



UGV Series

- 2021 Change series code GV → UGV
- Low ESR at a high frequency range
- High ripple current capability
- High voltage 25~100V
- 2,000 hours at 105°C



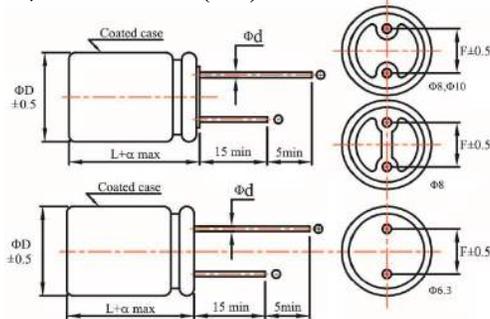
◆ SPECIFICATIONS

Item	Performance Characteristics								
Category Temperature Range	-55 ~ +105°C								
Working Voltage Range	20 ~ 100Vdc								
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 <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
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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
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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

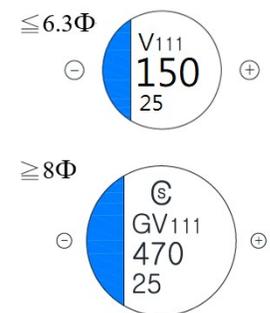
◆ DIMENSIONS (mm)



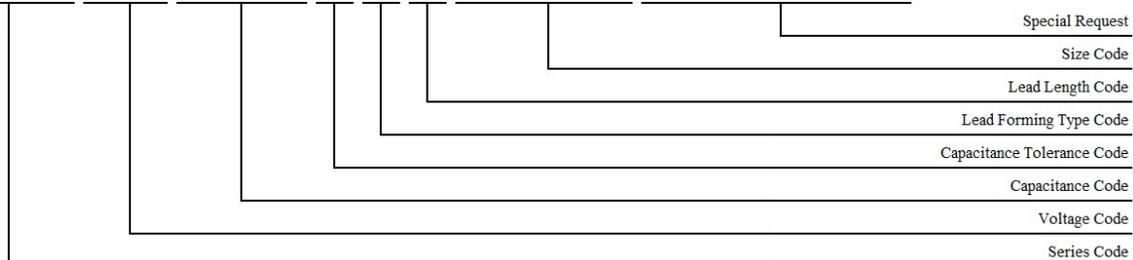
◆ Lead

ΦD	6.3			8			10		
Φd	0.45	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
L	5	8	11	8	11	7	10	12	
α	1	1	1.5	1	1.5	1.5	1.5	1.5	
F	2.5	2.5	2.5	3.5	3.5	5.0	5.0	5.0	

◆ Marking



◆ PART NUMBER SYSTEM





UGV 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
20(1D)	820	10×12	16	4650	0.12	3280	UGV1D821MNN1012U
25(1E)	47	6.3×5	30	2600	0.12	300	UGV1E470MNN6305
	100	6.3×8	28	2700	0.12	500	UGV1E101MNN6308
	150	6.3×8	18	3200	0.12	750	UGV1E151MNN6308
	180	8×8	18	4100	0.12	900	UGV1E181MNN0808U
	180	8×11	16	4650	0.12	900	UGV1E181MNN0811U
	180	8×11	16	4650	0.12	900	UGV1E181MNN0811TU
	220	6.3×11	30	2600	0.12	1100	UGV1E221MNN6311U
	220	8×8	18	4100	0.12	1100	UGV1E221MNN0808U
	220	8×11	16	4650	0.12	1100	UGV1E221MNN0811U
	220	10×7	25	2800	0.12	1100	UGV1E221MNN1007U
	270	10×12	16	5000	0.12	1350	UGV1E271MNN1012U
	330	8×11	16	4650	0.12	1650	UGV1E331MNN0811U
	330	10×12	14	5000	0.12	1650	UGV1E331MNN1012U
	390	10×12	14	5000	0.12	1950	UGV1E391MNN1012U
	470	8×11	16	4650	0.12	2350	UGV1E471MNN0811U
	470	10×10	30	3400	0.12	2350	UGV1E471MNN1010SU
	470	10×12	14	5000	0.12	2350	UGV1E471MNN1012U
	680	10×12	20	3100	0.12	3400	UGV1E681MNN1012U
680	10×12	18	5000	0.12	3400	UGV1E681MNN1012RU	
35(1V)	18	8×11	34	2100	0.12	300	UGV1V180MNN0811U
	39	8×11	30	2100	0.12	300	UGV1V390MNN0811U
	47	8×11	30	2100	0.12	329	UGV1V470MNN0811U
	82	8×11	27	2300	0.12	574	UGV1V820MNN0811U
	100	8×11	27	2300	0.12	700	UGV1V101MNN0811U
	100	10×12	26	2700	0.12	700	UGV1V101MNN1012U
	120	10×12	26	2700	0.12	840	UGV1V121MNN1012U
	150	10×12	26	2700	0.12	1050	UGV1V151MNN1012U
	220	10×12	26	2700	0.12	1540	UGV1V221MNN1012U
50(1H)	27	8×11	33	2000	0.12	300	UGV1H270MNN0811U
	39	8×11	29	2200	0.12	390	UGV1H390MNN0811U
	47	10×12	29	2500	0.12	470	UGV1H470MNN1012U
	68	10×12	28	2600	0.12	680	UGV1H680MNN1012U
63(1J)	47	10×12	29	2600	0.12	592	UGV1J470MNN1012U
	68	10×12	29	2600	0.12	857	UGV1J680MNN1012U
100(2A)	18	8×11	40	1850	0.12	360	UGV2A180MNN0811U
	47	10×12	38	2100	0.12	940	UGV2A470MNN1012U



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	6316	0807	0808	0811	0816	0820	1012	1016	1020
Size	5×8	6.3×5	6.3×8	6.3×16	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	F5	L	T
Description	High Rated ripple current	Endurance 5000 hrous	Low Leakage Current	Terminal strength
Code	U	E	X	S
Description	Convex Rubber	Low ESR	Pitch 2.5mm	Limit high

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> <th>Week</th> <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> <th>Month</th> <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> <th>Month</th> <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> <th>Year</th> <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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◆ 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