VTT (old series: RTT)

VERTICAL CHIP TYPE ALUMINUM ELECTROLYTIC CAPACITORS

ELNA

Chip Type 125°C Use, Low ESR, For Vibration Capacitors

GREEN CAP | SMD | Vibration Resistance | Low ESR | 125°C 5000hours | Anti-cleaning solvent

- Compatible with surface mounting.
- For Vibration resistance. (30G guaranteed)
- Supplied with carrier taping.
- Guaranteed 1000 to 5000 hours at 125°C. (See table below)

Vibration resistance

VTT ⇦ VVT

Marking color : Black print

Specifications

Item	Performance
Category temperature range (℃)	−40 to +125
Tolerance at rated capacitance (%)	±20 (20℃,120Hz)
Leakage current (μA) (max.)	0.01CV or 3 whichever is larger (after 2 minutes) C : Rated capacitance (μF) , V : Rated voltage (V) (20℃)
Tangent of loss angle (tanδ)	0.02 is added to every 1000μF increase over 1000μF (20℃,120Hz)
Characteristics at high and low temperature	(120Hz)
Endurance (125℃) (Applied ripple current)	
Shelf life (125℃)	Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1
Applicable standards	JIS C5101 - 1, - 18 (IEC 60384 - 1, - 18)

Tangent of loss angle (tanδ):

Rated voltage (V)	10	16	25	35	50	63	80	100
Tangent of loss angle	0.24	0.20	0.16	0.14	0.14	0.12	0.12	0.10

Characteristics at high and low temperature:

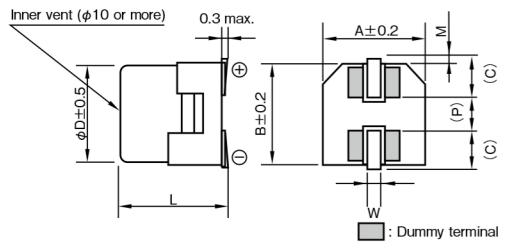
Rated voltage (V)		10	16	25	35	50	63	80	100
Impedance ratio (max.)	Z−25℃/Z+20℃	3	2	2	2	2	2	2	2
	Z−40℃/Z+20℃	4	3	3	3	3	3	3	3

Endurance (125℃) (Applied ripple current):

Test time	1000 hours (φ6.3) 2000 hours (φ8, φ10) 3000 hours (63V to 100V : φ12.5) 3500 hours (63V to 100V : φ16x16.5L, φ18x16.5L) 4000 hours (63V to 100V : φ16x21.5L, φ18x21.5L) 5000 hours (50V or less : φ12.5 or more)
Leakage current	The initial specified value or less
Percentage of capacitance change	Within ±30% of initial value
Tangent of loss angle	300% or less of the initial specified value

Outline Drawing

Unit : mm



( ) : Reference size

φD	L	A	B	C	W	P	M	Size code
6.3	5.8±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0	0.4±0.2	DC8
6.3	7.7±0.3	6.6	6.6	2.7	0.5 to 0.8	2.0	0.4±0.2	DE7
8	10±0.5	8.4	8.4	3.0	0.7 to 1.1	3.1	0.4±0.2	EH0
10	10±0.5	10.4	10.4	3.3	0.7 to 1.1	4.7	0.4±0.2	FH0
12.5	13.5±0.5	13.0	13.0	4.9	1.0 to 1.4	4.6	0.7±0.3	GL5
16	16.5±0.5	17.0	17.0	5.6	1.0 to 1.4	7.2	0.7±0.3	JP5
16	21.5±0.5	17.0	17.0	5.6	1.0 to 1.4	7.2	0.7±0.3	JU5
18	16.5±0.5	19.0	19.0	6.6	1.0 to 1.4	7.2	0.7±0.3	KP5
18	21.5±0.5	19.0	19.0	6.6	1.0 to 1.4	7.2	0.7±0.3	KU5

Refer to individual page.
(Soldering conditions, Land pattern size, The taping specifications)

Coefficient of Frequency for Rated Ripple Current

Rated voltage (V) \ Frequency (Hz)	120	1k	10k	100k
10 to 100	0.77	0.88	0.96	1

Product code system (*For general product)

φ6.3 (example : 10V220μF)

RS*	VTT	221	M	1L	DE7	⬚	U
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

φ8, φ10 (example : 35V100μF)

RS*	VTT	101	M	1G	FH0	⬚	SU
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

50V or less : φ12.5 or more (example : 35V1000μF)

RS*	VTT	102	M	1G	KU5	005	T
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

63V to 100V : φ12.5 or more (example : 63V220μF)

RS*	VTT	221	M	4E	JP5	005	KT
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

・If "Standard (terminal)" type is required, please see the series VVT.
・For details, refer to the various "Product Code System" pages.

NOTE : Design, Specifications are subject to change without notice.
It is recommended that you shall obtain technical specifications from ELNA to ensure that the component is suitable for your use.

Standard Ratings

Rated voltage (V) / Item / Rated capacitance (μF)	10 (1L)				16 (1E)				25 (1T)				35 (1G)				50 (1U)			
	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current
	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)
10	–	–	–	–	–	–	–	–	–	–	–	–	6.3×5.8	1.0	15	114	6.3×5.8	3.2	48	58
22	–	–	–	–	–	–	–	–	6.3×5.8	1.0	15	114	6.3×5.8	1.0	15	114	6.3×7.7	1.2	18	95
33	–	–	–	–	6.3×5.8	1.0	15	114	6.3×5.8	1.0	15	114	6.3×7.7	0.60	9.0	165	6.3×7.7	1.2	18	95
																	8×10	0.50	7.5	180
47	–	–	–	–	6.3×5.8	1.0	15	114	6.3×7.7	0.60	9.0	165	6.3×7.7	0.60	9.0	165	8×10	0.50	7.5	180
													8×10	0.20	2.0	340	10×10	0.30	4.5	280
100	–	–	–	–	–	–	–	–	6.3×7.7	0.60	9.0	165	8×10	0.20	2.0	340	10×10	0.30	4.5	280
									8×10	0.20	2.0	340	10×10	0.15	1.5	500	12.5×13.5	0.18	2.7	550
220	6.3×7.7	0.60	9.0	165	8×10	0.20	2.0	340	8×10	0.20	2.0	340	8×10	0.20	2.0	340	12.5×13.5	0.18	2.7	550
					10×10	0.15	1.5	500	10×10	0.15	1.5	500	10×10	0.15	1.5	500				
330	8×10	0.20	2.0	340	10×10	0.15	1.5	500	10×10	0.15	1.5	500	12.5×13.5	0.086	1.29	750	16×16.5	0.12	1.8	850
	10×10	0.15	1.5	500					12.5×13.5	0.086	1.29	750	16×16.5	0.060	0.90	1000				
470	10×10	0.15	1.5	500	12.5×13.5	0.086	1.29	750	12.5×13.5	0.086	1.29	750	16×16.5	0.060	0.90	1000	18×16.5	0.10	1.5	920
									16×16.5	0.060	0.90	1000								
680	12.5×13.5	0.086	1.29	750	12.5×13.5	0.086	1.29	750	16×16.5	0.060	0.90	1000	18×16.5	0.050	0.75	1200	–	–	–	–
					16×16.5	0.060	0.90	1000	18×16.5	0.050	0.75	1200								
1000	12.5×13.5	0.086	1.29	750	18×16.5	0.050	0.75	1200	18×21.5	0.042	0.63	1550	18×21.5	0.042	0.63	1550	–	–	–	–
2200	16×16.5	0.060	0.90	1000	18×16.5	0.050	0.75	1200	–	–	–	–	–	–	–	–	–	–	–	–
3300	18×16.5	0.050	0.75	1200	18×21.5	0.042	0.63	1550	–	–	–	–	–	–	–	–	–	–	–	–
4700	18×21.5	0.042	0.63	1550	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Rated voltage (V) / Item / Rated capacitance (μF)	63 (4E)				80 (1R)				100 (1H)			
	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current	Case	ESR (Ω max.)		Rated ripple current
	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)	φD × L (mm)	20℃	− 40℃	(mArms)
10	–	–	–	–	8×10	0.75	15	110	8×10	0.75	15	110
22	8×10	0.70	14	140	8×10	0.75	15	110	8×10	0.75	15	110
					10×10	0.55	11	150	10×10	0.55	11	150
33	8×10	0.70	14	140	8×10	0.75	15	110	10×10	0.55	11	150
	10×10	0.50	10	200	10×10	0.55	11	150				
47	8×10	0.70	14	140	–	–	–	–	12.5×13.5	0.32	4.8	300
	10×10	0.50	10	200								
100	12.5×13.5	0.25	3.75	400	16×16.5	0.24	3.6	480	16×16.5	0.24	3.6	480
220	16×16.5	0.22	3.3	500	16×21.5	0.18	2.7	600	18×21.5	0.16	2.4	700
330	16×16.5	0.22	3.3	500	18×21.5	0.12	1.8	1000	–	–	–	–
470	16×21.5	0.16	2.4	650	–	–	–	–	–	–	–	–

(Note) Rated ripple current : 125℃ , 100kHz
ESR : 100kHz

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