



UPS Series

- Super low ESR at a high frequency range
- High ripple current capability
- 2,000 hours at 105°C



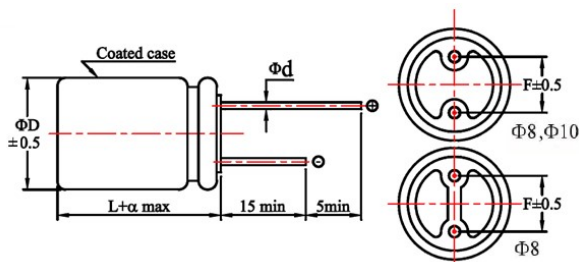
◆ SPECIFICATIONS

Item	Performance Characteristics	
Category Temperature Range	-55 ~ +105°C	
Working Voltage Range	2.5 ~ 16Vdc	
Surge Voltage	Rated Voltage x1.15	
Capacitance Tolerance	M: ±20% (at 25°C and 120Hz)	
ESR	See the standard ratings table (at 25°C, 100~300KHz)	
Dissipation Factor (Tanδ)	See the standard ratings table (at 25°C, 120Hz)	
Leakage Current ※1	See the standard ratings table.(Impress the rated voltage for 2 minutes)	
Low Temperature Characteristics Impedance Ratio	Z(-25°C)/Z(+25°C) ≤ 1.15 at 100KHz Z(-55°C)/Z(+25°C) ≤ 1.25 at 100KHz	
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	
	Capacitance change	≤ ±20% of the initial value
	ESR	≤ 150% of the specified value
	Dissipation factor(tanδ)	≤ 150% of the specified value
	Leakage current	≤ specified value
Damp Heat (Steady State)	The following requirements shall be satisfied when the capacitor are restored to 25°C after exposing them for 1,000 hours at 60°C 90 to 95% RH	
	Capacitance change	≤ ±20% of the initial value
	ESR	≤ 150% of the specified value
	Dissipation factor(tanδ)	≤ 150% of the specified value
	Leakage current	≤ specified value

※1 In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C

※2 ESR should be measured at both of the terminal ends closest to the capacitor body

◆ DIMENSIONS (mm)



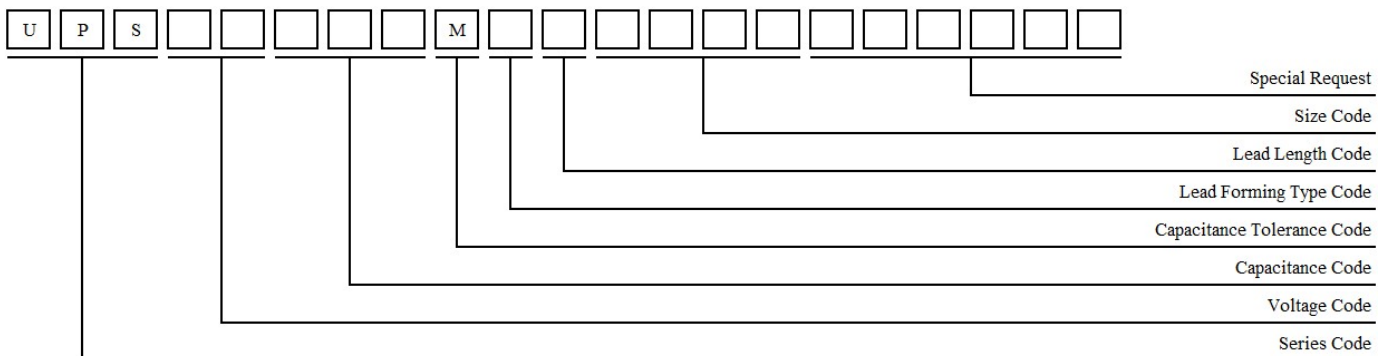
◆ Lead

ΦD	8	8	10
Φd	0.6	0.6	0.6
L	8	11	12
α	1.0	1.5	1.5
F	3.5	3.5	5.0

◆ Marking



◆ PART NUMBER SYSTEM





UPS Series

◆ **Standard Ratings**

Rated Voltage (Vdc)	Rated Capacitance (μF)	Case Size ΦD×L (mm)	ESR 100~300KHz (mΩmax)	Rated Ripple Current 105°C,100KHz (mArms max)	Tanδ max	Leakage Current (μA max)	Part Number
2.5(0E)	560	8×8	7	4700	0.12	350	UPS0E561MNN0808U
	680	8×8	7	5580	0.12	425	UPS0E681MNN0808U
	820	8×8	7	6100	0.12	512	UPS0E821MNN0808U
	820	8×11	7	6100	0.12	410	UPS0E821MNN0811U
	1000	8×8	7	6100	0.12	500	UPS0E102MNN0808U
	1000	8×11	7	6100	0.12	500	UPS0E102MNN0811U
	1200	8×8	7	6100	0.12	600	UPS0E122MNN0808U
	1500	8×11	7	6100	0.12	750	UPS0E152MNN0811U
	1500	10×12	7	6100	0.12	750	UPS0E152MNN1012U
4(0G)	1800	8×11	7	6100	0.12	900	UPS0E182MNN0811U
	470	8×8	7	5600	0.12	470	UPS0G471MNN0808U
	560	8×8	7	6100	0.12	560	UPS0G561MNN0808U
	680	8×8	7	6100	0.12	544	UPS0G681MNN0808U
	820	10×12	7	6100	0.12	656	UPS0G821MNN1012U
6.3(0J)	1200	10×12	7	6100	0.12	960	UPS0G122MNN1012U
	220	8×8	7	3700	0.12	347	UPS0J221MNN0808U
	330	8×8	7	3700	0.12	520	UPS0J331MNN0808U
	390	8×8	7	5700	0.12	491	UPS0J391MNN0808U
	470	8×8	7	5700	0.12	740	UPS0J471MNN0808U
	470	8×8	8	5700	0.10	592	UPS0J471MNN0808EU
	560	8×8	7	5700	0.12	882	UPS0J561MNN0808U
	680	8×8	7	5860	0.12	857	UPS0J681MNN0808U
	680	8×8	9	5700	0.12	1071	UPS0J681MNN0808EU
	820	8×11	7	6100	0.12	1033	UPS0J821MNN0811U
	820	8×8	9	5700	0.12	1033	UPS0J821MNN0808U
	820	10×12	7	6100	0.12	1033	UPS0J821MNN1012U
	1000	8×8	7	6100	0.12	1260	UPS0J102MNN0808U
	1000	10×12	7	6100	0.12	1260	UPS0J102MNN1012U
	1200	8×11	7	5700	0.12	1512	UPS0J122MNN0811U
1500	10×12	7	6100	0.12	1890	UPS0J152MNN1012U	
2000	10×12	7	7100	0.12	2520	UPS0J202MNN1012U	
10(1A)	270	8×11	7	5600	0.12	540	UPS1A271MNN0811U
	470	10×12	7	6100	0.12	940	UPS1A471MNN1012U
	560	8×11	7	5700	0.12	882	UPS1A561MNN0811U
	560	10×12	7	6100	0.12	1120	UPS1A561MNN1012U
	680	8×11	7	5600	0.12	1360	UPS1A681MNN0811U
	820	8×11	7	5700	0.12	1640	UPS1A821MNN0811U
	820	10×12	7	6100	0.12	1640	UPS1A821MNN1012U
	1000	10×12	7	6100	0.12	2000	UPS1A102MNN1012U
16(1C)	150	8×11	7	5600	0.12	480	UPS1C151MNN0811U
	180	8×8	7	5600	0.12	576	UPS1C181MNN0808U
	180	8×11	7	5600	0.12	576	UPS1C181MNN0811U
	270	8×11	7	5600	0.12	864	UPS1C271MNN0811U
	330	8×11	7	5600	0.12	1056	UPS1C331MNN0811U
	330	10×12	7	6100	0.12	1056	UPS1C331MNN1012U

CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



Rated Voltage (Vdc)	Rated Capacitance (μF)	Case Size ΦD×L (mm)	ESR 100~300KHz (mΩmax)	Rated Ripple Current 105°C,100KHz (mA _{rms} max)	Tanδ max	Leakage Current (μA max)	Part Number
16(1C)	470	8×11	7	5600	0.12	1504	UPS1C471MNN0811U
	470	10×12	7	6100	0.12	1504	UPS1C471MNN1012U
	820	10×12	7	6100	0.12	2000	UPS1C821MNN1012U
	820	10×12	8	6100	0.12	2000	UPS1C821MNN1012EU
	1000	10×12	7	6100	0.12	3200	UPS1C102MNN1012U
	1200	10×12	8	6100	0.12	1920	UPS1C122MNN1012LU

PART NUMBER SYSTEM

◆ RADIAL LEAD TYPE

Series	Rated Voltage	Capacitance	Tolerance	Lead Forming Type	Lead Length	Case Dimension	Special Request
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

(1) Series

Series	DIP	UPS	UPR	UUL	UPE	URP	URH	UGP	UGV	UGS	UPC
	SMD	VSG	VSP	VSU	VSE						

(2) Rated Voltage

Code	0E	0J	6K	7H	1A	1B	AG	1C	1D	1P	1E	1F	1V	1H	1J	2A
WV	2.5	6.3	6.8	7.5	10	12	14	16	20	22	25	30	35	50	63	100

(3) Capacitance

Code	6R8	100	180	560	101	181	561	102	182
μF	6.8	10	18	56	100	180	560	1000	1800

(4) Capacitance Tolerance

Code	J	Q	R	K	V	M	H
%	± 5	+30 / -10	+20 / -0	± 10	+20 / -10	± 20	+20 / -5

(5) Lead Type

Code	C	P
Description	Cutting	Taping
Drawing	Fig 1	Fig 2

(6) Lead Length (Cut / Formed lead)

Code	3	4	U	7	D	X	R	B	E	G	2	M	T	N
Length	3.5	4.5	5.5	7	4	2.3	2.5	2.8	3.1	3.3	2.5	3.5	3.8	+20mm min
Tolerance	±0.5			±0.2				±0.3			-15mm min			

Taping Code

Code	Z	2	3	7	5	S
Lead Pitch: +0.8/-0.2	2.0	2.5	3.5	3.5	5.0	5.0

(7) Case Dimension

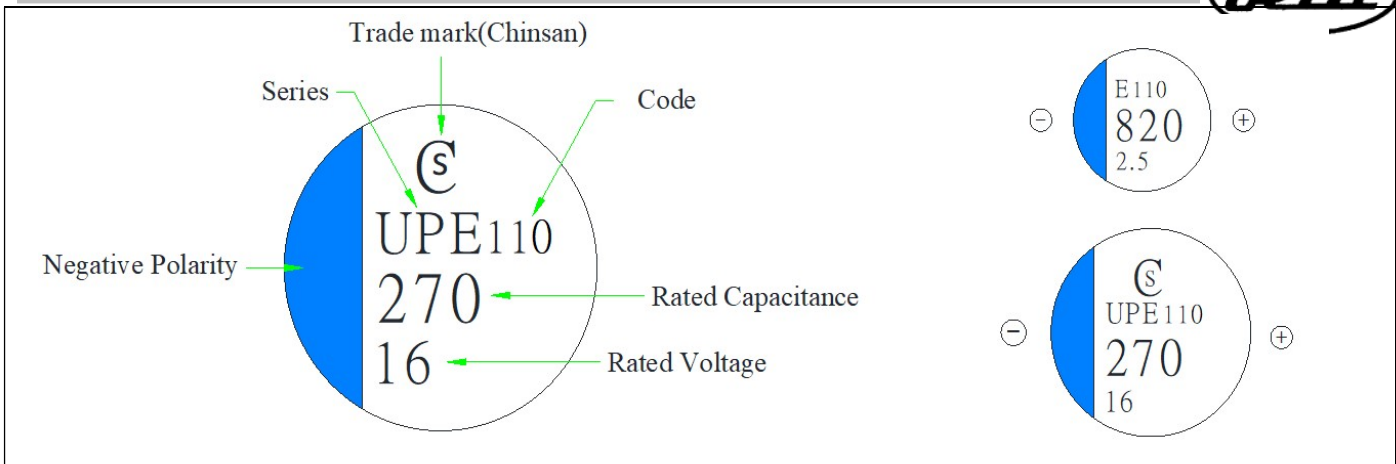
DIP Code	0508	6305	6308	6311	0807	0808	0811	0816	0820	1012	1016	1020
Size	5×8	6.3×5	6.3×8	6.3×11	8×7	8×8	8×11	8×16	8×20	10×12	10×16	10×20
SMD Code	5057	6343	6357	6377	6309	0867	0897	08C7	1077	10C4		
Size	5×5.7	6.3×4.3	6.3×5.7	6.3×7.7	6.3×9	8×6.7	8×9.7	8×12.7	10×7.7	10×12.4		

(8) Special Request

Code	R	F	L	D
Description	High Rated ripple current	Endurance	Low Leakage Current	Low Dissipation Factor
Code	U	E	---	---
Description	Convex Rubber	Low ESR	---	---

◆ MARKING AND DATE CODE

CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



Trade Mark "CS"	Chinsan Solid Capacitor, Show on Dimension $\geq 8 \Phi$																																																						
Code (Date Code)	<p>(1)DAY</p> <table border="1"> <tr> <th>Code</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> <tr> <td>Week</td> <td>The first week</td> <td>The second week</td> <td>The third week</td> <td>The fourth week</td> <td>The fifth week</td> </tr> </table> <p>(2)Month</p> <table border="1"> <tr> <th>Code</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> <tr> <td>Month</td> <td>Jan</td> <td>Feb</td> <td>Mar</td> <td>Apr</td> <td>May</td> <td>Jun</td> </tr> <tr> <th>Code</th> <th>7</th> <th>8</th> <th>9</th> <th>X</th> <th>Y</th> <th>Z</th> </tr> <tr> <td>Month</td> <td>July</td> <td>Aug</td> <td>Sep</td> <td>Oct</td> <td>Nov</td> <td>Dec</td> </tr> </table> <p>(3)Year</p> <table border="1"> <tr> <th>Code</th> <th>9</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> <tr> <td>Year</td> <td>2019</td> <td>2020</td> <td>2021</td> <td>2022</td> <td>2023</td> <td>2024</td> </tr> </table>	Code	1	2	3	4	5	Week	The first week	The second week	The third week	The fourth week	The fifth week	Code	1	2	3	4	5	6	Month	Jan	Feb	Mar	Apr	May	Jun	Code	7	8	9	X	Y	Z	Month	July	Aug	Sep	Oct	Nov	Dec	Code	9	0	1	2	3	4	Year	2019	2020	2021	2022	2023	2024
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Series (Print Code)	<table border="1"> <thead> <tr> <th>Series</th> <th>UPS</th> <th>UPR</th> <th>UUL</th> <th>UPE</th> <th>URP</th> <th>URH</th> <th>UGP</th> <th>UGV</th> <th>UGS</th> <th>UPC</th> <th>VSG</th> <th>VSP</th> <th>VSU</th> <th>VSE</th> </tr> </thead> <tbody> <tr> <td>$\Phi 5 \sim \Phi 6.3$</td> <td>--</td> <td>R</td> <td>L</td> <td>E</td> <td>--</td> <td>H</td> <td>P</td> <td>V</td> <td>--</td> <td>C</td> <td>G</td> <td>P</td> <td>U</td> <td>E</td> </tr> <tr> <td>$\Phi 8 \sim \Phi 10$</td> <td>UPS</td> <td>--</td> <td>UL</td> <td>UPE</td> <td>RP</td> <td>RH</td> <td>GP</td> <td>GV</td> <td>GS</td> <td>UPC</td> <td>SG</td> <td>SP</td> <td>SU</td> <td>SE</td> </tr> </tbody> </table>	Series	UPS	UPR	UUL	UPE	URP	URH	UGP	UGV	UGS	UPC	VSG	VSP	VSU	VSE	$\Phi 5 \sim \Phi 6.3$	--	R	L	E	--	H	P	V	--	C	G	P	U	E	$\Phi 8 \sim \Phi 10$	UPS	--	UL	UPE	RP	RH	GP	GV	GS	UPC	SG	SP	SU	SE									
Series	UPS	UPR	UUL	UPE	URP	URH	UGP	UGV	UGS	UPC	VSG	VSP	VSU	VSE																																									
$\Phi 5 \sim \Phi 6.3$	--	R	L	E	--	H	P	V	--	C	G	P	U	E																																									
$\Phi 8 \sim \Phi 10$	UPS	--	UL	UPE	RP	RH	GP	GV	GS	UPC	SG	SP	SU	SE																																									

◆ LEAD FORMING TYPE

Type	Part Number	Dimensions (Unit: mm)																
		ΦD	F	t	L (Part number for lead length and pitch for taping)													
					3	4	U	7	D	X	R	B	E	G	2	M	T	
					3.5	4.5	5.5	7	4	2.3	2.5	2.8	3.1	3.3	2.5	3.5	3.8	
				± 0.5					± 0.2				± 0.3					
Cut	C	5	2	----														
		6.3	2.5	----														
		8	3.5	----														
		10	5	----														

◆ TAPING

Figure 1	Symbol	Tolerance	$\Phi 5$	$\Phi 6.3$	$\Phi 8$
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CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



	Φd	±0.05	PS	P5	PS	P5	PS	P5
	P	±0.1	12.7	12.7	12.7	12.7	12.7	12.7
	P0	±0.2	12.7	12.7	12.7	12.7	12.7	12.7
	P1	±0.5	3.85	3.85	3.85	3.85	3.85	3.85
	P2	±1.0	6.35	6.35	6.35	6.35	6.35	6.35
	F	0.8	5	5	5	5	5	5
	F	-0.2						
	H	±0.5	17.5	18.5	17.5	18.5	17.5	18.5
	H0	±0.5	16	16	16	16	16	16
	W	±0.5	18	18	18	18	18	18
	W0	Minimum	12.5	12.5	12.5	12.5	12.5	12.5
	D0	±0.2	4	4	4	4	4	4
	t	±0.2	0.7	0.7	0.7	0.7	0.7	0.7

Figure 2	Symbol	Tolerance	Φ 6.3		Φ 8			Φ 10		
			P2	P3	H3	P7	P5	H5	J5	
	Φd	±0.05	0.45/0.6		0.6			0.6		
	P	±0.1	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
	P0	±0.2	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
	P1	±0.5	5.1	4.6	4.6	4.6	3.85	3.85	3.85	
	P2	±1.0	6.35	6.35	6.35	6.35	6.35	6.35	6.35	
	F	+0.8	2.5	3.5	3.5	3.5	5	5	5	
	F	-0.2								
	H	±0.5	118.5	18.5	20	17.5	18.5	20	21	
	H0	±0.5	-	-	-	-	-	-	-	
	W	±0.5	18	18	18	18	18	18	18	
	W0	Minimum	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
	D0	±0.2	4	4	4	4	4	4	4	
	t	±0.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7	

Figure 3	Symbol	Tolerance	Φ 5	
			PZ	PZ
	Φd	±0.05	0.45	
	P	±0.1	12.7	
	P0	±0.2	12.7	
	P1	±0.5	5.35	
	P2	±1.0	6.35	
	F	+0.8	2.0	
	F	-0.2		
	H	±0.5	18.5	
	H0	±0.5	-	
	W	±0.5	18	
	W0	Minimum	12.5	
	D0	±0.2	4	
	t	±0.2	0.7	

Packing quantity

Size		Inner Box	Carton Box
ØD	L	Q'ty (Pes.)	Q'ty (Pes.)
5	8~12	2500	12500
5.5	8~12	2200	11000
6.3	5~12	2000	10000
	16	2000	10000
8	6~12	1000	5000
	16~22	1200	6000
10	7~12	800	4000
	16~22	800	4000