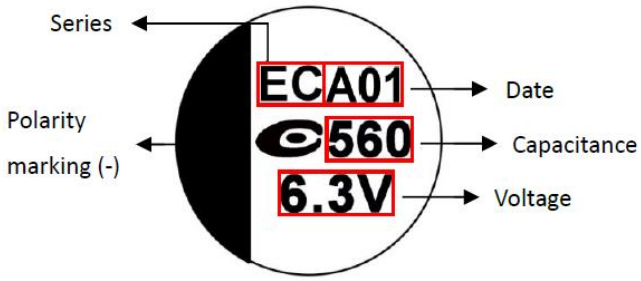
Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	2.5 to 16Vdc
Rated Capacitance Range	270 to 2200 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105℃, 2000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking



SIZE Code	øD±0.5 max	L	α	ød± 0.05	F± 0.4
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5.0



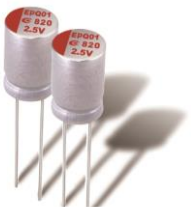
Product Specifications are subject to change without notice.

AREC Series High Current

Standard Ratings

WV/Vdc (SV)	Cap (µF)	Size Code	Leakage Current (µA)	ESR (mΩmax/ 20°C, 100k to 300kHz)	Rated Ripple Current (mArms/ 105℃/100kHz)	Part No.
2.5 (2.9)	560	06X8	500	7	5,000	2R5AREC561M06X8
	560	08X8	500	7	6,100	2R5AREC561M08X8
	820	06X8	500	7	5,000	2R5AREC821M06X8
	820	08X8	500	7	6,100	2R5AREC821M08X8
	1,000	08X8	500	7	6,100	2R5AREC102M08X8
	1,200	08X8	600	7	6,100	2R5AREC122M08X8
	1,500	08A2	750	7	6,100	2R5AREC152M08A2
	1,500	10A2	750	7	6,640	2R5AREC152M10A2
	2,200	10A2	1,100	7	6,640	2R5AREC222M10A2
4 (4.6)	560	08X8	500	7	6,100	4R0AREC561M08X8
	1,200	08X8	960	7	6,100	4R0AREC122M08X8
6.3 (7.2)	470	06X8	592	8	4,700	6R3AREC471M06X8
	470	08X8	592	8	5,700	6R3AREC471M08X8
	560	06X8	705	8	4,700	6R3AREC561M06X8
	560	08X8	705	8	5,700	6R3AREC561M08X8
	820	06X8	1,033	8	4,700	6R3AREC821M06X8
	820	08X8	1,033	8	5,700	6R3AREC821M08X8
	1,000	10A2	1,260	7	6,640	6R3AREC102M10A2
	1,500	10A2	1,890	7	6,640	6R3AREC152M10A2
16 (18.4)	270	08X8	864	10	5,000	160AREC271M08X8
	270	08A2	864	10	5,230	160AREC271M08A2
	330	08X8	1,056	10	5,000	160AREC331M08X8
	470	08A2	1,505	10	5,230	160AREC471M08A2
	680	10A2	2,176	10	6,100	160AREC681M10A2
	820	10A2	2,624	10	6,100	160AREC821M10A2

AREP Series **Power**

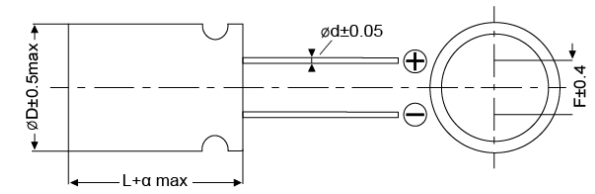


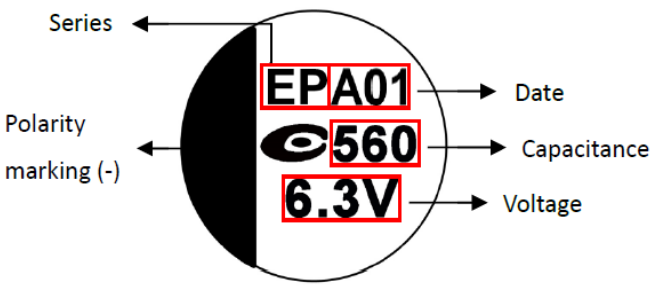
- Rated voltage: 6.3~35Vdc
- Endurance 3000hrs at 105℃
- Suitable for AC-DC DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	6.3 to 35Vdc
Rated Capacitance Range	100 to 2200 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105℃, 3000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	2,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





SIZE Code	øD±0.5 max	L	α	ød ±0.05	F±0.4
05X7	5.0	7.0	-0.5~1.0	0.5	2.0
05X8	5.0	8.0	-0.5~1.0	0.5	2.0
06X5	6.3	5.0	-0.5~1.0	0.45	2.5
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
06A0	6.3	10.0	-0.5~1.0	0.6	2.5
06A1	6.3	11.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
0811	8.0	11.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
08A6	8.0	16.0	-0.5~1.0	0.6	3.5
08B0	8.0	20.0	-0.5~1.0	0.6	3.5
10A0	10.0	10.0	-0.5~1.0	0.6	5.0
1010	10.0	10.0	-0.5~1.0	0.6	5.0
10A2	10.0	12.0	-0.5~1.0	0.6	5.0
10A6	10.0	16.0	-0.5~1.0	0.6	5.0
10B0	10.0	20.0	-0.5~1.0	0.6	5.0

AREP Series Power

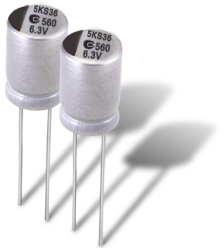
Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20°C, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
6.3 (7.2)	220	06X5	277	15	3,160	6R3AREP221M06X5
	270	05X7	340	12	3,500	6R3AREP271M05X7
	330	05X8	500	8	4,050	6R3AREP331M05X8
	330	06X5	500	17	3,390	6R3AREP331M06X5
	330	06X8	500	8	4,700	6R3AREP331M06X8
	390	05X8	500	11	3,700	6R3AREP391M05X8
	470	05X8	592	8	4,050	6R3AREP471M05X8
	470	06X8	592	8	4,700	6R3AREP471M06X8
	560	06X8	705	8	4,700	6R3AREP561M06X8
	680	06X8	857	8	4,700	6R3AREP681M06X8
	820	06X8	1,033	8	4,700	6R3AREP821M06X8
	1,000	06A0	1,260	8	4,700	6R3AREP102M06A0
	1,000	08X8	1,260	7	6,100	6R3AREP102M08X8
	1,200	08A2	1,512	7	6,100	6R3AREP122M08A2
	1,500	08A2	1,890	7	6,100	6R3AREP152M08A2
	1,500	10A0	1,890	12	5,025	6R3AREP152M10A0
	1,500	10A2	1,890	7	6,640	6R3AREP152M10A2
6.8 (7.8)	270	05X7	367	12	3,500	6R8AREP271M05X7
	330	05X8	449	11	3,800	6R8AREP331M05X8
	470	05X8	639	8	3,200	6R8AREP471M05X8
	500	05X8	680	11	3,800	6R8AREP501M05X8
	820	06X8	1,115	8	5,500	6R8AREP821M06X8
	1,000	06A0	1,360	8	5,500	6R8AREP102M06A0
7.5 (8.6)	270	05X7	405	12	3,500	7R5AREP271M05X7
	390	05X8	585	11	3,800	7R5AREP391M05X8
	500	05X8	750	12	3,500	7R5AREP501M05X8
	560	06X8	705	8	4,700	7R5AREP561M06X8
	680	06X8	1,020	12	4,780	7R5AREP681M06X8
	820	06A1	1,230	10	5,200	7R5AREP821M06A1
10 (11.5)	220	06X8	440	10	4,500	100AREP221M06X8
	330	06X8	660	10	4,500	100AREP331M06X8
	470	06A0	940	10	4,700	100AREP471M06A0
	560	06A0	1,120	10	4,700	100AREP561M06A0
	680	08X8	1,360	12	4,700	100AREP681M08X8
	820	08A2	1,640	7	6,100	100AREP821M08A2
	1,000	08A2	2,000	8	6,100	100AREP102M08A2
	1,200	08A2	2,400	12	3,900	100AREP122M08A2

AREP Series Power

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20%, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
12 (13.8)	470	06A0	1,128	12	3,900	120AREP471M06A0
	560	06A0	1,344	12	3,900	120AREP561M06A0
16 (18.4)	100	05X8	320	18	2,690	160AREP101M05X8
	220	05X8	704	18	2,600	160AREP221M05X8
	220	06X8	704	15	3,200	160AREP221M06X8
	270	06X8	864	15	3,800	160AREP271M06X8
	330	06X8	1,056	20	2,800	160AREP331M06X8
	470	06A1	1,505	16	4,000	160AREP471M06A1
	470	08X8	1,505	16	4,000	160AREP471M08X8
	470	08A2	1,505	10	5,230	160AREP471M08A2
	470	1010	1,505	10	4,350	160AREP471M1010
	470	10A2	1,505	10	6,100	160AREP471M10A2
	560	06A1	1,792	20	3,500	160AREP561M06A1
	560	08A2	1,792	14	4,950	160AREP561M08A2
	680	08A2	2,176	10	5,230	160AREP681M08A2
	820	08A2	2,624	10	5,230	160AREP821M08A2
	1,000	08A6	3,200	10	6,100	160AREP102M08A6
	1,000	10A2	3,200	12	5,400	160AREP102M10A2
	1,200	10A2	3,840	10	6,100	160AREP122M10A2
	1,500	08A6	4,800	10	6,100	160AREP152M08A6
	2,200	10B0	7,040	8	8,100	160AREP222M10B0
20 (23)	330	06A0	1,320	16	3,460	200AREP331M06A0
	390	0811	1,560	14	4,970	200AREP391M0811
	470	08A2	1,880	14	4,970	200AREP471M08A2
	680	08A6	2,720	16	4,650	200AREP681M08A6
25 (28.8)	330	10A2	1,650	16	5,100	250AREP331M10A2
	470	08A2	2,350	16	4,650	250AREP471M08A2
	470	10A2	2,350	17	4,650	250AREP471M10A2
	560	08A6	2,800	14	5,000	250AREP561M08A6
	560	10A2	2,800	14	5,000	250AREP561M10A2
	680	08A6	3,400	14	5,000	250AREP681M08A6
	680	10A2	3,400	14	5,100	250AREP681M10A2
	820	08B0	4,100	13	5,100	250AREP821M08B0
	1,000	10A6	5,000	13	5,200	250AREP102M10A6
	1,500	10B0	7,500	13	5,300	250AREP152M10B0
35 (40.3)	100	06X8	700	35	2,350	350AREP101M06X8
	330	10A2	2,310	24	4,000	350AREP331M10A2
	470	08B0	3,290	20	4,400	350AREP471M08B0
	470	10A6	3,290	25	4,000	350AREP471M10A6
	560	10A6	3,920	23	4,200	350AREP561M10A6
	680	10B0	4,760	20	4,800	350AREP681M10B0

AR5K Series Long Life

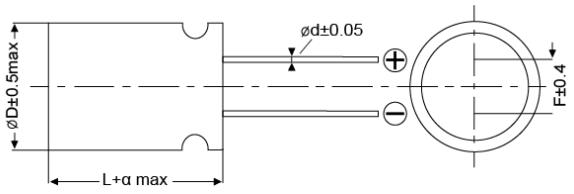


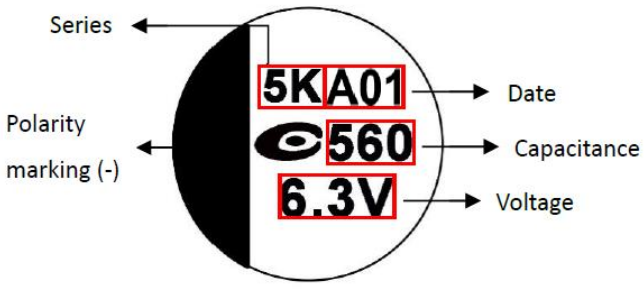
- Ratted voltage: 2.5~16Vdc
- Endurance 5000hrs at 105℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	2.5 to 16Vdc
Rated Capacitance Range	10 to 1200 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105℃, 5000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





SIZE Code	øD±0.5 max	L	α	ød± 0.05	F±0.4
04X5	4.0	5.0	-0.5~1.0	0.45	1.5
05X8	5.0	8.0	-0.5~1.0	0.50	2.0
06X5	6.3	5.0	-0.5~1.0	0.45	2.5
06X8	6.3	8.0	-0.5~1.0	0.60	2.5
08X8	8.0	8.0	-0.5~1.0	0.60	3.5
08A2	8.0	12.0	-0.5~1.0	0.60	3.5
10A2	10.0	12.0	-0.5~1.0	0.60	5.0

AR5K Series Long Life

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/ 20°C, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃/100kHz)	Part No.
2.5 (2.9)	390	05X8	500	7	4,180	2R5AR5K391M05X8C
	560	05X8	500	7	4,180	2R5AR5K561M05X8C
	560	06X8	500	7	5,000	2R5AR5K561M06X8C
	820	06X8	500	7	5,000	2R5AR5K821M06X8C
	820	08X8	500	7	6,100	2R5AR5K821M08X8C
	1,000	08X8	500	7	6,100	2R5AR5K102M08X8C
3 (3.4)	820	06X8	500	7	5,000	3R0AR5K821M06X8C
4 (4.6)	560	06X8	500	7	5,000	4R0AR5K561M06X8C
6.3 (7.2)	100	06X5	126	35	2,100	6R3AR5K101M06X5C
	470	06X8	592	8	4,700	6R3AR5K471M06X8C
	560	06X8	705	8	4,700	6R3AR5K561M06X8C
	560	08X8	705	8	5,700	6R3AR5K561M08X8C
	820	06X8	1,033	8	4,700	6R3AR5K821M06X8C
	820	08X8	1,033	8	5,700	6R3AR5K821M08X8C
10 (11.5)	10	04X5	300	80	700	100AR5K100M04X5C
16 (18.4)	100	06X5	320	24	2,490	160AR5K101M06X5C
	100	06X8	320	25	2,820	160AR5K101M06X8C
	270	06X8	864	10	5,000	160AR5K271M06X8C
	270	08X8	864	10	5,000	160AR5K271M08X8C
	270	08A2	864	10	5,230	160AR5K271M08A2C
	470	08X8	1,505	10	5,000	160AR5K471M08X8C
	470	08A2	1,505	10	5,230	160AR5K471M08A2C
	470	10A2	1,505	10	6,100	160AR5K471M10A2C
	680	08A2	2,176	10	5,230	160AR5K681M08A2C
	820	08A2	2,624	12	4,950	160AR5K821M08A2C
	1,000	10A2	3,200	12	5,400	160AR5K102M10A2C
	1,200	10A2	3,840	12	5,400	160AR5K122M10A2C

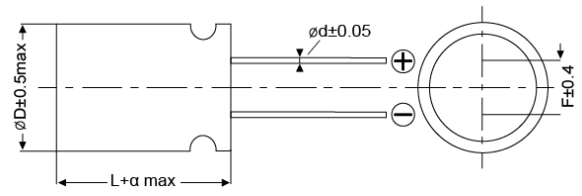
ARHA Series High Voltage

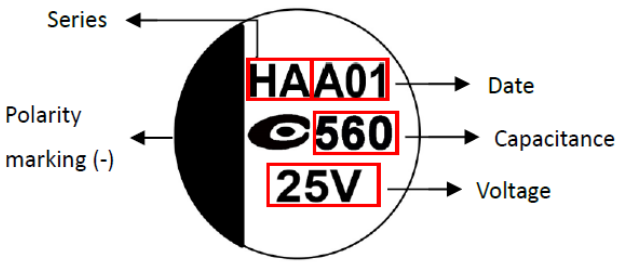
- Rated Voltage:25~100Vdc
- Endurance 5000hrs at 105℃
- Suitable for AC-DC、DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	25 to 100Vdc
Rated Capacitance Range	22 to 1500 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage x1.15(at 105°C)	Dissipation Factor	0.12max.(at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings.		
Endurance	105℃, 5000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





SIZE Code	øD±0.5 max	L	α	ød± 0.05	F± 0.4
06X5	6.3	5.0	-0.5~1.0	0.45	2.5
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
08A6	8.0	16.0	-0.5~1.0	0.6	3.5
08B0	8.0	20.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5.0
10A6	10.0	16.0	-0.5~1.0	0.6	5.0
10B0	10.0	20.0	-0.5~1.0	0.6	5.0

ARHA Series High Voltage

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20°C, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃/100kHz)	Part No.
25 (28.8)	82	06X8	410	28	2,700	250ARHA820M06X8
	100	08A2	500	22	3,600	250ARHA101M08A2
	220	08A2	1,100	16	4,650	250ARHA221M08A2
	330	08A2	1,650	16	4,650	250ARHA331M08A2
	470	08A2	2,350	16	4,650	250ARHA471M08A2
	560	10A2	2,800	14	5,100	250ARHA561M10A2
	680	08A6	3,400	14	5,000	250ARHA681M08A6
	680	10A2	3,400	14	5,100	250ARHA681M10A2
	820	08B0	4,100	13	5,100	250ARHA821M08B0
	1,000	10A6	5,000	13	5,200	250ARHA102M10A6
	1,500	10B0	7,500	13	5,300	250ARHA152M10B0
35 (40.3)	47	06X5	329	35	2,300	350ARHA470M06X5
	68	06X8	476	25	2,600	350ARHA680M06X8
	100	06X8	700	35	2,350	350ARHA101M06X8
	100	08X8	700	23	2,800	350ARHA101M08X8
	220	08A2	1,540	25	2,890	350ARHA221M08A2
	330	10A2	2,310	24	3,400	350ARHA331M10A2
	470	08B0	3,290	20	4,400	350ARHA471M08B0
	470	10A6	3,290	25	4,000	350ARHA471M10A6
	560	10A6	3,920	23	4,200	350ARHA561M10A6
	680	10B0	4,760	20	4,800	350ARHA681M10B0
50 (57.5)	120	08A2	1,200	28	2,620	500ARHA121M08A2
	180	10A2	1,800	28	3,100	500ARHA181M10A2
	220	10A2	2,200	28	3,100	500ARHA221M10A2
	390	10B0	3,900	23	3,800	500ARHA391M10B0
63 (72.5)	22	08X8	277	35	2,100	630ARHA220M08X8
	47	08A2	592	30	2,500	630ARHA470M08A2
	68	10A2	857	25	2,500	630ARHA680M10A2
	100	10A2	1,260	30	2,700	630ARHA101M10A2
	180	10A2	2,268	30	2,700	630ARHA181M10A2
80 (92)	22	08X8	352	40	1,700	800ARHA220M08X8
	47	10A2	752	32	2,100	800ARHA470M10A2
	82	10A2	1,312	32	2,200	800ARHA820M10A2
100 (115)	22	10A2	440	45	1,600	101ARHA220M10A2
	47	10A2	940	35	2,100	101ARHA470M10A2

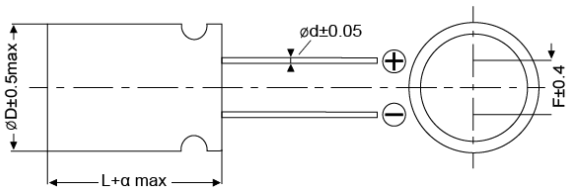
AR5P Series **Power Supply**

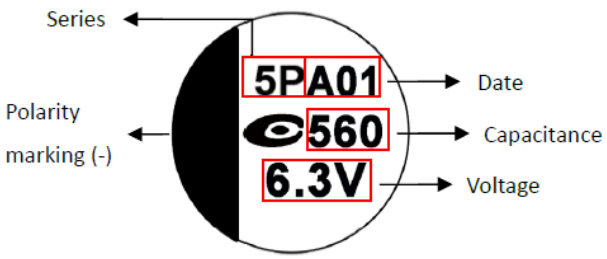
- Rated voltage: 6.3~35Vdc
- Endurance 5000hrs at 105℃
- Suitable for AC-DC DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	6.3 to 35Vdc
Rated Capacitance Range	330 to 2500 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105℃, 5000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	2,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





SIZE Code	øD±0.5 max	L	α	ød ±0.05	F±0.4
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A0	8.0	10.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
08A6	8.0	16.0	-0.5~1.0	0.6	3.5
08B0	8.0	20.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5.0
10A6	10.0	16.0	-0.5~1.0	0.6	5.0
10B0	10.0	20.0	-0.5~1.0	0.6	5.0

AR5P Series **Power Supply**

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20%, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃/100kHz)	Part No.
6.3 (7.2)	470	06X8	592	8	4,700	6R3AR5P471M06X8
	560	06X8	705	8	4,700	6R3AR5P561M06X8
	820	06X8	1,033	8	4,700	6R3AR5P821M06X8
	1,000	08A2	1,260	7	6,100	6R3AR5P102M08A2
16 (18.4)	330	08X8	1,056	13	4,700	160AR5P331M08X8
	470	08X8	1,505	16	4,000	160AR5P471M08X8
	470	08A2	1,505	10	5,230	160AR5P471M08A2
	470	10A2	1,505	10	6,100	160AR5P471M10A2
	560	08A2	1,792	14	4,950	160AR5P561M08A2
	680	08A2	2,176	10	5,230	160AR5P681M08A2
	820	08A2	2,624	10	5,230	160AR5P821M08A2
	1,000	08A6	3,200	10	6,100	160AR5P102M08A6
	1,000	10A2	3,200	12	5,400	160AR5P102M10A2
	1,500	10A6	4,800	10	6,600	160AR5P152M10A6
	2,200	10B0	7,040	8	8,100	160AR5P222M10B0
	2,500	10B0	8,000	8	8,100	160AR5P252M10B0
20 (23)	680	10A2	2,720	14	5,100	200AR5P681M10A2
25 (28.8)	470	08A2	2,350	16	4,650	250AR5P471M08A2
	470	10A2	2,350	17	4,650	250AR5P471M10A2
	560	10A2	2,800	14	5,100	250AR5P561M10A2
	680	08A6	3,400	14	5,000	250AR5P681M08A6
	680	10A2	3,400	14	5,100	250AR5P681M10A2
	1,000	10A6	5,000	13	5,200	250AR5P102M10A6
35 (40.3)	330	10A2	2,310	24	3,400	350AR5P331M10A2
	470	10A6	3,290	25	4,000	350AR5P471M10A6
	560	10A6	3,920	23	4,200	350AR5P561M10A6
	680	10B0	4,760	20	4,800	350AR5P681M10B0

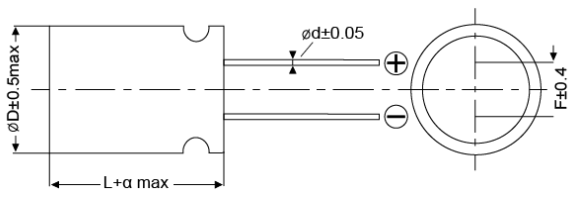
ARHE Series High Endurance

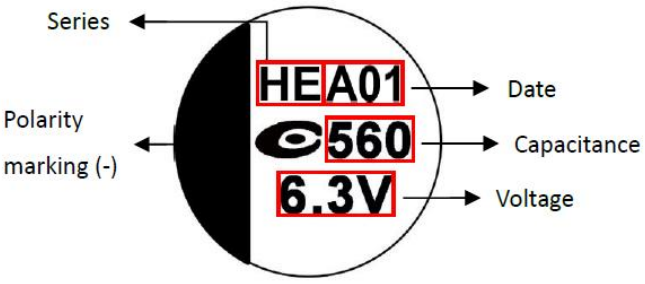
- Rated Voltage:2.5~63Vdc
- Endurance 1000hrs at 125℃
- Suitable for AC-DC、DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 125℃	Rated Voltage Range	2.5 to 63Vdc
Rated Capacitance Range	47 to 1500 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage x1.15(at 125°C)	Dissipation Factor	0.12max.(at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings.		
Endurance	125℃, 1000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 125°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





Size Code	øD±0.5 max	L	α	ød±0.05	F±0.4
06X8	6.3	8.0	-0.5~1.0	0.6	2.5
06A0	6.3	10.0	-0.5~1.0	0.6	2.5
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
08A6	8.0	16.0	-0.5~1.0	0.6	3.5
08B0	8.0	20.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5.0
10A6	10.0	16.0	-0.5~1.0	0.6	5.0
10B0	10.0	20.0	-0.5~1.0	0.6	5.0

ARHE Series **High Endurance**

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20%, 100k to300kHz)	Rated Ripple Current (mArms/100kHz)		Part No.
					105℃	125℃	
2.5 (2.9)	820	06X8	500	7	5,000	2,000	2R5ARHE821M06X8
	1,200	06A0	600	7	5,200	2,080	2R5ARHE122M06A0
4 (4.6)	560	06X8	500	7	5,000	2,000	4R0ARHE561M06X8
6.3 (7.2)	560	06X8	705	10	4,000	1,600	6R3ARHE561M06X8
16 (18.4)	100	06X8	320	25	2,500	1,000	160ARHE101M06X8
	270	06X8	864	16	3,200	1,280	160ARHE271M06X8
	270	08X8	864	16	3,800	1,520	160ARHE271M08X8
	270	08A2	864	14	4,500	1,800	160ARHE271M08A2
	1,000	10A2	3,200	12	5,400	2,160	160ARHE102M10A2
25 (28.8)	100	06X8	500	20	2,800	1,120	250ARHE101M06X8
	180	08A2	900	16	4,300	1,720	250ARHE181M08A2
	220	08A2	1,100	16	4,300	1,720	250ARHE221M08A2
	330	08A2	1,650	16	4,300	1,720	250ARHE331M08A2
	470	08A2	2,350	16	4,300	1,720	250ARHE471M08A2
	560	08A6	2,800	14	4,700	1,880	250ARHE561M08A6
	560	10A2	2,800	14	4,700	1,880	250ARHE561M10A2
	680	08A6	3,400	14	4,700	1,880	250ARHE681M08A6
	680	10A2	3,400	14	4,700	1,880	250ARHE681M10A2
	820	08B0	4,100	14	5,100	2,040	250ARHE821M08B0
	1,000	10A6	5,000	14	5,100	2,040	250ARHE102M10A6
	1,500	10B0	7,500	14	5,400	2,160	250ARHE152M10B0
35 (40.3)	68	08X8	476	26	2,800	1,120	350ARHE680M08X8
	100	08X8	700	26	2,800	1,120	350ARHE101M08X8
	150	08A2	1,050	20	3,600	1,440	350ARHE151M08A2
	220	08A2	1,540	20	3,600	1,440	350ARHE221M08A2
	330	08A6	2,310	18	3,900	1,560	350ARHE331M08A6
	330	10A2	2,310	18	4,400	1,760	350ARHE331M10A2
	470	08B0	3,290	16	4,600	1,840	350ARHE471M08B0
	470	10A6	3,290	16	4,600	1,840	350ARHE471M10A6
	560	10A6	3,920	16	4,600	1,840	350ARHE561M10A6
	680	10B0	4,760	16	5,000	2,000	350ARHE681M10B0

ARHE Series **High Endurance**

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20%, 100k to300kHz)	Rated Ripple Current (mArms/100kHz)		Part No.
					105℃	125℃	
50 (57.5)	47	08A2	470	25	3,000	1,200	500ARHE470M08A2
	68	08A2	680	25	3,000	1,200	500ARHE680M08A2
	150	08A6	1,500	20	3,600	1,440	500ARHE151M08A6
	180	10A2	1,800	25	3,300	1,320	500ARHE181M10A2
	220	10A2	2,200	25	3,300	1,320	500ARHE221M10A2
	390	10B0	3,900	18	4,000	1,600	500ARHE391M10B0
63 (72.5)	47	08A2	592	25	3,000	1,200	630ARHE470M08A2
	56	08A2	705	25	3,000	1,200	630ARHE560M08A2
	56	10A2	705	25	3,300	1,320	630ARHE560M10A2
	100	10A2	1,260	25	3,300	1,320	630ARHE101M10A2
	180	10A6	2,268	22	3,600	1,440	630ARHE181M10A6
	220	10B0	2,772	20	4,000	1,600	630ARHE221M10B0

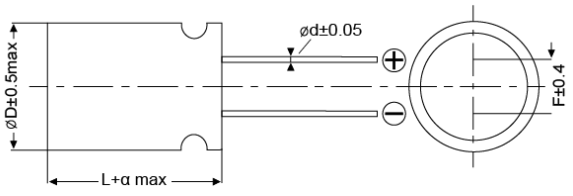
ARHT Series High Endurance & Voltage

- Rated Voltage:25~63Vdc
- Endurance 2000hrs at 125℃
- Suitable for AC-DC、DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

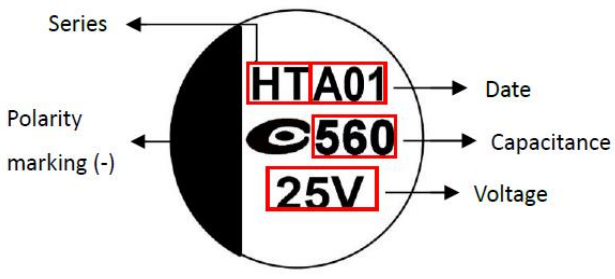
Specification

Category Temperature Range	-55 to 125℃	Rated Voltage Range	25 to 63Vdc
Rated Capacitance Range	100 to 680 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage x1.15(at 125°C)	Dissipation Factor	0.12max.(at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings.		
Endurance	125℃, 2000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 125°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking



SIZE Code	øD±0.5 max	L	α	ød±0.05	F± 0.4
08X8	8.0	8.0	-0.5~1.0	0.6	3.5
08A2	8.0	12.0	-0.5~1.0	0.6	3.5
10A2	10.0	12.0	-0.5~1.0	0.6	5.0



ARHT Series High Endurance & Voltage

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20°C, 100k to300kHz)	Rated Ripple Current (mArms/100kHz)		Part No.
					105℃	125℃	
25 (28.8)	100	08X8	500	24	2,900	1,160	250ARHT101M08X8
	220	08A2	1,100	18	4,250	1,700	250ARHT221M08A2
	330	08A2	1,650	18	4,250	1,700	250ARHT331M08A2
	470	08A2	2,350	18	4,250	1,700	250ARHT471M08A2
	560	10A2	2,800	16	4,700	1,880	250ARHT561M10A2
	680	10A2	3,400	16	4,700	1,880	250ARHT681M10A2
35 (40.3)	100	08A2	700	26	2,950	1,180	350ARHT101M08A2
	150	08A2	1,050	26	2,950	1,180	350ARHT151M08A2
	180	08A2	1,260	26	2,950	1,180	350ARHT181M08A2
	220	08A2	1,540	26	2,950	1,180	350ARHT221M08A2
	330	10A2	2,310	24	3,400	1,360	350ARHT331M10A2
	390	10A2	2,730	24	3,400	1,360	350ARHT391M10A2
50 (57.5)	180	10A2	1,800	28	2,620	1,048	500ARHT181M10A2
	220	10A2	2,200	28	2,620	1,048	500ARHT221M10A2
63 (72.5)	100	10A2	1,260	32	2,550	1,020	630ARHT101M10A2
	150	10A2	1,890	28	2,550	1,020	630ARHT151M10A2
	180	10A2	2,268	28	2,550	1,020	630ARHT181M10A2

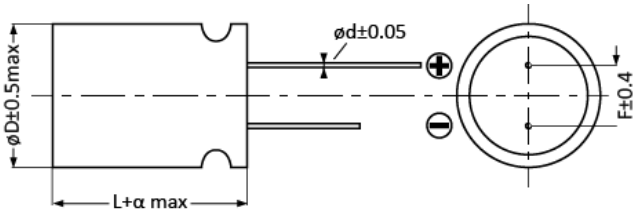
ARUP Series Power

- High temperature, Long life
- Rated voltage:6.3~35Vdc
- Endurance 2000hrs at 125℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

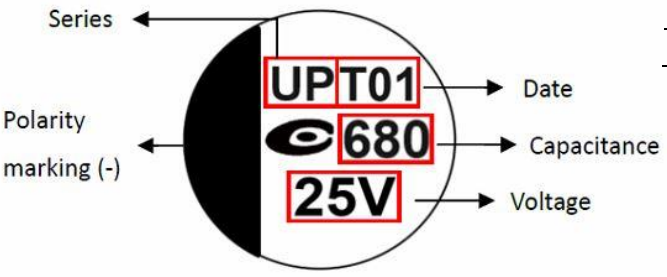
Specification

Category Temperature Range	-55 to 125℃	Rated Voltage Range	6.3 to 35Vdc
Rated Capacitance Range	68 to 2200 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 125°C)	Dissipation Factor	0.1 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	125℃, 2000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	2,000 cycles and each one includes charge with surge voltage specified at 125°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 200% of the initial specified value	
	ESR	≦ 200% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking



SIZE Code	øD±0.5 max	L	α	ød± 0.05	F± 0.4
06X8	6.3	8	-0.5~1	0.6	2.5
08X8	8	8	-0.5~1	0.6	3.5
08A2	8	12	-0.5~1	0.6	3.5
08A6	8	16	-0.5~1	0.6	3.5
10A2	10	12	-0.5~1	0.6	5
10A6	10	16	-0.5~1	0.6	5
10B0	10	20	-0.5~1	0.6	5



ARUP Series Power

Standard Ratings

WV/Vdc (SV)	Cap (µF)	Size Code	Leakage Current (µA)	ESR (mΩmax/20°C, 100k to 300kHz)	Rated Ripple Current (mArms/100kHz)		Part No.
					≦105℃	105℃≦125℃	
6.3 (7.2)	680	06X8	857	9	4,000	1,600	6R3ARUP681M06X8
	1000	08A2	1,260	8	5,600	2,240	6R3ARUP102M08A2
10 (11.5)	1000	08A2	2,000	8	5,600	2,240	100ARUP102M08A2
16 (18.4)	470	08A2	1,504	14	4,500	1,800	160ARUP471M08A2
	680	08A2	2,176	14	4,500	1,800	160ARUP681M08A2
	820	08A2	2,624	14	4,500	1,800	160ARUP821M08A2
	1000	10A2	3,200	12	5,400	2,160	160ARUP102M10A2
	1500	10A6	4,800	10	6,000	2,400	160ARUP152M10A6
	2200	10B0	7,040	10	6,600	2,640	160ARUP222M10B0
25 (28.8)	470	08A2	2,350	16	4,250	1,700	250ARUP471M08A2
	680	08A6	3,400	14	4,700	1,880	250ARUP681M08A6
35 (40.3)	68	08X8	476	28	2,600	1,040	350ARUP680M08X8
	100	08X8	700	28	2,600	1,040	350ARUP101M08X8
	220	08A2	1,540	26	2,950	1,180	350ARUP221M08A2

AP-CON Aluminum Solid Electrolytic Capacitor

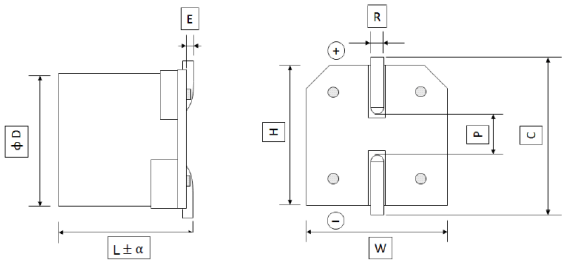
AVEA Series Standard

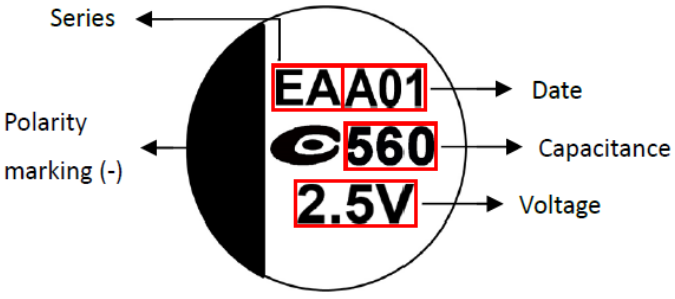
- Standard SMD type
- Rated Voltage:2.5~25Vdc
- Endurance 2000hrs at 105℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55~+105℃	Rated Voltage Range	2.5 to 25Vdc
Rated Capacitance Range	22 to 1000 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.12 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105°C, 2000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





Size code	ϕD±0.5max (mm)	L (mm)	α (mm)	E (mm)	W±0.2 (mm)	H±0.2 (mm)	C±0.2 (mm)	R (mm)	P±0.3 (mm)
0506	5.0	5.8	±0.2	0.00~0.20	5.3	5.3	6.0	0.5~0.8	1.4
0645	6.3	4.3	-0.2~+0.1	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0606	6.3	5.8	±0.2	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0610	6.3	9.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.6~0.9	2.1
0807	8.0	6.8	±0.2	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0810	8.0	9.7	±0.3	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0812	8.0	12.0	±0.5	0.00~0.20	8.3	8.3	9.0	0.8~1.1	3.2
1012	10.0	12.3	±0.2	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6

AVEA Series Standard

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20℃, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
2.5 (2.9)	330	0645	700	17	2,300	2R5AVEA331M0645
	390	0506	700	10	3,900	2R5AVEA391M0506
	390	0606	292	10	3,900	2R5AVEA391M0606
	560	0606	700	10	3,900	2R5AVEA561M0606
	820	0610	700	10	4,300	2R5AVEA821M0610
6.3 (7.2)	100	0645	315	19	2,300	6R3AVEA101M0645
	220	0645	700	17	2,300	6R3AVEA221M0645
	220	0606	277	15	3,160	6R3AVEA221M0606
	330	0606	416	17	3,390	6R3AVEA331M0606
	560	0610	705	10	4,300	6R3AVEA561M0610
	820	0810	1,033	12	4,700	6R3AVEA821M0810
	1,000	0810	1,260	10	5,440	6R3AVEA102M0810
16 (18.4)	47	0606	376	25	2,500	160AVEA470M0606
	100	0506	320	27	3,000	160AVEA101M0506
	100	0606	320	24	2,490	160AVEA101M0606
	180	0606	576	22	3,300	160AVEA181M0606
	270	0807	864	22	3,300	160AVEA271M0807
	270	0810	864	16	4,400	160AVEA271M0810
	560	0812	1,792	14	4,950	160AVEA561M0812
	1,000	1012	3,200	12	5,400	160AVEA102M1012
25 (28.8)	22	0645	275	45	2,350	250AVEA220M0645
	27	0606	338	40	2,100	250AVEA270M0606

AP-CON Aluminum Solid Electrolytic Capacitor

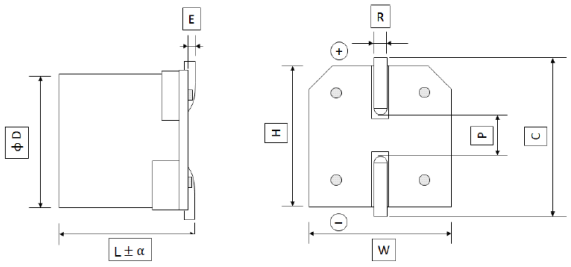
AV5K Series **Long life**

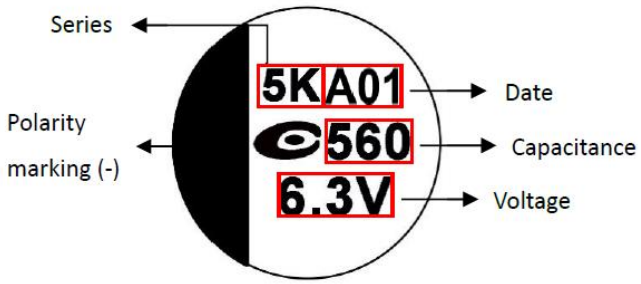
- Standard SMD type
- Rated Voltage: 2.5~25Vdc
- Endurance 5000hrs at 105℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55 to 105℃	Rated Voltage Range	2.5 to 25Vdc
Rated Capacitance Range	22 to 1000 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.12 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105°C, 5000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





Size code	ψD±0.5max (mm)	L (mm)	α (mm)	E (mm)	W±0.2 (mm)	H±0.2 (mm)	C±0.2 (mm)	R (mm)	P±0.3 (mm)
0506	5.0	5.8	±0.2	0.00~0.20	5.3	5.3	6.0	0.5~0.8	1.4
0645	6.3	4.3	-0.2~+0.1	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0606	6.3	5.8	±0.2	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0608	6.3	7.5	±0.5	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0610	6.3	9.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.6~0.9	2.1
0807	8.0	6.8	±0.2	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0810	8.0	9.7	±0.3	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0812	8.0	12.0	±0.5	0.00~0.20	8.3	8.3	9.0	0.8~1.1	3.2
1012	10.0	12.3	±0.2	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6

Product Specifications are subject to change without notice.

AV5K Series Long life

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/ 20°C, 100k to 300kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
2.5 (2.9)	330	0645	700	16	3,180	2R5AV5K331M0645C
	390	0606	489	10	3,900	2R5AV5K391M0606C
	560	0606	700	10	3,900	2R5AV5K561M0606C
	820	0608	700	7	5,000	2R5AV5K821M0608C
	820	0610	700	10	4,300	2R5AV5K821M0610C
6.3 (7.2)	220	0645	700	17	2,300	6R3AV5K221M0645C
	220	0606	277	15	3,160	6R3AV5K221M0606C
	330	0606	416	17	3,390	6R3AV5K331M0606C
	560	0608	705	8	5,000	6R3AV5K561M0608C
	560	0610	705	10	4,300	6R3AV5K561M0610C
16 (18.4)	100	0506	320	26	3,000	160AV5K101M0506C
	100	0606	320	24	2,490	160AV5K101M0606C
	180	0606	576	21	3,300	160AV5K181M0606C
	270	0610	864	16	3,500	160AV5K271M0610C
	270	0807	864	22	3,300	160AV5K271M0807C
	270	0810	864	16	4,400	160AV5K271M0810C
	470	0810	1,504	12	4,700	160AV5K471M0810C
	560	0812	1,792	14	4,950	160AV5K561M0812C
	1,000	1012	3,200	12	5,400	160AV5K102M1012C
25 （28.8）	22	0645	275	45	2,350	250AV5K220M0645C
	27	0606	338	40	2,100	250AV5K270M0606C

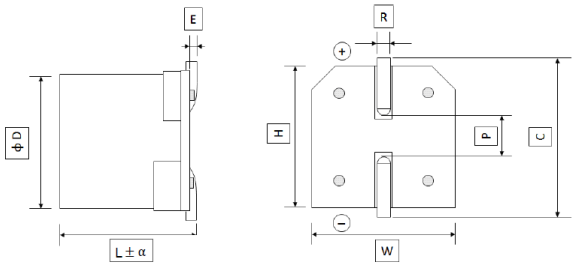
AVHA Series High voltage

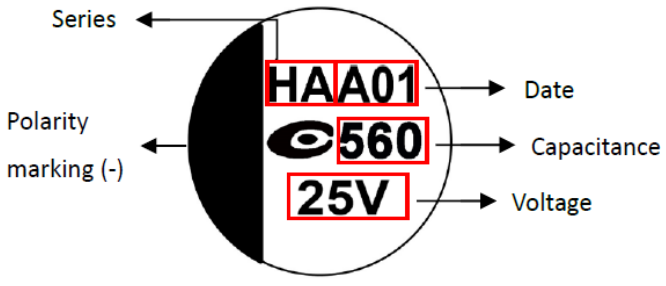
- Standard SMD type
- Rated Voltage:25~100Vdc
- Endurance 5000hrs at 105℃
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- RoHS Compliant

Specification

Category Temperature Range	-55~+105℃	Rated Voltage Range	25 to 100Vdc
Rated Capacitance Range	22 to 470 (μF)	Capacitance Tolerance	±20% (M)
Surge Voltage	Rated voltage X 1.15 (at 105°C)	Dissipation Factor	0.12 max. (at 20°C 120Hz)
Leakage Current	Shall not exceed values shown in standard ratings. (at 20°C after 2 mins.)		
Endurance	105°C, 5000hrs, rated voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Damp Heat (Steady State)	60℃, 90 to 95% RH, 1000hrs, voltage applied		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	
Surge Voltage	1,000 cycles and each one includes charge with surge voltage specified at 105°C for 0.5min through a protective resistor (R=1kΩ) and discharge for 5.5min.		
	Appearance	No significant damage	
	Capacitance Change	≦ ±20% of the initial value	
	DF(tanδ)	≦ 150% of the initial specified value	
	ESR	≦ 150% of the initial specified value	
	Leakage current	≦ The initial specified value	

Dimensions and Marking





Size code	φD±0.5max (mm)	L (mm)	α (mm)	E (mm)	W±0.2 (mm)	H±0.2 (mm)	C±0.2 (mm)	R (mm)	P±0.3 (mm)
0606	6.3	5.8	±0.2	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0608	6.3	7.5	±0.5	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0807	8.0	6.8	±0.2	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0810	8.0	9.7	±0.3	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
0812	8.0	12.0	±0.5	0.00~0.20	8.3	8.3	9.0	0.8~1.1	3.2
1012	10.0	12.3	±0.2	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6

Product Specifications are subject to change without notice.

AVHA Series High voltage

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/20℃, 100k to300kHz)	Rated Ripple Current (mArms/ 105℃/100kHz)	Part No.
25 (28.8)	47	0606	235	30	2,800	250AVHA470M0606
	56	0606	280	35	2,500	250AVHA560M0606
	100	0807	500	24	3,200	250AVHA101M0807
	180	0810	900	18	4,100	250AVHA181M0810
	220	0810	1,100	18	4,100	250AVHA221M0810
	330	0812	1,650	18	4,100	250AVHA331M0812
	470	0812	2,350	18	4,650	250AVHA471M0812
35 (40.3)	47	0606	329	35	2,100	350AVHA470M0606
	68	0608	476	35	2,000	350AVHA680M0608
	100	0810	700	35	2,800	350AVHA101M0810
	150	0810	1,050	25	3,000	350AVHA151M0810
	220	0812	1,540	25	2,890	350AVHA221M0812
	330	1012	2,310	24	3,400	350AVHA331M1012
50 (57.5)	47	0810	470	25	2,700	500AVHA470M0810
	68	0810	680	25	2,700	500AVHA680M0810
	120	1012	1,200	19	2,950	500AVHA121M1012
	220	1012	2,200	17	2,950	500AVHA221M1012
63 (72.5)	47	0810	592	25	2,700	630AVHA470M0810
	56	1012	705	25	2,950	630AVHA560M1012
	68	1012	857	25	3,280	630AVHA680M1012
80 (92)	22	0810	352	40	1,700	800AVHA220M0810
	47	1012	752	33	2,100	800AVHA470M1012
	68	1012	1,088	25	2,950	800AVHA680M1012
100 (115)	22	1012	440	45	1,600	101AVHA220M1012
	47	1012	940	35	2,100	101AVHA470M1012

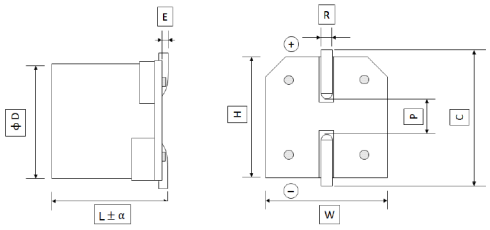
AVMA Series

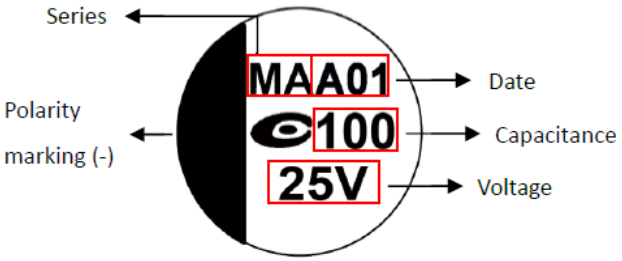
- Standard SMD type
- High reliability and high voltage are realized by hybrid electrolyte
- Rated Voltage:16~80V
- Endurance 10000 hours at 105℃
- RoHS Compliant

Specification

Category Temperature Range	-55~+105℃	Rated Voltage Range	16 to 80Vdc					
Rated Capacitance Range	22 to 330 (μF)	Capacitance Tolerance	±20% (M)					
Surge Voltage	Rated voltage X 1.15	Dissipation Factor (at 20°C 120Hz)	Rated Voltage (V)	25	35	50	63	80
			tan δ(max)	0.14	0.12	0.1	0.08	0.08
Leakage Current	Shall not exceed values shown in standard ratings (at 20°C after 2 mins.)							
Endurance	105°C, 10000 hours, apply the rated ripple current without exceeding the rated voltage							
	Appearance	No significant damage						
	Capacitance Change	≦ ±30% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						
Damp Heat (Steady State)	60°C, 90% RH, 1000 hours, rated voltage applied							
	Appearance	No significant damage						
	Capacitance Change	≦ ±20% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						
Shelf Life	After storage for 1,000 hours at 105±2°C with no voltage applied and then being stabilized at 20°C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)							
	Appearance	No significant damage						
	Capacitance Change	≦ ±30% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						

Dimensions and Marking





Size code	ϕ D±0.5max (mm)	L (mm)	α (mm)	E (mm)	W±0.2 (mm)	H±0.2 (mm)	C±0.2 (mm)	R (mm)	P±0.3 (mm)
0608	6.3	7.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0810	8.0	9.7	±0.3	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
1010	10.0	10.2	±0.3	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6
1012	10.0	12.3	±0.2	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6

AVMA Series

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/ 20°C, 100kHz)	Rated Ripple Current (mArms/ 105℃ /100kHz)	Part No.
16 (18.4)	470	0810	75	26	2,400	160AVMA471M0810
25 (28.8)	100	0608	25	30	2,000	250AVMA101M0608
	220	0810	55	27	2,300	250AVMA221M0810
	330	1010	82.5	20	2,500	250AVMA331M1010
	390	1010	97.5	20	2,500	250AVMA391M1010
	470	1010	117.5	20	2,500	250AVMA471M1010
35 (40.3)	68	0608	23.8	35	2,000	350AVMA680M0608
	100	0810	35	30	1,800	350AVMA101M0810
	150	0810	52.5	27	2,300	350AVMA151M0810
	270	1010	94.5	20	2,500	350AVMA271M1010
	330	1010	115.5	20	2,500	350AVMA331M1010
50 (57.5)	33	0608	16.5	40	1,600	500AVMA330M0608
	68	0810	34	30	1,800	500AVMA680M0810
	100	1010	50	28	2,000	500AVMA101M1010
	120	1010	60	28	2,000	500AVMA121M1010
	150	1012	75	25	2,000	500AVMA151M1012
	180	1012	90	25	2,000	500AVMA181M1012
63 (72.5)	22	0608	13.9	80	1,500	630AVMA220M0608
	33	0810	20.8	40	1,700	630AVMA330M0810
	47	0810	29.6	40	1,700	630AVMA470M0810
	56	1010	35.3	30	1,800	630AVMA560M1010
	68	1010	42.8	30	1,800	630AVMA680M1010
	82	1010	51.7	30	1,800	630AVMA820M1010
	100	1010	63	30	2,400	630AVMA101M1010
80 (92)	22	0810	17.6	45	1,550	800AVMA220M0810
	47	1010	37.6	36	1,700	800AVMA470M1010

Frequency correction factor of allowable ripple current

Frequency	120Hz≤f<1kHz	1kHZ≤f<10kHz	10kHZ≤f<100kHz	100kHz≤f≤500kHz
Coefficient	0.05	0.3	0.7	1

PRODUCT IDENTIFICATION

250	AVMA	101	M	0608
Rated Voltage	Product	Capacitance	Cap Tolerance (%)	Size code (øDxL)
250: 25V	Series	101: 100μF	M: ±20%	0608: 6.3x8.0mm

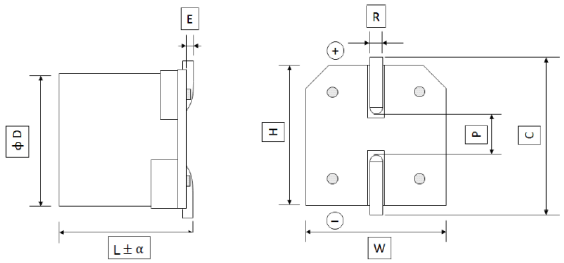
AVMC Series

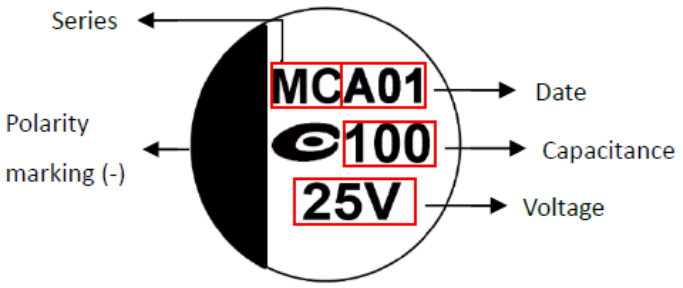
- Standard SMD type
- High reliability and high voltage are realized by hybrid electrolyte
- Rated Voltage:25~80V
- Endurance 4000 hours at 125℃
- For high temperature and high reliability applications
- RoHS Compliant

Specification

Category Temperature Range	-55~+125℃	Rated Voltage Range	25 to 80Vdc					
Rated Capacitance Range	22 to 330 (μF)	Capacitance Tolerance	±20% (M)					
Surge Voltage	Rated voltage X 1.15	Dissipation Factor (at 20°C 120Hz)	Rated Voltage (V)	25	35	50	63	80
			tan δ(max)	0.14	0.12	0.1	0.08	0.08
Leakage Current	Shall not exceed values shown in standard ratings (at 20°C after 2 mins.)							
Endurance	125°C, 4000 hours, apply the rated ripple current without exceeding the rated voltage							
	Appearance	No significant damage						
	Capacitance Change	≦ ±30% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						
Damp Heat (Steady State)	60 to 90% RH, 1000 hours, rated voltage applied							
	Appearance	No significant damage						
	Capacitance Change	≦ ±20% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						
Shelf Life	After storage for 1,000 hours at 125±2°C with no voltage applied and then being stabilized at 20°C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)							
	Appearance	No significant damage						
	Capacitance Change	≦ ±30% of the initial value						
	DF(tanδ)	≦ 200% of the initial specified value						
	ESR	≦ 200% of the initial specified value						
	Leakage current	≦ The initial specified value						

Dimensions and Marking





Size code	ψD±0.5max (mm)	L (mm)	α (mm)	E (mm)	W±0.2 (mm)	H±0.2 (mm)	C±0.2 (mm)	R (mm)	P±0.3 (mm)
0608	6.3	7.7	±0.3	0.00~0.20	6.6	6.6	7.3	0.5~0.8	2.1
0810	8.0	9.7	±0.3	0.00~0.20	8.3	8.3	9.0	0.8~1.1	2.9
1010	10.0	10.2	±0.3	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6
1012	10.0	12.3	±0.2	0.00~0.20	10.3	10.3	11.0	0.8~1.1	4.6

AVMC Series

Standard Ratings

WV/Vdc (SV)	Cap (μF)	Size Code	Leakage Current (μA)	ESR (mΩmax/ 20°C, 100kHz)	Rated Ripple Current (mArms/ 125℃ /100kHz)	Part No.
25 (28.8)	100	0608	25	30	1,400	250AVMC101M0608
	220	0810	55	27	1,600	250AVMC221M0810
	270	0810	67.5	27	1,600	250AVMC271M0810
	330	1010	82.5	20	2,000	250AVMC331M1010
	470	1010	117.5	20	2,800	250AVMC471M1010
35 (40.3)	68	0608	23.8	35	1,400	350AVMC680M0608
	150	0810	52.5	27	1,600	350AVMC151M0810
	180	0810	63	27	1,600	350AVMC181M0810
	270	1010	94.5	20	2,000	350AVMC271M1010
	330	1010	115.5	20	2,000	350AVMC331M1010
	330	1012	115.5	17	2,300	350AVMC331M1012
50 (57.5)	33	0608	16.5	40	1,100	500AVMC330M0608
	68	0810	34	30	1,250	500AVMC680M0810
	100	1010	50	28	1,600	500AVMC101M1010
	120	1010	60	28	1,600	500AVMC121M1010
	180	1012	90	25	2,000	500AVMC181M1012
63 (72.5)	22	0608	13.9	80	900	630AVMC220M0608
	33	0810	20.8	40	1,100	630AVMC330M0810
	56	1010	35.3	30	1,400	630AVMC560M1010
	68	1010	42.8	30	1,400	630AVMC680M1010
	82	1010	51.7	30	1,400	630AVMC820M1010
80 (92)	27	0810	21.6	45	1,050	800AVMC270M0810
	47	1010	37.6	36	1,360	800AVMC470M1010

Frequency correction factor of allowable ripple current

Frequency	120Hz≤f<1kHz	1kHZ≤f<10kHz	10kHZ≤f<100kHz	100kHz≤f≤500kHz
Coefficient	0.05	0.3	0.7	1

PRODUCT IDENTIFICATION

250	AVMC	101	M	0608
Rated Voltage	Product	Capacitance	Cap Tolerance (%)	Size code (øDxL)
250: 25V	Series	101: 100μF	M: ±20%	0608: 6.3x8.0mm

ACAS Series

- Feature: Low ESR, Surface mounting, Reduced height, Wide temperature range
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~25Vdc.
- Endurance: 2000hrs at 105℃
- RoHS Compliant

Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +105 ℃	
Rated Voltage Range		2 to 25 Vdc	
Capacitance Tolerance	at 20℃, 120Hz	±20 % (M)；Y：+10 ~ -35%	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.1CV (2 V.DC to 6.3 V.DC) I ≦ 0.3CV (25 V.DC) I：Leakage Current(μA), C：Rated Capacitance(μF), V：Rated Voltage(V)	
Surge Voltage	15 to +35℃	Rated voltage × 1.25 (2 V.DC to 6.3 V.DC) Rated voltage × 1.15 (25 V.DC)	
Dissipation Factor (tanδ)	at 20℃，120Hz	0.06 max.	
Endurance	105℃, rated voltage applied, 2000 hrs.	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC ≤ 300% of the initial specified value 25 V.DC ≤ within the initial limit
Damp Heat, Steady State	60℃, 90 to 95%RH, 500 hrs.	Appearance	No significant damage
		Capacitance Change	(2 V.DC to 2.5 V.DC) +70%, -20% of the initial value (6.3V.DC) +50%, -20% of the initial value (25 V.DC) +60%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC within the initial specified value 25 V.DC ≤ 300% of the initial specified value
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, at 15℃ to 35℃ 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 the initial specified value
		Leakage Current	within the initial specified value

ACAS Series

Standard Ratings

WV(VDC)	Cap (μF)@120Hz	tanδ Max. @120Hz	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (mArms) @100kHz	Part No.
2	220	0.06	44.0	9.0	6,300	ACAS2R0S221E09
	220	0.06	44.0	9.0	6,300	ACAS2R0S221E09Y
	330	0.06	66.0	9.0	6,300	ACAS2R0S331E09
	330	0.06	66.0	9.0	6,300	ACAS2R0S331E09Y
	330	0.06	66.0	6.0	7,500	ACAS2R0S331E06
2.5	220	0.06	55.0	9.0	6,300	ACAS2R5S221E09
	220	0.06	55.0	9.0	6,300	ACAS2R5S221E09Y
	330	0.06	82.5	9.0	6,300	ACAS2R5S331E09
	330	0.06	82.5	9.0	6,300	ACAS2R5S331E09Y
	330	0.06	82.5	6.0	7,500	ACAS2R5S331E06
6.3	100	0.06	63	15.0	2,700	ACAS6R3S101E15
	150	0.06	94.5	15.0	5,100	ACAS6R3S151E15Y
25	15	0.06	112.5	40.0	3,200	ACAS250S150E40
	22	0.06	165.0	40.0	3,200	ACAS250S220E40

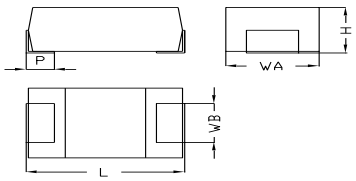
Temperature Compensation Multipliers for Ripple Current			
	≦ 45°C	45°C ＜ T ≦ 85°C	85°C ＜ T ≦ 105°C
2 V.DC to 2.5 V.DC	1.0	0.7	0.25
6.3 V.DC to 25 V.DC	1.0	0.8	0.5

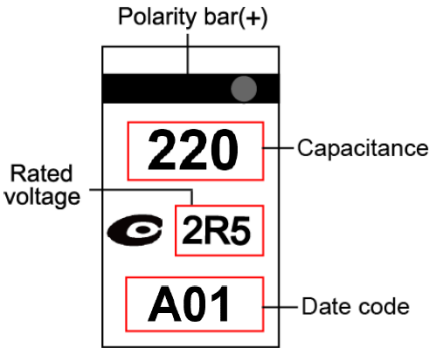
PRODUCT IDENTIFICATION

ACAS	2R5	S	471	E04	☐
Product	Rated Voltage 2R5: 2.5V	Case Height S:1.9mm	Capacitance 471=470μF	ESR E04： 4.5mΩ	Suffix for special code Y=+10~-35%

DIMENSIONS AND MARKING

Case size	L	WA	WB	H	P
S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.2	1.3±0.2





ACAH Series

- Feature: Low ESR, Surface mounting, Reduced height, Wide temperature
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~25Vdc.
- Endurance: Endurance 2000hrs at 105℃
- RoHS Compliant

Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +105 ℃	
Rated Voltage Range		2 to 25 Vdc	
Capacitance Tolerance	at 20℃, 120Hz	±20 % (M)；Y：+10 ~ -35%	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.1CV (2 V.DC to 6.3 V.DC) I ≦ 0.3CV (10 V.DC to 25 V.DC) I：Leakage Current(μA), C：Rated Capacitance(μF), V：Rated Voltage(V)	
Surge Voltage	15 to +35℃	Rated voltage × 1.25 (2 V.DC to 16 V.DC) Rated voltage × 1.15 (20 V.DC to 25 V.DC)	
Dissipation Factor (tanδ)	at 20℃，120Hz	0.06 max.	
Endurance	105℃, rated voltage applied, 2000 hrs.	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC ≤ 300% of the initial specified value 10 V.DC to 25 V.DC ≤ within the initial limit
Damp Heat, Steady State	60℃, 90 to 95%RH, 500 hrs.	Appearance	No significant damage
		Capacitance Change	(2 V.DC to 2.5 V.DC) +70%, -20% of the initial value (10 V.DC to 25 V.DC) +60%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC within the initial specified value 10 V.DC to 25 V.DC ≤ 300% of the initial specified value
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, at 15℃ to 35℃ 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 the initial specified value
		Leakage Current	within the initial specified value

ACAH Series

Standard Ratings

WV(VDC)	Cap (μF)@120Hz	tanδ Max. @120Hz	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (mArms) @100kHz	Part No.
2	470	0.06	94	9.0	6,300	ACAH2R0S471E09
	470	0.06	94	9.0	6,300	ACAH2R0S471E09Y
	470	0.06	94	6.0	7,500	ACAH2R0S471E06
	470	0.06	94	4.5	8,500	ACAH2R0S471E04
	470	0.06	94	3.0	10,200	ACAH2R0S471E03
	560	0.06	112	4.5	8,500	ACAH2R0S561E04
2.5	470	0.06	117.5	9.0	6,300	ACAH2R5S471E09
	470	0.06	117.5	9.0	6,300	ACAH2R5S471E09Y
	470	0.06	117.5	6.0	7,500	ACAH2R5S471E06
	470	0.06	117.5	4.5	8,500	ACAH2R5S471E04
	470	0.06	117.5	3.0	10,200	ACAH2R5S471E03
	560	0.06	140	4.5	8,500	ACAH2R5S561E04
10	100	0.06	300	40	3,200	ACAH100S101E40
	100	0.06	300	40	3,200	ACAH100S101E40Y
16	47	0.06	225.6	40	3,200	ACAH160S470E40
	56	0.06	268.8	40	3,200	ACAH160S560E40
20	33	0.06	198.0	40	3,200	ACAH200S330E40
25	33	0.06	247.5	40	3,200	ACAH250S330E40

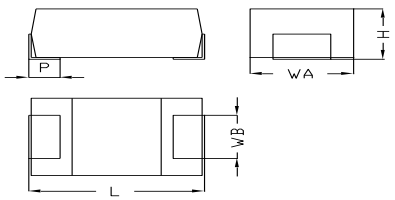
Temperature Compensation Multipliers for Ripple Current			
	≦ 45°C	45°C < T ≦ 85°C	85°C < T ≦ 105°C
2 V.DC to 6.3 V.DC	1.0	0.7	0.25
10 V.DC to 25 V.DC	1.0	0.8	0.5

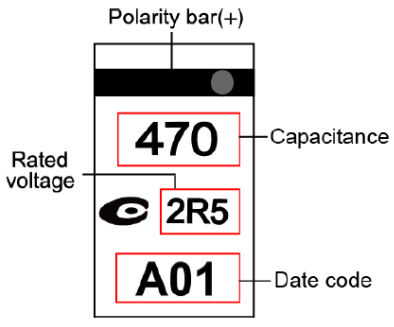
PRODUCT IDENTIFICATION

ACAH	2R5	S	471	E04	□
Product	Rated Voltage 2R5: 2.5V	Case Height S:1.9mm	Capacitance 471=470μF	ESR E04：4.5mΩ	Suffix for special code Y=+10~-35%

DIMENSIONS AND MARKING

Case size	L	WA	WB	H	P
S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.3	1.3±0.2





Product Specifications are subject to change without notice.

ACTH Series

- Feature: Low ESR, Surface mounting, Reduced height, Wide temperature range
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~25Vdc.
- Endurance: 1000hrs at 125℃
- RoHS Compliant

Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +125 ℃	
Rated Voltage Range		2 to 25Vdc	
Capacitance Tolerance	at 20℃, 120Hz	±20 % (M)；Y：+10 ~ -35%；K：±10 %	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.1CV (2V.DC to 2.5V.DC) I ≦ 0.3CV (16V.DC to 25V.DC) I：Leakage Current(μA), C：Rated Capacitance(μF), V：Rated Voltage(V)	
Surge Voltage	15 to +35℃	Rated voltage × 1.25 (2 V.DC to 16 V.DC) Rated voltage × 1.15 (20 V.DC to 25 V.DC)	
Dissipation Factor (tanδ)	at 20℃，120Hz	≦ 0.1	
Endurance	125℃, rated voltage applied, 1000 hrs.	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	within the initial specified value
Damp Heat, Steady State	60℃, 90 to 95%RH, 500 hrs.	Appearance	No significant damage
		Capacitance Change	(2V.DC to 2.5V.DC)+70%, -20% of the initial value (16V.DC to 25V.DC) +60%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 2.5 V.DC within the initial specified value 10 V.DC to 25 V.DC ≤300% of the initial specified value
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, 125% rated voltage, at 15~35℃ 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 the initial specified value
		Leakage Current	within the initial specified value
Solderability	Pb-free solder Around 25% rosin melted ethanol or isopropylalcohol Temperature：245 ± 5 ℃ Immersing time：2 ± 0.5 s	More than 95% of outer terminal surface to be covered	
Resistance to Solvents	Solvent：isopropylalcohol Immersing time：30 ± 5 s Room temperature	No significant damage and marking readable	

ACTH Series

Standard Ratings

WV(VDC)		Cap(μF)@120Hz	tanδ Max. @120Hz	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (A r.m.s) @100kHz	Part No.
105℃	125℃						
2	1.6	330	0.1	66.0	9	6.3	ACTH2R0S331E09
		330	0.1	66.0	9	6.3	ACTH2R0S331E09Y
		330	0.1	66.0	6	7.5	ACTH2R0S331E06
2.5	2	330	0.1	82.5	9	6.3	ACTH2R5S331E09
		330	0.1	82.5	9	6.3	ACTH2R5S331E09Y
		330	0.1	82.5	6	7.5	ACTH2R5S331E06
16	16	47	0.1	225.6	40	3.2	ACTH160S470E40
		56	0.1	268.8	40	3.2	ACTH160S560E40
25	25	15	0.1	112.5	40	3.2	ACTH250S150E40
		33	0.1	247.5	40	3.2	ACTH250S330E40

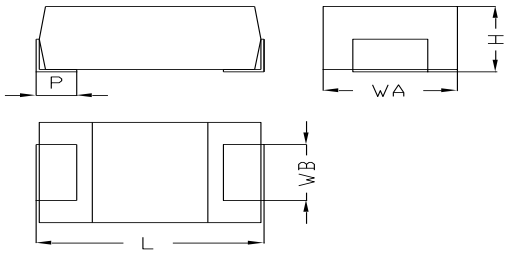
Temperature Compensation Multipliers for Ripple Current				
Temperature	T≦ 45℃	45℃ ＜T≦ 85℃	85℃＜T≦ 105℃	125℃＜T
2 V.DC to 2.5 V.DC	1.0	0.7	0.25	0.25
16 V.DC to 25 V.DC	1.0	0.8	0.5	0.25

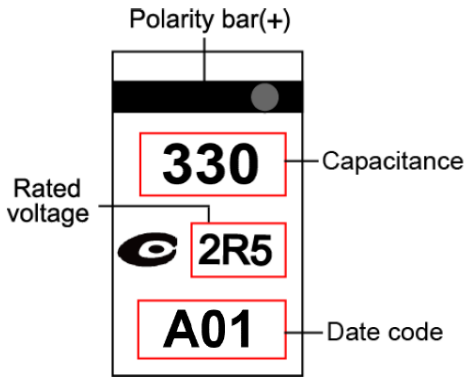
PRODUCT IDENTIFICATION

ACTH	2R0	S	471	E06	□
Product	Rated Voltage 2R0: 2.0V	Case Height S:1.9mm	Capacitance 471=470μF	ESR E06： 6mΩ E04： 4.5mΩ	Suffix for special code Y： Capacitance +10 ~ -35% K： Capacitance ±10% Blank space: Capacitance ±20 %

DIMENSIONS AND MARKING

Case size	L	WA	WB	H	P
S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.3	1.3±0.2





ACAL Series

- Feature: Low ESR, Surface mounting, Reduced height, Wide temperature range
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~2.5Vdc.
- Endurance: 2000hrs at 105℃
- RoHS Compliant

Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +105 ℃	
Rated Voltage Range		2 to 2.5 Vdc	
Capacitance Tolerance	at 20℃, 120Hz	±20 % (M)；Y：+10 ~ -35%；K: ±10%	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.1CV (2 V.DC to 2.5 V.DC) I：Leakage Current(μA), C：Rated Capacitance(μF), V：Rated Voltage(V)	
Surge Voltage	15℃ to 35℃	Rated voltage × 1.25 (2 V.DC to 2.5 V.DC)	
Dissipation Factor (tanδ)	at 20℃，120Hz	Case Height : S Type, 0.06 max.	
Endurance	105℃, rated voltage applied, 2000 hrs	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 2.5 V.DC ≤ 300% of the initial specified value
Damp Heat, Steady State	60℃, 90 to 95%RH, 500 hrs	Appearance	No significant damage
		Capacitance Change	(2 V.DC to 2.5 V.DC) +70%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 2.5 V.DC within the initial specified value
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, at 15℃ to 35℃ 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 the initial specified value
		Leakage Current	within the initial specified value

ACAL Series

Standard Ratings

WV(VDC)	Cap (μF)@120Hz	tanδ Max. @120Hz	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (mArms) @100kHz	Part No.
2	220	0.06	44.0	9.0	6,300	ACAL2R0S221E09
	220	0.06	44.0	9.0	6,300	ACAL2R0S221E09Y
	330	0.06	66.0	9.0	6,300	ACAL2R0S331E09
	330	0.06	66.0	9.0	6,300	ACAL2R0S331E09Y
	330	0.06	66.0	6.0	7,500	ACAL2R0S331E06
2.5	220	0.06	55.0	9.0	6,300	ACAL2R5S221E09
	220	0.06	55.0	9.0	6,300	ACAL2R5S221E09Y
	330	0.06	82.5	9.0	6,300	ACAL2R5S331E09
	330	0.06	82.5	9.0	6,300	ACAL2R5S331E09Y
	330	0.06	82.5	6.0	7,500	ACAL2R5S331E06

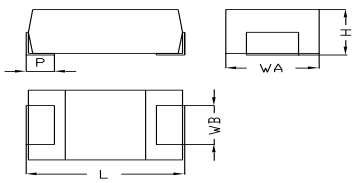
Temperature Compensation Multipliers for Ripple Current			
	≦ 45°C	45°C ＜ T ≦ 85°C	85°C ＜ T ≦ 105°C
2 V.DC to 2.5 V.DC	1.0	0.7	0.25

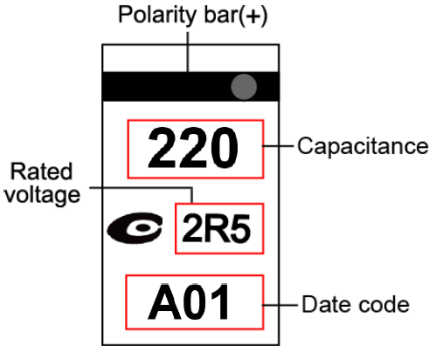
PRODUCT IDENTIFICATION

ACAL	2R5	S	331	E06	□
Product	Rated Voltage 2R5: 2.5V	Case Height S:1.9mm	Capacitance 331=330μF	ESR E06： 6mΩ	Suffix for special code Y=+10~-35%

DIMENSIONS AND MARKING

Case size	L	WA	WB	H	P
S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.1	1.3±0.2





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Wuxi Plant

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