

## EL Series

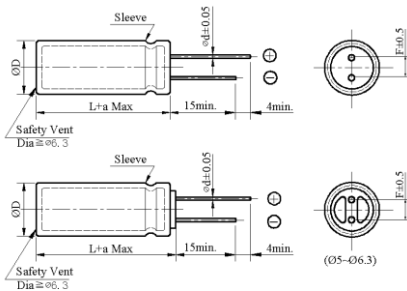
- Suitable for main board
- Extremely low impedance, downsize and high ripple current



### ◆ SPECIFICATIONS

Item	Performance Characteristics														
Category Temperature Range	-40 ~ +105°C														
Working Voltage Range	6.3 ~ 50Vdc														
Capacitance Range	56 ~ 6,800 µF														
Capacitance Tolerance	±20% (at 25°C and 120Hz)														
Dissipation Factor (tanδ) (at 25°C, 120Hz)	<table border="1"> <tr> <td>Rated Voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>tanδ(Max)</td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table>	Rated Voltage (V)	6.3	10	16	25	35	50	tanδ(Max)	0.22	0.19	0.16	0.14	0.12	0.10
	Rated Voltage (V)	6.3	10	16	25	35	50								
tanδ(Max)	0.22	0.19	0.16	0.14	0.12	0.10									
The above values should be increased by 0.02 for every additional 1000µF															
Leakage Current	<p><math>I = 0.01CV</math> or <math>3\mu A</math> whichever is greater</p> <p><math>I</math>: Leakage current (µA)   <math>C</math>: Rated capacitance (µF)   <math>V</math>: Rated voltage (V)</p> <p>The rated voltage is impressed for 2 minutes.</p>														
Low Temperature Characteristics Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>8</td> <td>6</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> </tr> </table>	Rated voltage (V)	6.3	10	16	25	35	50	Z(-40°C)/Z(+20°C)	8	6	6	5	4	3
	Rated voltage (V)	6.3	10	16	25	35	50								
Z(-40°C)/Z(+20°C)	8	6	6	5	4	3									
(at 120Hz)															
Endurance	The following specifications shall be satisfied when the capacitors are restored to 25°C after subjected to DC voltage with the rated ripple current is applied for 2,000 hours at 105°C														
	<table border="1"> <tr> <td>Capacitance change</td> <td>≅ ±25% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≅ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≅ specified value</td> </tr> </table>	Capacitance change	≅ ±25% of the initial value	Dissipation factor(tanδ)	≅ 200% of the specified value	Leakage current	≅ specified value								
	Capacitance change	≅ ±25% of the initial value													
Dissipation factor(tanδ)	≅ 200% of the specified value														
Leakage current	≅ specified value														
Shelf Life	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 500 hours at 105°C without voltage applied.														
	<table border="1"> <tr> <td>Capacitance change</td> <td>≅ ±25% of the initial value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≅ 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≅ 200% of the specified value</td> </tr> </table>	Capacitance change	≅ ±25% of the initial value	Dissipation factor(tanδ)	≅ 200% of the specified value	Leakage current	≅ 200% of the specified value								
	Capacitance change	≅ ±25% of the initial value													
Dissipation factor(tanδ)	≅ 200% of the specified value														
Leakage current	≅ 200% of the specified value														
Others	Conforms to JIS-C-5101-4 (1998), characteristic W														

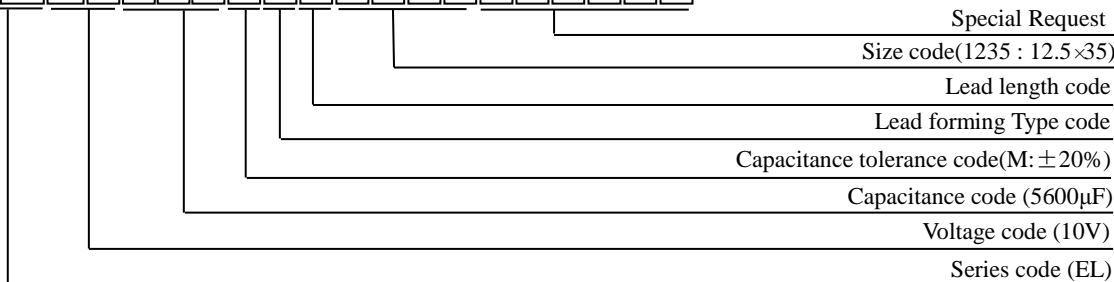
### ◆ DIMENSIONS (mm)



ΦD	5	6.3	8	10	12.5	16	18
ΦD	ΦD + 0.5 Max						
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
a	L + 1.5 Max				$\leq 35 L + 1.5 \text{Max}$ $\geq 40 L + 2.0 \text{Max}$	L + 1.5 Max	

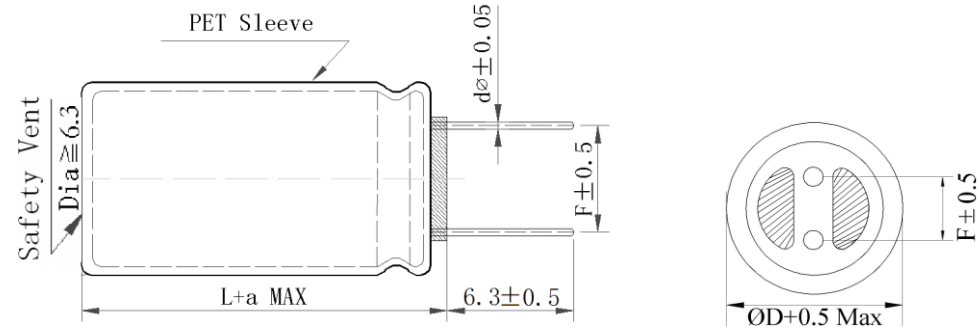
### ◆ PART NUMBER SYSTEM ( Example : 10V 5600µF )

E L I A 5 6 2 M N N 1 2 3 5



## Aluminum Electrolytic Capacitor

<b>Customer</b>	<b>Digi-Key</b>	<b>SERIES</b>	<b>EL</b>	<b>NO.:</b>	<b>PUBLISH DATE</b>	<b>2022-03-25</b>
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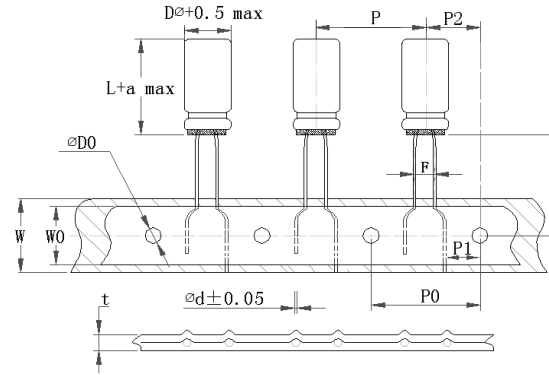
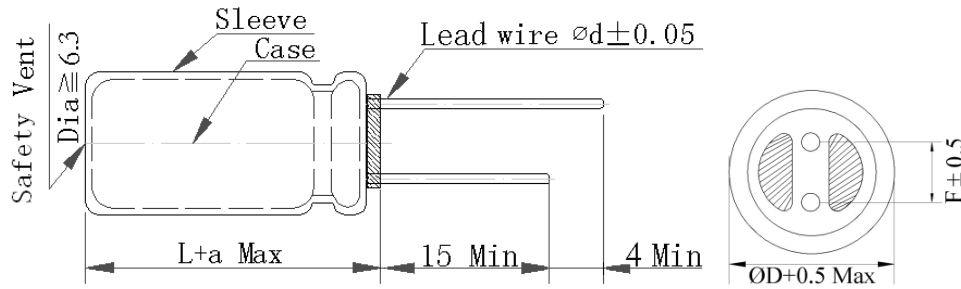
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tan $\delta$ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (m $\Omega$ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														D $\Phi$	L	a	d	F	
1	EL1H220MC60511U	/	22 $\mu$ F	$\pm 20\%$	50 V	/	-40~+105	/	/	/	150	800	2000	5	11	/	/	2	---

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
1.Sleeve Color: Brown. 2.Suffix U indicates convex rubber cover.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

<b>Customer</b>	<b>Digi-Key</b>	<b>SERIES</b>	<b>EL</b>	<b>NO.:</b>	<b>PUBLISH DATE</b>	<b>2022-03-25</b>
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Unit (mm):

P=12.7±1.0	H=18.5±0.5
P0=12.7±0.2	P1=3.85±0.5
P2=6.35±1.0	W=18.0±0.5
F=2.5+0.8/-0.2	W0=12.5MIN
ΦD0=4.0±0.2	t=0.7±0.2

**Original**

**FIG-1**

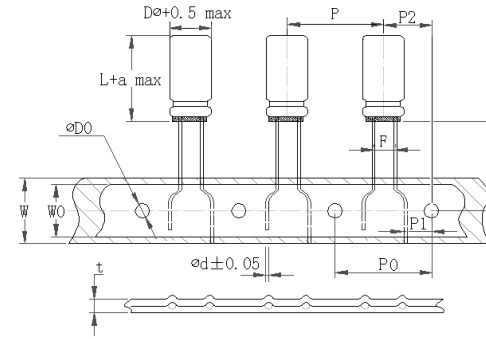
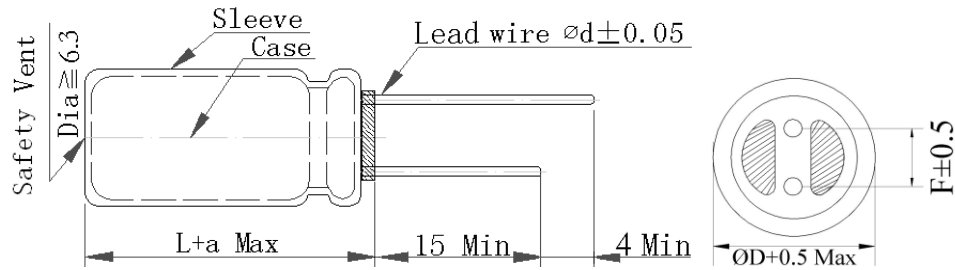
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1H2R2MP20511U	/	2.2 μF	±20%	50 V	/	-40~+105	/	/	/	60	3500	2000	5	11	/	/	2.5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
1.Sleeve Color: Brown. 2.Suffix U indicates convex rubber cover.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

Customer	Digi-Key	SERIES	EL	NO.:	PUBLISH DATE	2022-03-25
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Unit (mm):

P=12.7±1.0	H=18.5±0.5
P0=12.7±0.2	P1=3.85±0.5
P2=6.35±1.0	W =18.0±0.5
F=2.5+0.8 /-0.2	W0=12.5MIN
ΦD0=4.0±0.2	t=0.7±0.2

Original

FIG-1

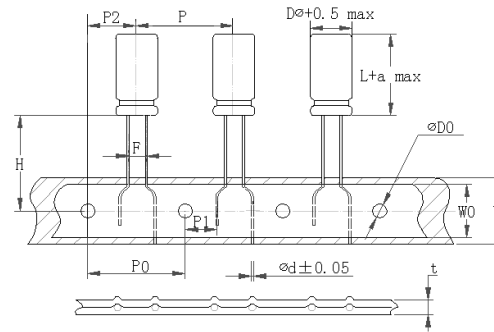
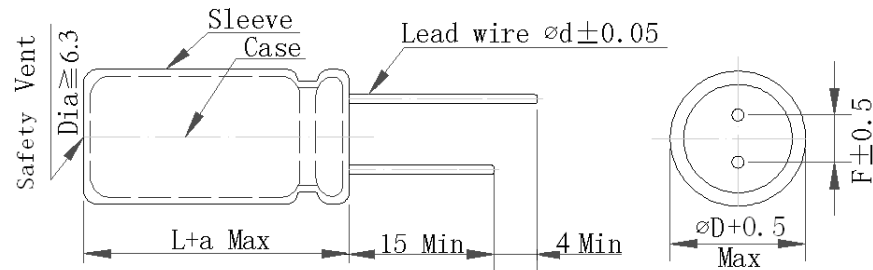
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1C101MP26311U	/	100 μF	±20%	16 V	/	-40~+105	/	/	/	290	1280	2000	6.3	11	/	/	2.5	FIG-1
2	EL1E221MP26311U	/	220 μF	±20%	25 V	/	-40~+105	/	/	/	555	117	2000	6.3	11	/	/	2.5	FIG-1
3	EL1H4R7MP26307EP9U	/	4.7 μF	±20%	50 V	/	-40~+105	/	/	/	150	1700	2000	6.3	7	/	/	2.5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
1.Sleeve Color: Brown. 2.Suffix U indicates convex rubber cover. 3. Suffix P9 : indicates Black PET sleeve.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

<b>Customer</b>	<b>Digi-Key</b>	<b>SERIES</b>	<b>EL</b>	<b>NO.:</b>	<b>PUBLISH DATE</b>	<b>2022-03-25</b>
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Unit (mm):

P=12.7±1.0	H=18.5±0.5
P0=12.7±0.2	P1=3.85±0.5
P2=6.35±1.0	W=18.0±0.5
F=3.5+0.8/-0.2	W0=12.5MIN
ΦD0=4.0±0.2	t=0.7±0.2

**Original**

**FIG-1**

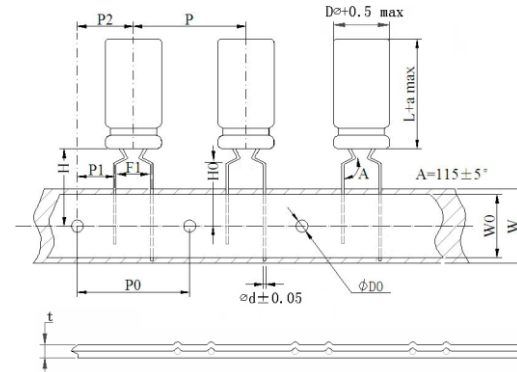
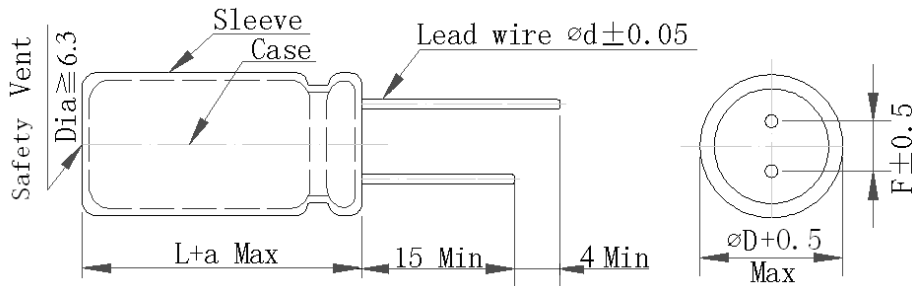
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1C471MP308B5E	/	470 μF	±20%	16 V	/	-40~+105	/	/	/	1140	36	2000	8	11.5	/	/	3.5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
Sleeve Color: Brown.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

<b>Customer</b>	<b>Digi-Key</b>	<b>SERIES</b>	<b>EL</b>	<b>NO.:</b>	<b>PUBLISH DATE</b>	<b>2022-03-25</b>
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Unit(mm):

P=12.7±1.0	H0=16.0±0.5
P0=12.7±0.2	W =18.0±0.5
P1=3.85±0.5	W0=12.5MIN
P2=6.35±1.0	ΦD0=4.0±0.2
F1=5.0+0.8/-0.2	H=18.5±0.5
t=0.7±0.2	

### Original

### FIG-1

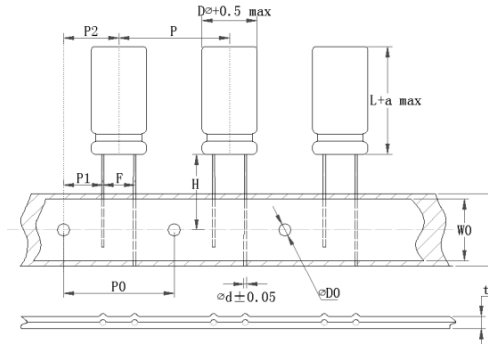
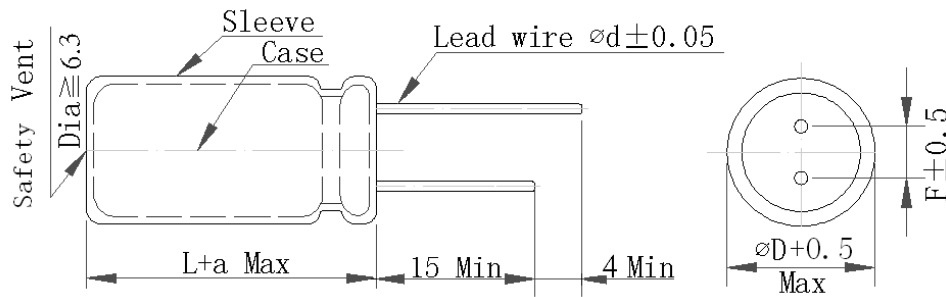
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F1	
1	EL1A681MP50812	/	680 μF	±20%	10 V	/	-40~+105	/	/	/	850	69	2000	8	12	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

<b>REMARKS:</b>	<b>APPROVED BY</b>	<b>CHECKED BY</b>	<b>PREPARED BY</b>
Sleeve Color: Brown.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

Customer	Digi-Key	SERIES	EL	NO.:	PUBLISH DATE	2022-03-25
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Unit(mm):

P=12.7±1.0

H=18.5±0.5

P0=12.7±0.2

W=18.0±0.5

P1=3.85±0.5

W0=12.5MIN

P2=6.35±1.0

ΦD0=4.0±0.2

F=5.0+0.8/-0.2

t=0.7±0.2

### Original

### FIG-1

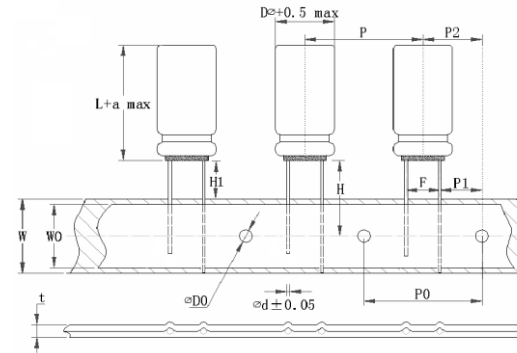
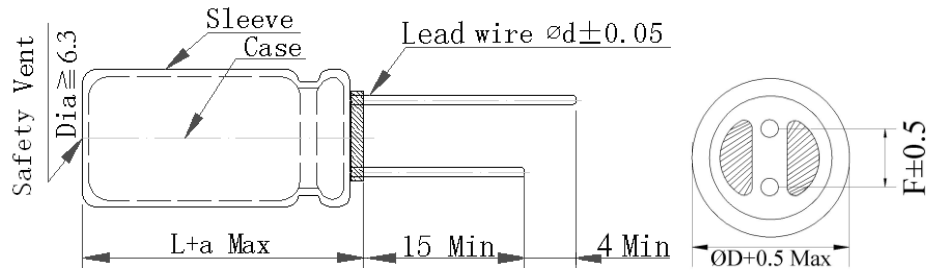
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1C471MNN1011	/	470 μF	±20%	16 V	/	-40~+105	/	/	/	1000	200	2000	10	11	/	/	5	Original
2	EL2A101MNN1020	/	100 μF	±20%	100 V	/	-40~+105	/	/	/	1050	500	2000	10	20	/	/	5	Original
3	EL1E681MP51020R	/	680 μF	±20%	25 V	/	-40~+105	/	/	/	2050	23	2000	10	20	/	/	5	FIG-1
4	EL1C471MP51011S	/	470 μF	±20%	16 V	/	-40~+105	/	/	/	1000	/	2000	10	11	/	/	5	FIG-1
5	EL1A152MP51020	/	1500 μF	±20%	10 V	/	-40~+105	/	/	/	2035	40	2000	10	20	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
Sleeve Color: Brown.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

Customer	Digi-Key	SERIES	EL	NO.:	PUBLISH DATE	2022-03-25
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Unit (mm):

P=12.7±1.0	H=18.5±0.5
P0=12.7±0.2	W=18.0±0.5
P1=3.85±0.5	W0=12.5MIN
P2=6.35±1.0	ΦD0=4.0+0.2
F=5.0+0.8/-0.2	t=0.7±0.2
H1=9.5±1.0	

**Original**

**FIG-1**

No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1C681MP51016U	/	680 μF	±20%	16 V	/	-40~+105	/	/	/	1430	65	2000	10	16	/	/	5	FIG-1
2	EL1V331MP51016U	/	330 μF	±20%	35 V	/	-40~+105	/	/	/	1430	38	2000	10	16	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

**REMARKS:**

**APPROVED BY**

**CHECKED BY**

**PREPARED BY**

1. Sleeve Color: Brown.
2. Suffix U indicates convex rubber cover.

张洪斌

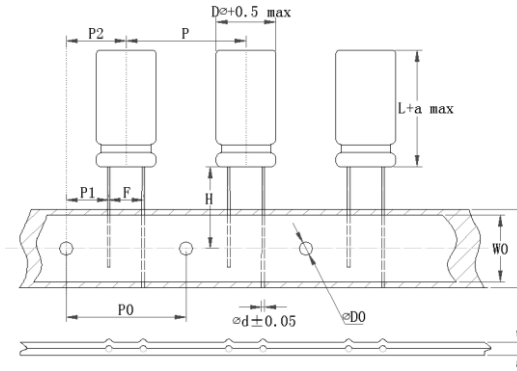
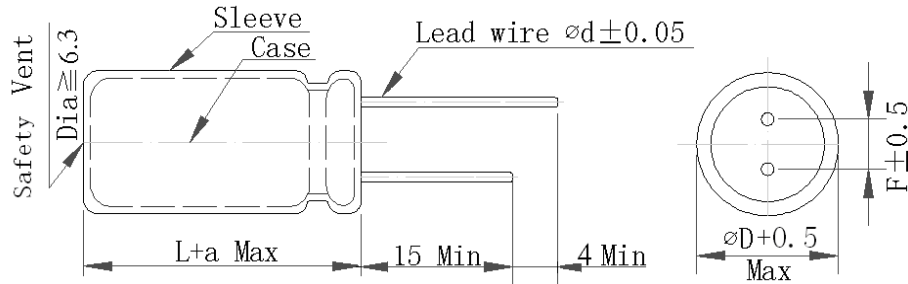
曾爱娥

梁慧妍



## Aluminum Electrolytic Capacitor

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Unit (mm)

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P0=12.7±0.2 W=18.0±0.5  
P1=3.85±0.5 W0=12.5MIN  
P2=6.35±1.0  $\phi D0=4.0+0.2$   
F=5.0+0.8/-0.2 t=0.7±0.2

**Original**

**FIG-1**

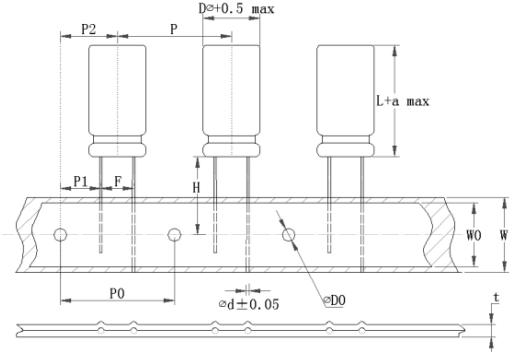
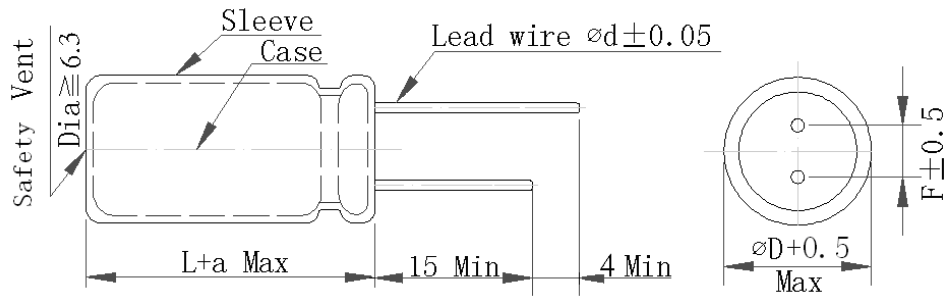
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tan $\delta$ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (m $\Omega$ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														D $\phi$	L	a	d	F	
1	EL1A102MPH1012EP9	/	1000 $\mu$ F	±20%	10 V	/	-40~+105	/	/	/	1000	40	2000	10	12	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
1.Sleeve Color: Brown. 2.Suffix P9 : indicates Black PET sleeve.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

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Unit(mm):

P=12.7±1.0	H=18.5±0.5
P0=12.7±0.2	W=18.0±0.5
P1=3.85±0.5	W0=12.5MIN
P2=6.35±1.0	ΦD0=4.0±0.2
F=5.0+0.8/-0.2	t=0.7±0.2

### Original

### FIG-1

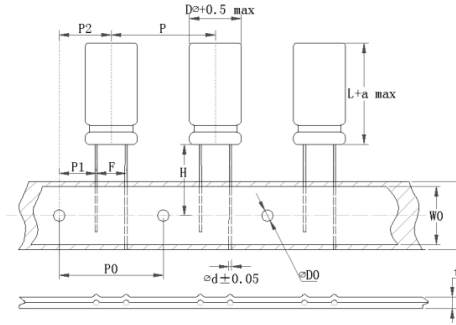
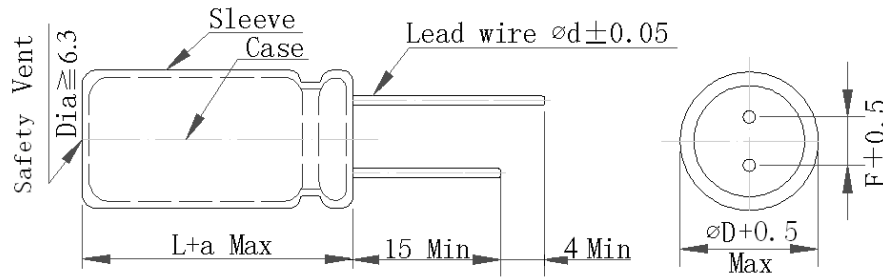
No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL1E102MPN1020	/	1000 μF	±20%	25 V	/	-40~+105	/	/	/	1986	30	2000	10	20	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

REMARKS:	APPROVED BY	CHECKED BY	PREPARED BY
Sleeve Color: Brown.	张洪斌	曾爱娥	梁慧妍

## Aluminum Electrolytic Capacitor

<b>Customer</b>	<b>Digi-Key</b>	<b>SERIES</b>	<b>EL</b>	<b>NO.:</b>	<b>PUBLISH DATE</b>	<b>2022-03-25</b>
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Unit (mm)

P=15.0±1.0	H=20.5±0.5
P0=15.0±0.2	W=18.0±0.5
P1=5.0±0.5	W0=12.5MIN
P2=7.5±1.0	ΦD0=4.0±0.2
F=5.0+0.8/-0.2	t=0.7±0.2

### Original

### FIG-1

No.	CHINSAN Part No.	Customer Part No.	Capacitance (uF)	Tolerance On rated Capacitance (%)	Working Voltage (Vdc)	Surge Voltage (Vdc)	Category Temp Range (°C)	Tanδ @ 25°C (120Hz) (Max)	Leakage Current (uA) (2 min.)	Rated Ripple Current (mA rms) @ 105°C 120Hz	Rated Ripple Current (mA rms) @ 105°C 100kHz	Impedance @20°C (mΩ max/ 100kHz)	Endurance @ 105°C (Hours)	Dimensions (mm)					Appearance Drawing No
														DΦ	L	a	d	F	
1	EL2A920MPH1212S	/	92 μF	±20%	100 V	/	-40~+105	/	/	/	1200	600	2000	12.5	12	/	/	5	FIG-1
2.	EL2C470MPH1212S	/	47 μF	±20%	160 V	/	-40~+105	/	/	/	750	2300	2000	12.5	12	/	/	5	FIG-1

※Test leakage current before testing dissipation factor and capacitance during the electric characteristic test.

<b>REMARKS:</b>	<b>APPROVED BY</b>	<b>CHECKED BY</b>	<b>PREPARED BY</b>
Sleeve Color: Brown.	张洪斌	曾爱娥	梁慧妍