

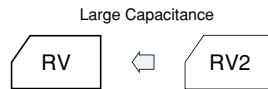
Chip Type Large Capacitance Capacitors

GREEN
CAP

SMD

Anti-
cleaning
solvent

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guarantees 2000 hours at 85°C.



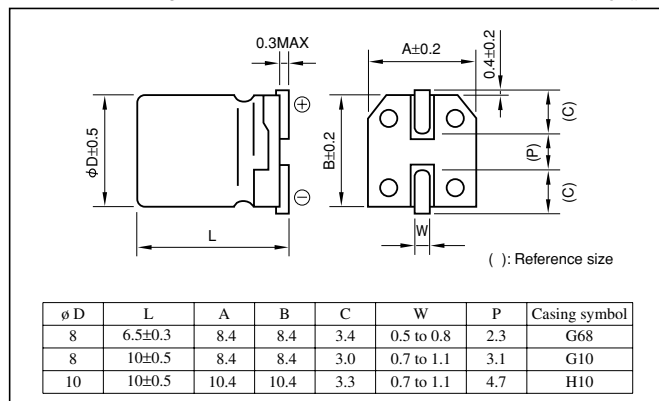
Marking color : Black print (ø8x6.5L)
White print on a brown sleeve (ø8x10L · ø10x10L)

Specifications

Item	Performance										
Category temperature range (°C)	-40 to +85										
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)										
Leakage current (μA)	Less than 0.01CV or 3 whichever is larger(after 2 minutes) C: Rated capacitance(μF); V: Rated voltage(V) (20°C)										
Tangent of loss angle (tanδ)											
	Rated voltage (V)	6.3	10	16	25	35	50	63	100		
	tanδ (max.)	0.28	0.24	0.20	0.14	0.12	0.10	0.10	0.10	(20°C,120Hz)	
Characteristics at high and low temperature											
	Impedance ratio (max.)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
		Z-25°C / Z+20°C	4	3	2	2	2	2	2	2	
		Z-40°C / Z+20°C	8	5	4	3	3	3	3	3	(120Hz)
Endurance (85°C) (Applied ripple current)											
	Test time		2000 hours								
	Leakage current		The initial specified value or less								
	Percentage of capacitance change		Within ±20% of initial value								
	Tangent of the loss angle		200% or less of the initial specified value								
Shelf life (85°C)	Test time : 1000 hours; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101-1										
Applicable standards	JIS C5101-1, -18 1998 (IEC 60384-1 1992, -18 1993)										

Outline Drawing

Unit: mm



- Land pattern size is described on page 10.
- The taping specifications are described on page 11.
- Soldering conditions are described on page 32.

Coefficient of Frequency for Rated Ripple Current

Frequency(Hz)	50 · 60	120	1k	10k · 100k
Rated voltage(V)				
6.3 to 16	0.80	1	1.15	1.25
25 to 35	0.80	1	1.25	1.40
50 to 63	0.80	1	1.35	1.50
100	0.70	1	1.35	1.50

Part numbering system (example: 10V1000μF)

RV	—	10	V	102	M	H10	□	U	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol	Additional symbol		Taping symbol

Standard Ratings

Rated voltage (V)	Item	6.3				10				16				25				35				50				63				100			
		Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current				
		ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms	ø D (mm)		Ω	mArms				
		Rated capacitance (μF)																															
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
100	—	—	—	—	8x6.5	G68	4.0	155	8x6.5	G68	3.3	155	8x6.5	G68	2.3	155	8x10	G10	2.0	252	10x10	H10	1.7	458	10x10	H10	1.7	226	—	—			
220	8x6.5	G68	2.1	155	8x6.5	G68	1.8	155	8x10	G10	1.5	252	8x10	G10	1.1	252	10x10	H10	0.91	458	—	—	—	—	—	—	—	—	—	—			
330	8x6.5	G68	1.4	155	8x10	G10	1.2	252	8x10	G10	1.0	252	10x10	H10	0.70	458	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
470	8x10	G10	0.99	252	10x10	H10	0.85	458	8x10	G10	0.71	252	10x10	H10	0.49	458	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
1000	10x10	H10	0.46	458	10x10	H10	0.34	458	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				

(Note) Rated ripple current : 85°C, 120Hz ; ESR : 20°C, 120Hz

NOTE

Design, Specifications are subject to change without notice.
Ask factory for technical specifications before purchase and/or use.

Chip Type, 85°C Use, Large Capacitance Capacitors

SMD

Anti-
cleaning
solvent

- Surface mount device.
- Supplied with taping.
- Guarantees 2000 hours at 85°C.

RV
(large)

Large capacitance

RV



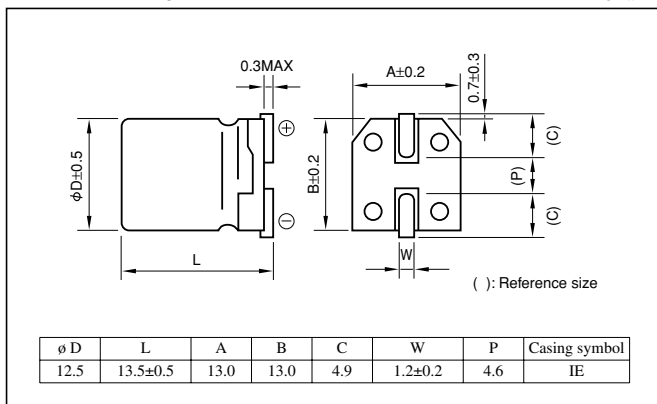
Marking color : White print on a brown sleeve

Specifications

Item	Performance									
Category temperature range (°C)	-40 to +85									
Tolerance at rated capacitance (%)	±20 (20°C,120Hz)									
Leakage current (μA)	Less than 0.01CV (after 2 minutes) C: Rated capacitance(μF); V: Rated voltage(V) (20°C)									
Tangent of loss angle (tanδ)	Rated voltage (V)		6.3	10	16	25	35	50	63	100
	tanδ (max.)		0.30	0.26	0.22	0.16	0.13	0.12	0.11	0.10
	0.02 is added to every 1000μF increase over 1000μF. (20°C,120Hz)									
Characteristics at high and low temperature	Rated voltage (V)		6.3	10	16	25	35	50	63	100
	Impedance ratio (max.)	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2
		Z-40°C / Z+20°C	8	5	4	3	3	3	3	3
(120Hz)										
Endurance (85°C) (Applied ripple current)	Test time		2000 hours							
	Leakage current		The initial specified value or less							
	Percentage of capacitance change		Within ±20% of initial value							
	Tangent of the loss angle		200% or less of the initial specified value							
Shelf life (85°C)	Test time : 1000 hours; other items are the same as those for the endurance. Voltage application treatment : According to JIS C5101-1									
Applicable standards	JIS C5101-1, -18 1998 (IEC 60384-1 1992, -18 1993)									

Outline Drawing

Unit: mm



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Coefficient of Frequency for Rated Ripple Current

Frequency(Hz)	120	1k	10k	100k
Rated capacitance(µF)				
100 to 220	1	1.21	1.29	1.43
330 to 1000	1	1.16	1.23	1.25
1500 to 2200	1	1.06	1.11	1.11

Part numbering system (example: 10V1500µF)

RV	—	10	V	152	M	IE	□	T	—	R5
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol	Additional symbol			Taping symbol

Standard Ratings

Rated voltage (V)	6.3				10				16				25				35				50				63				100			
	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current	Case	Casing symbol	ESR	Rated ripple current
	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms	φ D(mm)		Ω	mArms
100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
220	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
330	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
470	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
820	—	—	—	—	—	—	—	—	—	—	—	—	12.5x13.5	IE	0.32	552	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1000	—	—	—	—	—	—	—	—	—	—	—	—	12.5x13.5	IE	0.36	521	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1500	—	—	—	—	12.5x13.5	IE	0.29	580	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	12.5x13.5	IE	0.23	651	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 85°C, 120Hz ; ESR : 20°C, 120Hz

NOTE

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