



SHANGHAI YONGMING ELECTRONICS CO., LTD.

Multilayer Polymer Solid Aluminum Electrolytic Capacitor

LAMINATED POLYMER SOLID STATE ALUMINUM ELECTROLYTIC CAPACITOR



FULL RANGE OF TANTALUM CAPACITOR SIZES

SUPERIOR PERFORMANCE, HIGHER SAFETY



Capacitor Solutions, Ask YMIN for your Applications

COMPANY PROFILE

Company Profile >>>

Shanghai Yongming Electronics Co., Ltd. possesses leading independent R&D capabilities, advanced manufacturing equipment and processes, and boasts eight major product lines: Multilayer polymer solid aluminum electrolytic capacitors; Supercapacitors – Leaded, SMD, Button, Modular, Horn-shaped, and Lithium-ion capacitors; Polymer solid aluminum electrolytic capacitors – Leaded and SMD; Polymer hybrid aluminum electrolytic capacitors – Leaded and SMD; Liquid aluminum electrolytic capacitors – Leaded, SMD, Horn-shaped, and Bolt-shaped; Multilayer ceramic chip capacitors; Conductive polymer tantalum electrolytic capacitors; Metallized polypropylene film capacitors.

Founded in 2001, Shanghai Yongming Electronics Co., Ltd. has always adhered to the service philosophy of "For capacitor applications, if you have difficulties, find Yongming."

Yongming is a high-tech enterprise specializing in the development, high-precision manufacturing, and application promotion of various capacitors. It is a key new product enterprise, a high-tech enterprise, a brand product enterprise, and an AAA credit-rated enterprise in Shanghai. With a registered capital of 30 million RMB, it covers an area of 40,000 square meters (60 mu). Currently, it has obtained ISO9001, ISO14001, ISO45001, IATF16949 (international standard for the automotive industry), and national military standard quality management system certifications. Its products comply with national grid metrology and testing certifications, RoHS, REACH, and AEC-Q200 (passive component automotive-grade quality certification). Yongming insists on developing innovative products based on customer needs, increasing research investment, and contributing to industry progress.



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- Image retrieval

The diagram illustrates three types of MPD components, each with its dimensions and a reference number:

- MPD10**: ultra-thin products. Dimensions: 4.1 x 1.6 mm. Reference: P4.
- MPD15**: Thin product. Dimensions: 3.3 x 2.5 mm. Reference: P6.
- MPD19**: Standard products. Dimensions: 4.1 x 2.5 mm. Reference: P8.

MPD28

Large capacity items



P10

MPS

Ultra-low ESR products



P12

MPX

High-temperature
long-life products

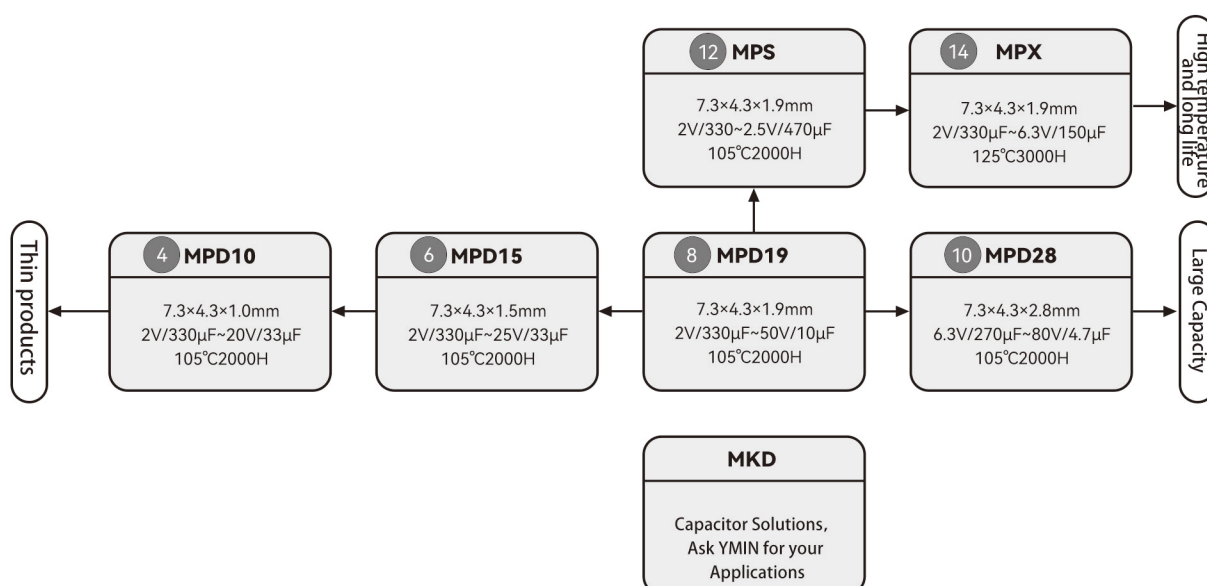


P14

■ Product List

category	series	Features	High pressure resistant products	Large capacity items	Low ESR products	Miniaturized products	Customized products	Rated Voltage Range (V)	Capacitance Range (μF)	ESR (mΩ)	Operating temperature range (°C)	page number
Multilayer polymer Solid aluminum electrolytic capacitor	MPD10	Ultra-thin L-type terminals	●		●	●		2~20	10~330	4.5~80	-55~+105	4
	MPD15	L-type thin terminals			●			2~25	10~330	4.5~80	-55~+105	6
	MPD19	L-type standard terminals	●		●			2~50	8.2~560	4.5~80	-55~+105	8
	MPD28	L-type high-capacity terminals	●	●	●			6.3~80	4.7~390	7~50	-55~+105	10
	MPS	L-type ultra-low ESR terminals			●			2~2.5	330~560	3	-55~+105	12
	MPX	L-type high-temperature long-life terminals		●	●	●		2~6.3	120~470	3~15	-55~+125	14
	MKD	Custom-made terminals					●	Voltage requirements	Capacity requirements	Customer needs	Temperature requirements	/

■ Product System Diagram



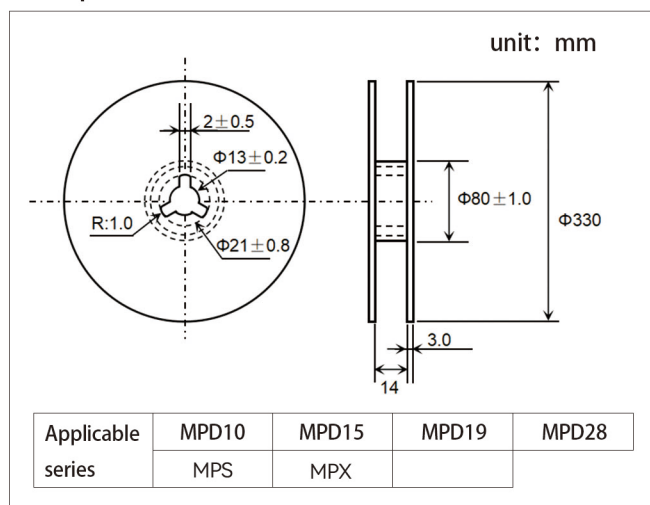


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
↓			↓			↓	↓		↓			↓				↓			
series	code	Rated capacity (μF)		code	Capacity tolerance		code	Voltage(V)		code	size(mm)		code	ESR(mΩ)		code	Subsidiary code (appearance)		code
MPD10	MPD	8.2		8R2	±20%		M	2		0D	7.3*4.3*1.0		D10	4.5		4R5R	Automotive grade products		C
MPD15	MPD	10		100	-30%~+10%		3	2.5		0E	7.3*4.3*1.5		D15	6		006R			
MPD19	MPD	15		150	-35%~+10%		Y	4		0J	7.3*4.3*1.9		D19	9		009R			
MPD28	MPD	22		220				6.3		0L	7.3*4.3*2.8		D28	12		012R			
MPU41	MPU	27		270				10		1A	7.2*6.1*4.1		U41	15		015R			
MPB19	MPB	33		330				16		1C				20		020R			
MPS	MPS	39		390				20		1D				25		025R			
MPX	MPX	47		470				25		1E				30		030R			
		56		560				35		1V				40		040R			
		68		680				50		1H				80		080R			
		82		820				63		1J									
		100		101				80		1K									
		120		121															
		150		151															
		180		181															
		220		221															
		270		271															
		330		331															
		390		391															
		470		471															
		560		561															
		680		681															
		820		821															
		1000		102															
		1200		122															

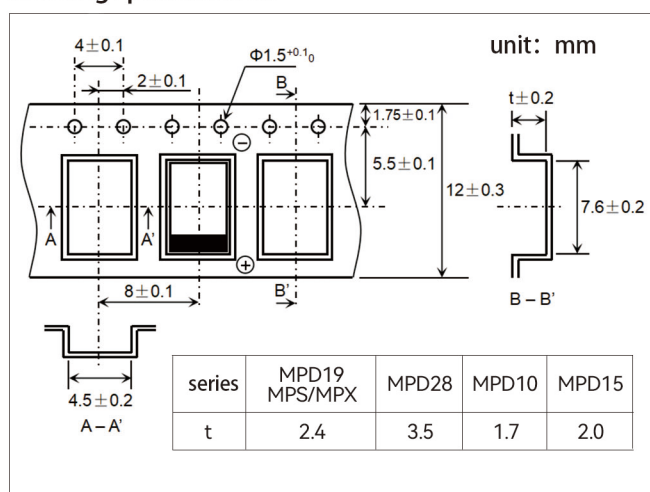
Code rules: Add the first two digits to the number of trailing zeros, where R represents the decimal point.



Reel Specifications



braiding specifications



Packaging quantity

Packaging quantity	One volume (pcs)	Inner box (roll)	Total number of packages (pcs)
7.3*4.3*1.0	4000	2	16000
7.3*4.3*1.5	4000	2	16000
7.3*4.3*1.9	3500	2	14000
7.2*6.1*2.8	3000	2	12000

MPD10

- ◆ Slim profile (1mm height)
- ◆ 105°C 2000-hour warranty
- ◆ High voltage withstand (20V max.)
- ◆ RoHS compliant (2011/65/EU)



Main technical parameters

project	characteristic	
Operating temperature range	- 55 ~ +105°C	
Rated operating voltage	2 ~ 20V	
Capacity range	10 ~ 330μF 120Hz 20°C	
Capacity tolerance	±20% (120Hz 20°C)	
Loss tangent	Values below the standard product list: 120Hz, 20°C	
Leakage current	I ≤ 0.1CV, charged for 2 minutes at rated voltage, 20°C	
Equivalent series resistance (ESR)	Values below the standard product list: 100kHz, 20°C	
Surge voltage (V)	1.15 times the rated voltage	
Durability	After being subjected to the rated operating voltage for 2000 hours at 105°C and placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	± 20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value
High temperature and humidity	After being placed at 60°C and 90%~95% RH for 500 hours without applying voltage, and then placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	+50% -20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value

logo

Capacitance (μF)

220

Positive electrode label

2.5 M18D

Rated voltage (V)

Manufacturing code

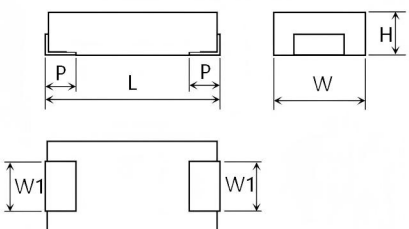
Manufacturing Coding Rules:

The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

External dimensions



unit: mm

L±0.2	W±0.2	H±0.2	W1±0.1	P±0.2
7.3	4.3	1.0	2.4	1.3

Temperature coefficient of rated ripple current

temperature	T ≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
2~10V	1.0	0.7	0.25
16~80V	1.0	0.8	0.5

Note: The capacitor surface temperature should not exceed the product’s maximum operating temperature.

Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00



MPD10

■ List of Standard Products

Rated voltage (V)	Nominal capacity (μF)	size(mm)			L.C. (μA,2min)	Tan δ 120Hz	ESR (mΩ100kHz)	Rated ripple current (mA/r.m.s)45°C 100kHz
		L	W	H				
2	330	7.3	4.3	1.0	66	0.06	4.5	8500
2.5	220	7.3	4.3	1.0	82.5	0.06	4.5	8500
6.3	100	7.3	4.3	1.0	63	0.06	12	5600
10	33	7.3	4.3	1.0	33	0.06	20	4200
	47	7.3	4.3	1.0	47	0.06	18	4600
	82	7.3	4.3	1.0	82	0.06	15	5100
16	15	7.3	4.3	1.0	24	0.06	70	2400
	33	7.3	4.3	1.0	53	0.06	50	2850
	47	7.3	4.3	1.0	75	0.06	30	3500
20	10	7.3	4.3	1.0	20	0.06	80	2200
	22	7.3	4.3	1.0	44	0.06	65	2500
	33	7.3	4.3	1.0	66	0.06	45	3000

MPD15

NEW

- ◆Low ESR, high ripple current
- ◆105°C, 2000-hour warranty
- ◆High voltage withstand (25V max.)
- ◆RoHS compliant (2011/65/EU)



Main technical parameters

project	characteristic	
Operating temperature range	- 55 ~ +105°C	
Rated operating voltage	2 ~ 25V	
Capacity range	10 ~ 330μF 120Hz 20°C	
Capacity tolerance	±20% (120Hz 20°C)	
Loss tangent	Values below the standard product list: 120Hz, 20°C	
Leakage current	I ≤ 0.1CV, charged for 2 minutes at rated voltage, 20°C	
Equivalent series resistance (ESR)	Values below the standard product list: 100kHz, 20°C	
Surge voltage (V)	1.15 times the rated voltage	
Durability	After being subjected to the rated operating voltage for 2000 hours at 105°C and placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	± 20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value
High temperature and humidity	After being placed at 60°C and 90%~95% RH for 500 hours without applying voltage, and then placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	+50% -20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value

logo

Capacitance (μF)

Positive electrode label

330

2.5 M18D

Rated voltage (V)

Manufacturing code

Manufacturing Coding Rules:

The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

External dimensions

unit: mm

L±0.2	W±0.2	H±0.1	W1±0.1	P±0.2
7.3	4.3	1.5	2.4	1.3

Temperature coefficient of rated ripple current

temperature	T ≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
2~10V	1.0	0.7	0.25
16~80V	1.0	0.8	0.5

Note: The capacitor surface temperature should not exceed the product's maximum operating temperature.

Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00



MPD15

List of Standard Products

Rated voltage (V)	Nominal capacity (μF)	size(mm)			L.C. (μA,2min)	Tan δ 120Hz	ESR (mΩ100kHz)	Rated ripple current (mA/r.m.s)45°C 100kHz
		L	W	H				
2	330	7.3	4.3	1.5	66	0.06	4.5	8500
2.5	330	7.3	4.3	1.5	83	0.06	9	6300
4	220	7.3	4.3	1.5	88	0.06	9	6300
6.3	100	7.3	4.3	1.5	63	0.06	15	5100
	150	7.3	4.3	1.5	95	0.06	9	6300
10	100	7.3	4.3	1.5	100	0.06	15	5100
	150	7.3	4.3	1.5	150	0.06	15	5100
16	15	7.3	4.3	1.5	24	0.06	70	2400
	33	7.3	4.3	1.5	53	0.06	50	2850
	47	7.3	4.3	1.5	75	0.06	45	3000
	68	7.3	4.3	1.5	109	0.06	40	3200
20	10	7.3	4.3	1.5	20	0.06	80	2200
	22	7.3	4.3	1.5	44	0.06	65	2500
	33	7.3	4.3	1.5	66	0.06	45	3000
	47	7.3	4.3	1.5	94	0.06	40	3200
25	10	7.3	4.3	1.5	25	0.06	80	2200
	22	7.3	4.3	1.5	55	0.06	65	2500
	33	7.3	4.3	1.5	83	0.06	40	3200

MPD19

- ◆Low ESR, high ripple current
- ◆105°C, 2000-hour warranty
- ◆High voltage withstand (50V max.)
- ◆RoHS compliant (2011/65/EU)



Main technical parameters

project	characteristic	
Operating temperature range	- 55 ~ +105°C	
Rated operating voltage	2 ~ 50V	
Capacity range	8.2 ~ 560μF 120Hz 20°C	
Capacity tolerance	±20% (120Hz 20°C)	
Loss tangent	Values below the standard product list: 120Hz, 20°C	
Leakage current	I ≤ 0.1CV, charged for 2 minutes at rated voltage, 20°C	
Equivalent series resistance (ESR)	Values below the standard product list: 100kHz, 20°C	
Surge voltage (V)	1.15 times the rated voltage	
Durability	After being subjected to the rated operating voltage for 2000 hours at 105°C and placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	± 20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value
High temperature and humidity	After being placed at 60°C and 90%~95% RH for 500 hours without applying voltage, and then placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	+50% -20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value

logo

Capacitance (μF)

Positive electrode label

Rated voltage (V)

Manufacturing code

100

16 M18D

Manufacturing Coding Rules:

The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

External dimensions

L

P

P

H

W

W1

W1

unit: mm

L±0.2	W±0.2	H±0.1	W1±0.1	P±0.2
7.3	4.3	1.9	2.4	1.3

Temperature coefficient of rated ripple current

temperature	T ≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
2~10V	1.0	0.7	0.25
16~80V	1.0	0.8	0.5

Note: The capacitor surface temperature should not exceed the product’s maximum operating temperature.

Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00



MPD19

■ List of Standard Products

Rated voltage (V)	Nominal capacity (μ F)	size(mm)			L.C. (μ A,2min)	Tan δ 120Hz	ESR (m Ω 100kHz)	Rated ripple current (mA/r.m.s)45°C 100kHz
		L	W	H				
2	330	7.3	4.3	1.9	66	0.06	4.5	8500
	390	7.3	4.3	1.9	78	0.06	4.5	8500
	470	7.3	4.3	1.9	94	0.06	4.5	8500
	560	7.3	4.3	1.9	112	0.06	4.5	8500
2.5	330	7.3	4.3	1.9	83	0.06	4.5	8500
	390	7.3	4.3	1.9	98	0.06	4.5	8500
	470	7.3	4.3	1.9	118	0.06	4.5	8500
	560	7.3	4.3	1.9	140	0.06	4.5	8500
4	150	7.3	4.3	1.9	60	0.06	6	7200
	220	7.3	4.3	1.9	88	0.06	6	7200
	270	7.3	4.3	1.9	108	0.06	6	7200
6.3	100	7.3	4.3	1.9	63	0.06	15	5100
	150	7.3	4.3	1.9	95	0.06	9	6300
	220	7.3	4.3	1.9	139	0.06	9	6300
10	100	7.3	4.3	1.9	100	0.06	10	6500
	150	7.3	4.3	1.9	150	0.06	10	6500
16	33	7.3	4.3	1.9	53	0.06	50	2850
	47	7.3	4.3	1.9	75	0.06	45	3000
	68	7.3	4.3	1.9	109	0.06	40	3200
	100	7.3	4.3	1.9	160	0.06	40	3200
20	10	7.3	4.3	1.9	20	0.06	80	2200
	22	7.3	4.3	1.9	44	0.06	65	2500
	33	7.3	4.3	1.9	66	0.06	45	3000
	47	7.3	4.3	1.9	94	0.06	40	3200
	68	7.3	4.3	1.9	136	0.06	40	3200
25	10	7.3	4.3	1.9	25	0.06	80	2200
	22	7.3	4.3	1.9	55	0.06	65	2500
	33	7.3	4.3	1.9	83	0.06	45	3000
	39	7.3	4.3	1.9	98	0.06	40	3200
	47	7.3	4.3	1.9	118	0.06	40	3200
	68	7.3	4.3	1.9	170	0.06	40	3200
35	15	7.3	4.3	1.9	53	0.06	50	2850
	22	7.3	4.3	1.9	77	0.06	40	3200
50	8.2	7.3	4.3	1.9	41	0.06	55	2700
	10	7.3	4.3	1.9	50	0.06	45	3000

MPD28

- ◆Low ESR, high ripple current
- ◆105℃, 2000-hour warranty
- ◆High voltage withstand (80V max.), high capacity (820 μF max.)
- ◆RoHS compliant (2011/65/EU)



Main technical parameters

project	characteristic	
Operating temperature range	- 55 ~ +105℃	
Rated operating voltage	6.3 ~ 80V	
Capacity range	4.7 ~ 390 μF 120Hz 20℃	
Capacity tolerance	±20% (120Hz 20℃)	
Loss tangent	Values below the standard product list: 120Hz, 20℃	
Leakage current	I ≤0.1CV, charged for 2 minutes at rated voltage, 20℃	
Equivalent series resistance (ESR)	Values below the standard product list: 100kHz, 20℃	
Surge voltage (V)	1.15 times the rated voltage	
Durability	After being subjected to the rated operating voltage for 2000 hours at 105℃ and placed at 20℃ for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	± 20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value
High temperature and humidity	After being placed at 60℃ and 90%~95% RH for 500 hours without applying voltage, and then placed at 20℃ for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	± 20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value

logo

Capacitance (μF)

Positive electrode label

Rated voltage (V)

Manufacturing code

120

25 M18D

Manufacturing Coding Rules:

The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

External dimensions

unit: mm

L±0.2	W±0.2	H±0.1	W1±0.1	P±0.2
7.3	4.3	2.8	2.4	1.3

Temperature coefficient of rated ripple current

temperature	T ≤ 45℃	45℃ < T ≤ 85℃	85℃ < T ≤ 105℃
2~10V	1.0	0.7	0.25
16~80V	1.0	0.8	0.5

Note: The capacitor surface temperature should not exceed the product’s maximum operating temperature.

Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00

MPD28

■ List of Standard Products

Rated voltage (V)	Nominal capacity (μ F)	size(mm)			L.C. (μ A,2min)	Tan δ 120Hz	ESR (m Ω 100kHz)	Rated ripple current (mA/r.m.s)45°C 100kHz
		L	W	H				
6.3	270	7.3	4.3	2.8	170	0.06	9	6300
	330	7.3	4.3	2.8	208	0.06	7	7000
	390	7.3	4.3	2.8	246	0.06	7	7000
10	150	7.3	4.3	2.8	150	0.06	10	6800
	220	7.3	4.3	2.8	220	0.06	10	6800
16	82	7.3	4.3	2.8	131	0.06	40	3200
	100	7.3	4.3	2.8	160	0.06	40	3200
	150	7.3	4.3	2.8	240	0.06	40	3200
25	100	7.3	4.3	2.8	250	0.06	40	3200
35	33	7.3	4.3	2.8	116	0.06	40	3200
	39	7.3	4.3	2.8	137	0.06	40	3200
	47	7.3	4.3	2.8	165	0.06	40	3200
50	15	7.3	4.3	2.8	75	0.06	45	3000
63	8.2	7.3	4.3	2.8	51.7	0.06	50	2800
80	4.7	7.3	4.3	2.8	37.6	0.06	50	2800

- ◆ Ultra-low ESR (3mΩ) and high ripple current
- ◆ 2000-hour warranty at 105°C
- ◆ RoHS compliant (2011/65/EU)



■ Main technical parameters

project	characteristic	
Operating temperature range	- 55 ~ +105°C	
Rated operating voltage	2 ~ 2.5V	
Capacity range	330 ~ 560 μF 120Hz 20°C	
Capacity tolerance	±20% (120Hz 20°C)	
Loss tangent	Values below those in the standard product list: 120Hz, 20°C	
Leakage current	I ≤ 0.2CV or 200 μA (maximum value) Charge for 2 minutes at rated voltage, 20°C	
Equivalent series resistance (ESR)	Values below those in the standard product list: 100kHz, 20°C	
Surge voltage (V)	1.15 times the rated voltage	
Durability	After being subjected to the rated operating voltage for 2000 hours at 105°C and placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	±20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value
High temperature and humidity	After being placed at 60°C and 90%~95% RH for 500 hours without applying voltage, and then placed at 20°C for 16 hours, the product should meet the following requirements.	
	Rate of change of capacitance	±20% of the initial value
	Loss tangent	≤ 200% of the initial specification value
	Leakage current	≤ Initial specification value

■ logo

Capacitance (μF)

Positive electrode label

330

2.0 M18S

Rated voltage (V)

Manufacturing code

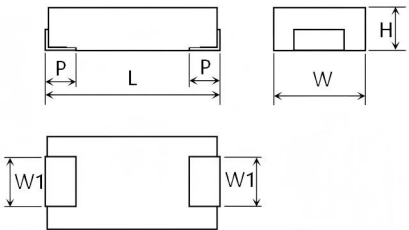
Manufacturing Coding Rules:

The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

■ External dimensions



unit: mm

L±0.2	W±0.2	H±0.1	W1±0.1	P±0.2
7.3	4.3	1.9	2.4	1.3

■ Temperature coefficient of rated ripple current

Temperature	T ≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
Coefficient	1.0	0.7	0.25

Note: The capacitor surface temperature should not exceed the product’s maximum operating temperature.

■ Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00



MPS

■ List of Standard Products

Rated voltage (V)	Nominal Capacity (μF)	size(mm)			L.C. (μA,2min)	Tan δ 120Hz	ESR (mΩ100kHz)	Rated ripple current (mA/r.m.s)45°C 100kHz
		L	W	H				
2	330	7.3	4.3	1.9	200	0.06	3	10200
	470	7.3	4.3	1.9	200	0.06	3	10200
	560	7.3	4.3	1.9	224	0.06	3	10200
2.5	330	7.3	4.3	1.9	200	0.06	3	10200
	390	7.3	4.3	1.9	200	0.06	3	10200
	470	7.3	4.3	1.9	235	0.06	3	10200



MPX NEW

- ◆ Ultra-low ESR (3mΩ) High ripple current
- ◆ 3000-hour warranty at 125°C
- ◆ RoHS compliant (2011/65/EU)
- ◆ +60°C 90%RH 1000H
- ◆ AEC-Q200 compliant



Main technical parameters

project	characteristic
Operating temperature range	- 55 ~ +125°C
Rated operating voltage	2 ~ 6.3V
Capacity range	120 ~ 470 μF 120Hz 20°C
Capacity tolerance	±20% (120Hz 20°C)
Loss tangent	Values below the standard product list: 120Hz, 20°C
Leakage current	I ≤ 0.1CV OR 200 μA, charged for 2 minutes at rated voltage, 20°C
Equivalent series resistance (ESR)	Values below the standard product list: 100kHz, 20°C
Surge voltage (V)	1.15 times the rated voltage
Durability	After applying a class voltage to the capacitor at +125° C for 3000 hours and then placing it at 20° C for 16 hours, the product should meet the following requirements.
	Rate of change of capacitance ± 20% of the initial value
	Loss tangent ≤ 200% of the initial specification value
	Leakage current ≤ 300% of the initial specification value
High temperature and humidity	After being subjected to rated voltage for 1000 hours at +60°C and 90% RH, and then placed at 20°C for 16 hours, the product should meet the following requirements.
	Rate of change of capacitance + 70% -20% of the initial value
	Loss tangent ≤ 200% of the initial specification value
	Leakage current ≤ 500% of the initial specification value

logo

Capacitance (μF)

Positive electrode label

330

2.5 M18X

Rated voltage (V)

Manufacturing code

Manufacturing Coding Rules:
The first digit represents the manufacturing month.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	A	B	C	D	E	F	G	H	J	K	L	M

The middle two digits represent the year of manufacture, followed by the last two digits. The last digit is the shell number.

External dimensions

unit: mm

L±0.2	W±0.2	H±0.1	W1±0.1	P±0.2
7.3	4.3	1.9	2.4	1.3

Temperature coefficient of rated ripple current

temperature	T ≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
coefficient	1.0	0.7	0.25

Note: The capacitor surface temperature should not exceed the product’s maximum operating temperature.

Rated ripple current frequency correction factor

Frequency (Hz)	120Hz	1kHz	10kHz	100~300kHz
Correction Factor	0.10	0.45	0.50	1.00

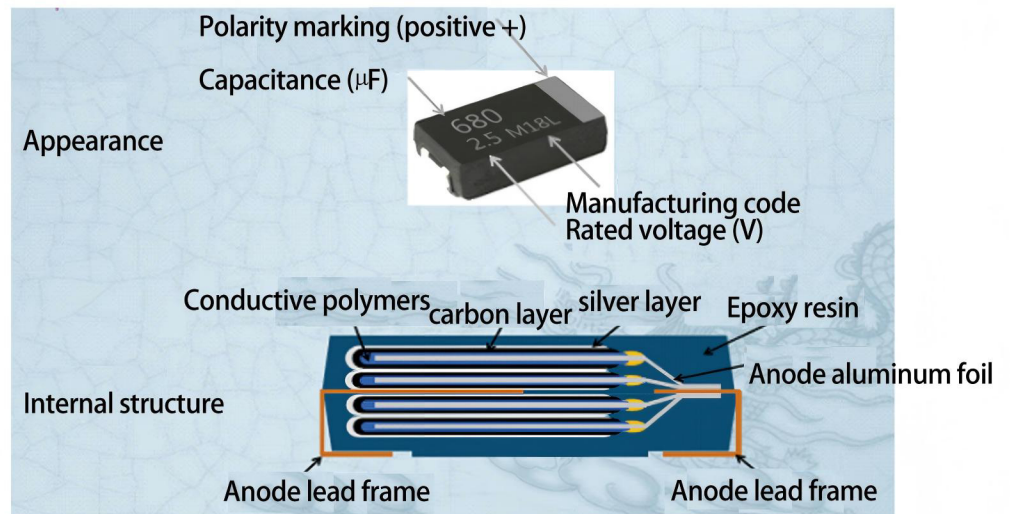
MPX

List of Standard Products

Rated voltage 105°C(V)	Nominal capacity (μF) 125°C(V)	Nominal capacity (μF)	size(mm)			L.C. (μA,2min)	Tan δ 120Hz	ESR (mΩ100kHz)	Rated ripple current (mA/r.m.s)45°C100kHz
			L	W	H				
2	1.6	330	7.3	4.3	1.9	66	0.06	9	6300
		330	7.3	4.3	1.9	66	0.06	6	7200
		330	7.3	4.3	1.9	66	0.06	3	10200
		470	7.3	4.3	1.9	94	0.06	9	6300
		470	7.3	4.3	1.9	94	0.06	6	7200
		470	7.3	4.3	1.9	94	0.06	4.5	8500
		470	7.3	4.3	1.9	94	0.06	3	10200
2.5	2	220	7.3	4.3	1.9	55	0.06	9	6300
		330	7.3	4.3	1.9	82.5	0.06	9	6300
		330	7.3	4.3	1.9	82.5	0.06	6	8500
		330	7.3	4.3	1.9	82.5	0.06	3	10200
		470	7.3	4.3	1.9	117.5	0.06	9	6300
		470	7.3	4.3	1.9	117.5	0.06	6	7200
		470	7.3	4.3	1.9	117.5	0.06	4.5	8500
		470	7.3	4.3	1.9	117.5	0.06	3	10200
4	3.2	150	7.3	4.3	1.9	60	0.06	15	5100
		180	7.3	4.3	1.9	72	0.06	15	5100
		220	7.3	4.3	1.9	88	0.06	15	5100
6.3	5.0	120	7.3	4.3	1.9	75.6	0.06	15	5100
		150	7.3	4.3	1.9	94.5	0.06	15	5100

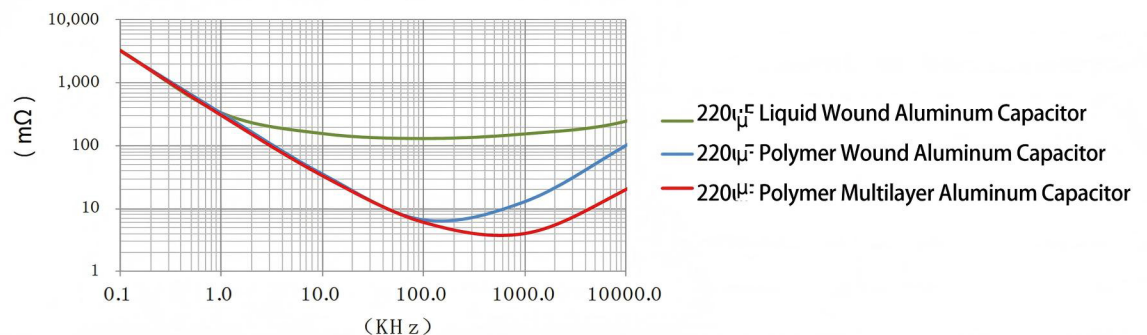


I. Appearance and Internal Structure

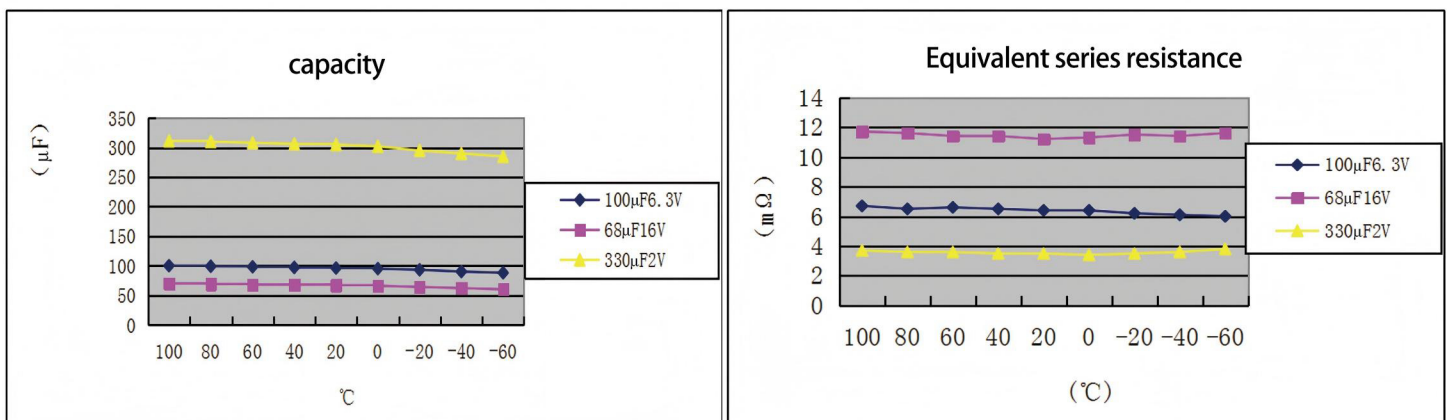


II. Product Characteristics

1. Extremely low ESR: Due to its multilayer structure, equivalent to multiple capacitors connected in parallel, it has lower ESR and ESL compared to wound polymer solid capacitors. Therefore, it has a lower impedance value at high frequencies than wound polymer solid capacitors. It has a better filtering effect on the ripple voltage and other high-frequency noise of switching power supplies.

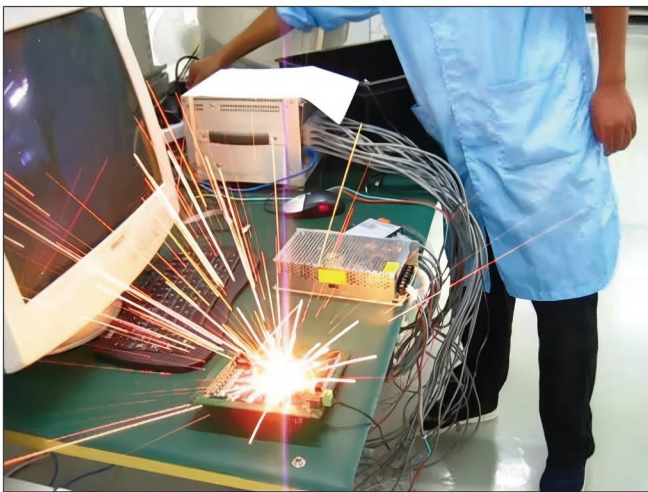


2. Extremely high temperature stability: Thanks to the electronic conductivity of polymer molecules, the capacitance and ESR of multilayer solid aluminum capacitors are very stable throughout the entire operating temperature range.





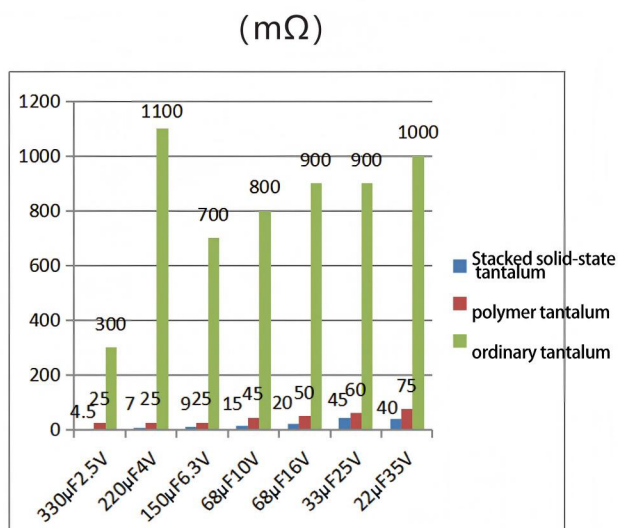
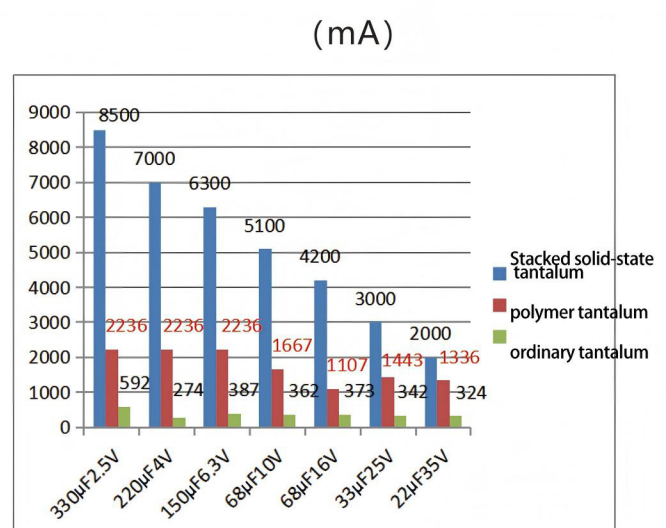
1. Safety Performance Advantages: When a molybdenum capacitor experiences a short circuit, a large current flows through it, causing the manganese dioxide, the electrolyte, to decompose and release oxygen. This oxygen can then react violently with tantalum at high temperatures, resulting in combustion. In contrast, when a multilayer solid aluminum capacitor experiences a short circuit, the polymer decomposes without releasing a large amount of oxygen, and the reaction between aluminum and oxygen is slower, preventing ignition.



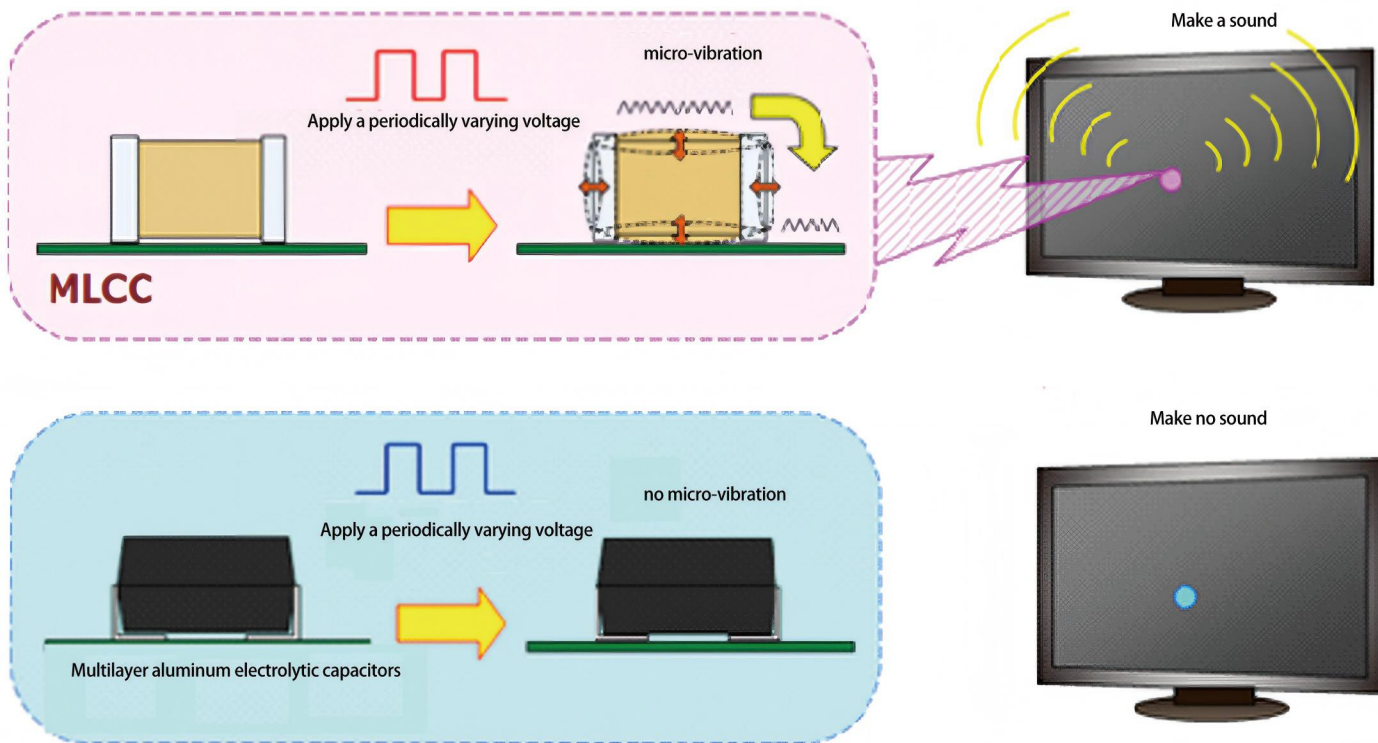
Ordinary tantalum flashover scene

Experimental Results	Multilayer polymer solid capacitors	Multilayer tantalum capacitors
Combustion Reaction	Al+O ₂	Ta+O ₂
Reaction Onset		
Temperature	~600°C	250°C~450°C
Activation Energy	170kJ/mol	115kJ/mol

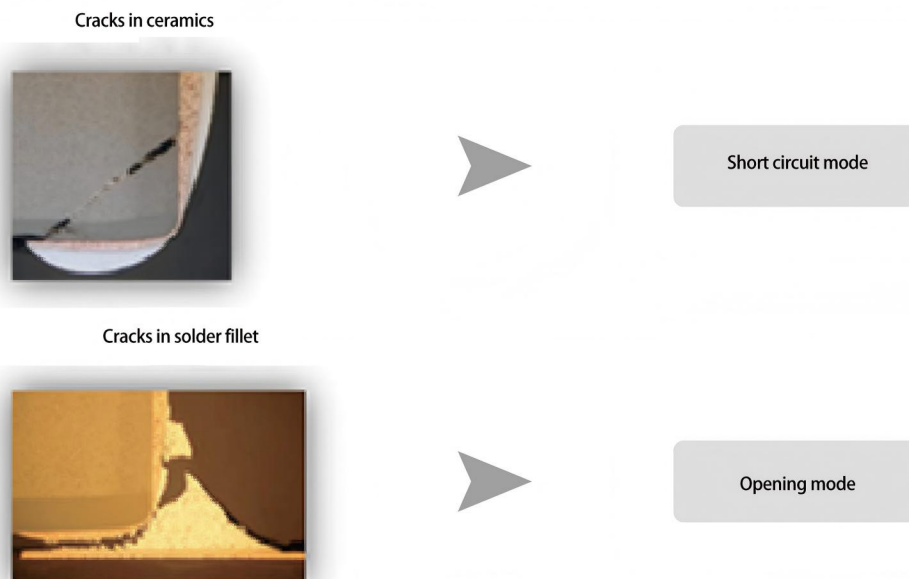
2. ESR and Ripple Tolerance Advantages: Thanks to the stacking process of multilayer solid capacitors, which is equivalent to multiple capacitors connected in parallel, it has an ESR several orders of magnitude lower than that of single-layer capacitors and a ripple tolerance of tens of times. It has a lower ESR and stronger ripple tolerance than capacitors.



1. No piezoelectric oscillation noise: When a periodically changing voltage is applied to a ceramic capacitor, the capacitor body will vibrate slightly due to the piezoelectric effect, producing audio noise. Multilayer solid aluminum capacitors, however, do not have the piezoelectric effect, do not vibrate, and therefore do not produce piezoelectric oscillation noise.



Second, it has stronger stress resistance. Ceramic capacitors are prone to cracking when subjected to thermal shock or mechanical stress, while multilayer solid aluminum capacitors are encapsulated in resin, which has a certain degree of toughness and is not prone to cracking. Therefore, they have stronger stress resistance than ceramic capacitors.





Router



Communication base station



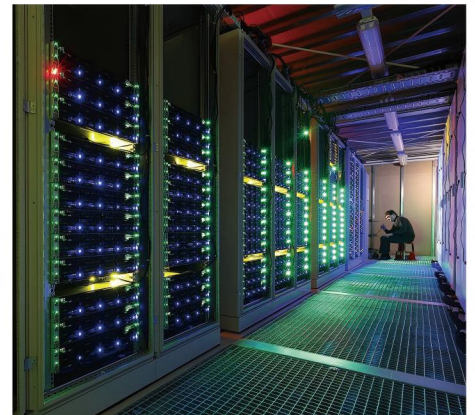
Set-top box



Laptop



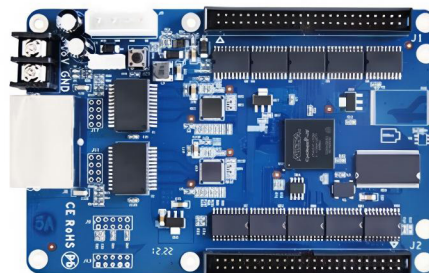
LCD display screen



Server



Wireless Meter Reading System



LED light strip control board



LED strip driver power supply



Security Monitoring



Intelligent robot



Automotive electronics



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