

### Chip Type, 105°C Use, Large Capacitance Capacitors

GREEN CAP

SMD

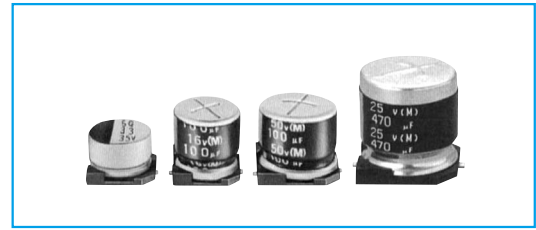
105°C  
2000hours

Anti-cleaning solvent

- Compatible with surface mounting.
- Supplied with carrier taping.
- Guarantees 2000 hours at 105°C.  
( $\phi 12.5 \times 13.5L$  : 5000 hours at 105°C)



High temperature



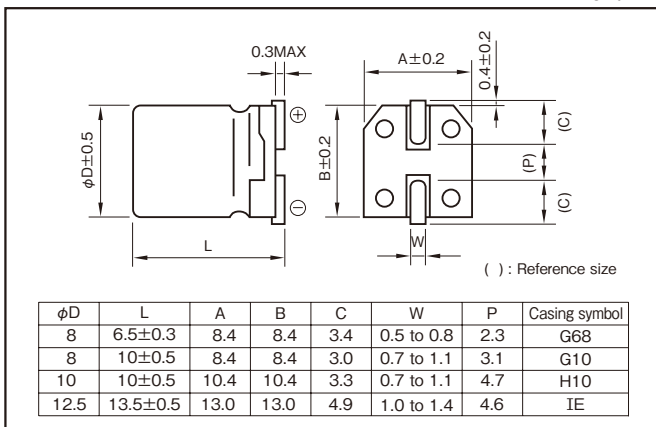
Marking color : Black print ( $\phi 8 \times 6.5L$ )  
White print on a brown sleeve ( $\phi 8 \times 10L - \phi 12.5 \times 13.5L$ )

### Specifications

Item	Performance									
Category temperature range (°C)	-55 to +105									
Tolerance at rated capacitance (%)	$\pm 20$ (20°C, 120Hz)									
Leakage current ( $\mu A$ )	Less than 0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance ( $\mu F$ ) ; V : Rated voltage (V) (20°C)									
Tangent of loss angle (tan $\delta$ )	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
	tan $\delta$ (max.)	0.30	0.24	0.22	0.16	0.13	0.12	0.11	0.10	
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
Endurance (105°C) (Applied ripple current)	Test time	2000 hours ( $\phi 12.5 \times 13.5L$ : 5000 hours)								
	Leakage current	The initial specified value or less								
	Percentage of capacitance change	Within $\pm 20\%$ of initial value								
	Tangent of the loss angle	200% or less of the initial specified value								
Shelf life (105°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 C 5101-1 1998, -18 1999 (IEC 60384-1 1992, -18 1993)									

### Outline Drawing

Unit : mm



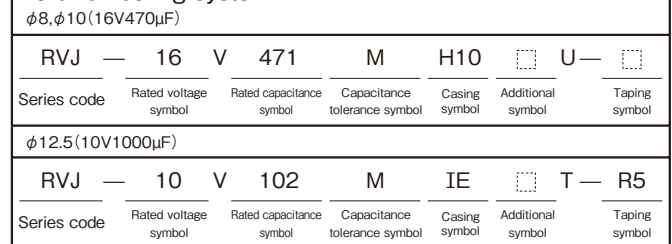
- Soldering conditions are described on page 11.
- Land pattern size are described on page 12.
- The taping specifications are described on page 13.

### Coefficient of Frequency for Rated Ripple Current

Rated voltage (V)	Frequency (Hz)			
	50 · 60	120	1k	10k · 100k
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

Rated capacitance ( $\mu F$ )	Frequency (Hz)			
	120	1k	10k	100k
47	0.50	0.76	0.87	1
100 to 220	0.70	0.85	0.90	1
330 to 1000	0.80	0.93	0.98	1

### Part numbering system



### Standard Ratings

Rated capacitance ( $\mu F$ )	6.3		10		16		25		35		50		63		100													
	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms	Case $\phi D$ (mm)	Rated ripple current mArms												
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8x10	G10	67											
22	—	—	—	—	—	—	—	—	—	—	—	8x6.5	G68	110	8x10	G10	99	10x10	H10	133								
33	—	—	—	—	—	—	—	—	—	—	—	8x6.5	G68	110	8x10	G10	178	10x10	H10	160	10x10	H10	133					
47	—	—	—	—	—	—	—	—	8x6.5	G68	110	8x6.5	G68	110	8x10	G10	178	8x10	G10	178	10x10	H10	160	12.5x13.5	IE	475*		
100	—	—	—	8x6.5	G68	110	8x6.5	G68	110	8x10	G10	178	8x10	G10	178	8x10	G10	178	10x10	H10	160	12.5x13.5	IE	577*	—	—	—	
220	8x10	G10	178	8x10	G10	178	10x10	H10	324	10x10	H10	324	10x10	H10	324	12.5x13.5	IE	655*	—	—	—	—	—	—	—	—	—	
330	8x10	G10	178	10x10	H10	324	10x10	H10	324	10x10	H10	324	12.5x13.5	IE	747*	—	—	—	—	—	—	—	—	—	—	—	—	—
470	10x10	H10	324	10x10	H10	324	10x10	H10	324	12.5x13.5	IE	747*	12.5x13.5	IE	747*	—	—	—	—	—	—	—	—	—	—	—	—	—
1000	10x10	H10	324	10x10	H10	324	12.5x13.5	IE	747*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	12.5x13.5	IE	747*	12.5x13.5	IE	747*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Note) Rated ripple current : 105°C, 120Hz

(Note\*) Rated ripple current : 105°C, 100kHz

### NOTE

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