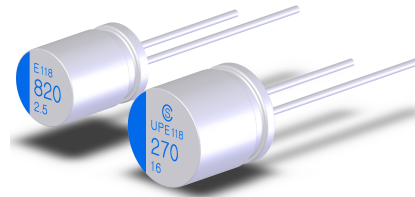


UPE Series

- Super low ESR at a high frequency range
- High ripple current capability
- 5,000 hours at 105°C



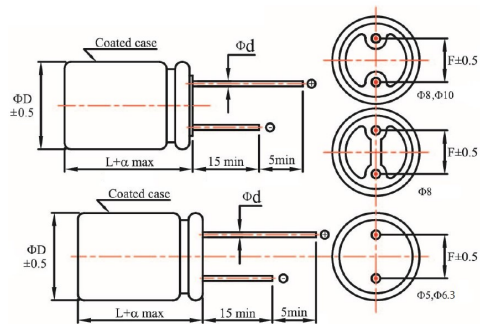
◆ SPECIFICATIONS

Item	Performance Characteristics								
Category Temperature Range	-55 ~ +105°C								
Working Voltage Range	2.5 ~ 35Vdc								
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 5,000 hours at 105°C <table border="1" style="margin-left: 20px;"> <tr> <td>Capacitance change</td> <td>≤ ±20% of the initial value</td> </tr> <tr> <td>ESR</td> <td>≤ 150% of the specified value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≤ 150% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ specified value</td> </tr> </table>	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
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 <table border="1" style="margin-left: 20px;"> <tr> <td>Capacitance change</td> <td>≤ ±20% of the initial value</td> </tr> <tr> <td>ESR</td> <td>≤ 150% of the specified value</td> </tr> <tr> <td>Dissipation factor(tanδ)</td> <td>≤ 150% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ specified value</td> </tr> </table>	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
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

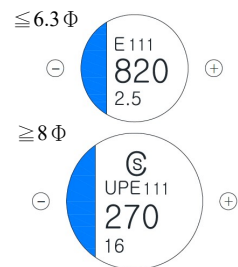
◆ DIMENSIONS (mm)



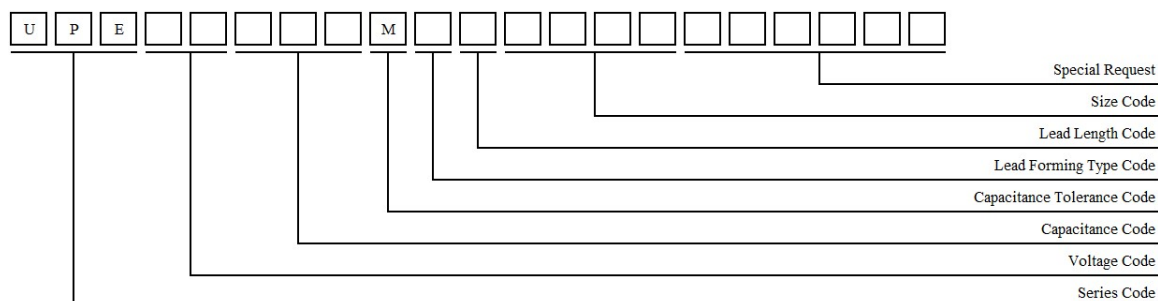
◆ Lead

ΦD	5	6.3		8		10
Φd	0.45	0.45	0.6	0.6	0.6	0.6
L	8	5~6	8	11	6~8	11~12
α	1	1	1	1.5	1	1.5
F	2.0	2.5	2.5	2.5	3.5	3.5

◆ Marking



◆ PART NUMBER SYSTEM





UPE Series

◆ **Standard Ratings**

Rated Voltage (Vdc)	Rated Capacitance (μF)	Case Size ΦD×L (mm)	ESR 100~300KHz (mΩ max)	Rated Ripple Current 105°C,100KHz (mArms max)	Tan δ max	Leakage Current (μA max)	Part Number
2.5(0E)	390	6.3×5	10	3900	0.10	500	UPE0E391MNN6305
	470	6.3×8	5	5900	0.10	500	UPE0E471MNN6308
	560	5×8	7	4200	0.10	500	UPE0E561MNN0508
	560	6.3×5	10	3900	0.10	500	UPE0E561MNN6305
	560	6.3×8	7	5000	0.10	500	UPE0E561MNN6308
	560	8×8	8	4700	0.10	500	UPE0E561MNN0808U
	820	6.3×8	7	5000	0.10	500	UPE0E821MNN6308(U)
	820	8×8	7	6100	0.10	500	UPE0E821MNN0808U
	1000	8×8	7	6100	0.10	900	UPE0E102MNN0808U
4(0G)	560	6.3×8	7	5000	0.10	500	UPE0G561MNN6308(U)
	560	8×8	7	6100	0.10	500	UPE0G561MNN0808U
6.3(0J)	100	6.3×6	35	2100	0.10	500	UPE0J101MNN6306
	100	6.3×8	35	2100	0.10	500	UPE0J101MNN6308
	330	5×8	8	4050	0.10	500	UPE0J331MNN0508
	470	6.3×8	8	4700	0.10	592	UPE0J471MNN6308(U)
	560	6.3×8	8	4700	0.10	706	UPE0J561MNN6308
	560	8×8	7	6100,	0.10	706	UPE0J561MNN0808U
	820	6.3×8	8	4700	0.10	1033	UPE0J821MNN6308
	820	8×8	8	6100	0.10	1033	UPE0J821MNN0808U
	1500	8×11	9	5650	0.10	1890	UPE0J152MNN0811U
10(1A)	1500	10×12	10	5560	0.15	1890	UPE0J152MNN1012U
	220	10×7	19	3800	0.10	500	UPE1A221MNN1007U
16(1C)	470	6.3×11	10	4700	0.10	940	UPE1A471MNN6311U
	100	6.3×5	24	2400	0.10	500	UPE1C101MNN6305
	100	6.3×8	24	2490	0.10	500	UPE1C101MNN6308
	100	6.3×8	12	4680	0.12	500	UPE1C101MNN6308ER
	180	6.3×5	22	3300	0.10	576	UPE1C181MNN6305
	180	8×8	10	5000	0.10	576	UPE1C181MNN0808U
	180	8×11	16	4360	0.10	576	UPE1C181MNN0811U
	220	8×6	13	4150	0.10	500	UPE1C221MNN0806
	270	6.3×8	15	3800	0.10	864	UPE1C271MNN6308
	270	6.3×8	10	5080	0.10	864	UPE1C271MNN6308EU
	270	6.3×8	10	5080	0.10	864	UPE1C271MNN6308R
	270	8×8	10	5000	0.10	864	UPE1C271MNN0808U
	270	8×11	11	5000	0.10	864	UPE1C271MNN0811U
	270	8×11	10	5230	0.10	864	UPE1C271MNN0811ERU
	330	8×8	11	4700	0.10	1056	UPE1C331MNN0808U
	470	8×8	16	4000	0.10	1504	UPE1C471MNN0808U
	470	8×11	11	5400	0.10	1504	UPE1C471MNN0811U
	470	8×11	10	5400	0.10	1504	UPE1C471MNN0811RU
470	10×10	10	6100	0.10	1504	UPE1C471MNN1010U	

CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



Rated Voltage (Vdc)	Rated Capacitance (μF)	Case Size ΦD×L (mm)	ESR 100~300KHz (mΩ max)	Rated Ripple Current 105°C,100KHz (mArms max)	Tan δ max	Leakage Current (μA max)	Part Number
16(1C)	470	10×12	10	6100	0.10	1504	UPE1C471MNN1012U
	560	8×11	14	4970	0.10	1792	UPE1C561MNN0811U
	680	8×11	12	5400	0.10	2176	UPE1C681MNN0811RU
	820	10×12	12	5400	0.10	2624	UPE1C821MNN1012U
	1000	10×12	12	5400	0.10	3200	UPE1C102MNN1012U
20(1D)	390	8×11	14	4970	0.10	1560	UPE1D391MNN0811U
	470	8×11	14	4970	0.10	1880	UPE1D471KNN0811U
	560	10×12	12	5400	0.10	2240	UPE1D561MNN1012U
	680	10×12	12	5400	0.10	2720	UPE1D681MNN1012U
25(1E)	56	6.3×5	30	2800	0.10	300	UPE1E560MNN6305
	82	6.3×8	30	2800	0.10	500	UPE1E820MNN6308
	82	8×8	28	3000	0.10	410	UPE1E820MNN0808U
	100	10×7	21	3400	0.10	500	UPE1E101MNN1007U
	180	8×11	16	4650	0.10	900	UPE1E181MNN0811U
	220	8×11	16	4650	0.10	1100	UPE1E221MNN0811U
	270	8×11	20	4000	0.10	1350	UPE1E271MNN0811U
	330	10×12	14	5000	0.10	1650	UPE1E331MNN1012U
	390	10×12	14	5000	0.10	1950	UPE1E391MNN1012U
	470	8×11	16	5500	0.12	2350	UPE1E471MNN0811RU
	470	8×12	16	5000	0.10	2350	UPE1E471MNN0812RS
	470	8×12	16	5000	0.10	2350	UPE1E471MNN0812RSU
	470	10×10	30	5000	0.10	2350	UPE1E471MNN1010SU
	560	10×12	14	5000	0.10	2800	UPE1E561MNN1012RU
	680	10×12	12	5400	0.10	3400	UPE1E681MNN1012RU
	820	10×12	20	3400	0.10	4100	UPE1E821MNN1012U
35(1V)	22	6.3×5	35	2600	0.10	300	UPE1V220MNN6305
	33	8×8	30	2800	0.10	300	UPE1V330MNN0808U
	47	6.3×8	45	2000	0.10	329	UPE1V470MNN6308
	82	8×11	20	4000	0.10	574	UPE1V820MNN0811U
	100	8×11	25	2890	0.1	700	UPE1V101MNN0811U
	120	10×12	18	4400	0.10	840	UPE1V121MNN1012U



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	---	---

CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



◆ MARKING AND DATE CODE

Trade mark(Chinsan)

Series: UPE110

Code: 270

Rated Capacitance: 270

Rated Voltage: 16

Negative Polarity

Trade Mark "CS"	Chinsan Solid Capacitor, Show on Dimension $\geq 8 \Phi$																																																						
Code (Date Code)	<p>(1)DAY</p> <table border="1" style="width: 100%; text-align: center;"> <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" style="width: 100%; text-align: center;"> <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" style="width: 100%; text-align: center;"> <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
Code	1	2	3	4	5																																																		
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Code	9	0	1	2	3	4																																																	
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Series (Print Code)	<table border="1" style="width: 100%; text-align: center;"> <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	----															

CONDUCTIVE POLYMER ALUMINUM SOLID CAPACITORS



◆ TAPING

Figure 1	Symbol	Tolerance	Φ 5		Φ 6.3		Φ 8	
			PS	P5	PS	P5	PS	P5
	Φd	±0.05	0.45		0.45/0.6		0.6	
	P	±0.1	12.7		12.7		12.7	
	P0	±0.2	12.7		12.7		12.7	
	P1	±0.5	3.85		3.85		3.85	
	P2	±1.0	6.35		6.35		6.35	
	F	+0.8 -0.2	5		5		5	
	H	±0.5	17.5	18.5	17.5	18.5	17.5	18.5
	H0	±0.5	16		16		16	
	W	±0.5	18		18		18	
	W0	Minimum	12.5		12.5		12.5	
	D0	±0.2	4		4		4	
	t	±0.2	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		
	P0	±0.2	12.7	12.7			12.7		
	P1	±0.5	5.1	4.6			3.85		
	P2	±1.0	6.35	6.35			6.35		
	F	+0.8 -0.2	2.5	3.5			5		
	H	±0.5	118.5	18.5	20	17.5	18.5	20	21
	H0	±0.5	-	-			-		
	W	±0.5	18	18			18		
	W0	Minimum	12.5	12.5			12.5		
	D0	±0.2	4	4			4		
	t	±0.2	0.7	0.7			0.7		

Figure 3	Symbol	Tolerance	Φ 5
			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 -0.2	2.0
	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
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