

Conductive Polymer Hybrid Capacitors

GREEN CAP

SMD

Low ESR

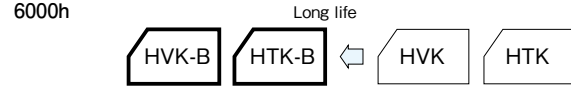
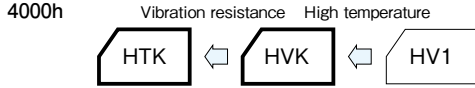
125°C
4000hours

125°C
6000hours

- Low ESR and high ripple current are realized.
- HTK is resist to vibration. (30G guaranteed)
- Equivalent to conductive polymer type Aluminum Electrolytic Capacitor. (There are little characteristics change by temperature and frequency)



Marking color : Blue print



Specifications

Item	Performance																				
Category temperature range (°C)	-55~+125																				
Tolerance at rated capacitance (%)	±20 (20°C, 120Hz)																				
Leakage current (µA) (max.)	6.3V to 80V : 0.01CV or 3 whichever is larger (after 2 minutes) 100V : 0.05CV or 15 whichever is larger (after 2 minutes), : Rated capacitance (µF) ; V : Rated voltage (V) (20°C)																				
Tangent of loss angle (tanδ)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>tanδ (max.)</td> <td>0.20</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table> <p>(20°C, 120Hz)</p>	Rated voltage (V)	6.3	10	16	25	35	50	63	80	100	tanδ (max.)	0.20	0.18	0.16	0.14	0.12	0.10	0.08	0.08	0.08
Rated voltage (V)	6.3	10	16	25	35	50	63	80	100												
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Characteristics at high and low temperature	<table border="1"> <thead> <tr> <th>Impedance ratio (max.)</th> <th>Z-25°C/Z+20°C</th> <th>Z-55°C/Z+20°C</th> </tr> </thead> <tbody> <tr> <td></td> <td>1.5</td> <td>2.0</td> </tr> </tbody> </table> <p>(100kHz)</p>	Impedance ratio (max.)	Z-25°C/Z+20°C	Z-55°C/Z+20°C		1.5	2.0														
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Endurance (125°C) (Applied ripple current)	<table border="1"> <thead> <tr> <th>Test time</th> <th>4000 hours</th> <th>6000 hours (25V~63V : φ6.3 or more)</th> </tr> </thead> <tbody> <tr> <td>Leakage current</td> <td>The initial specified value or less</td> <td>The initial specified value or less</td> </tr> <tr> <td>Percentage of capacitance change</td> <td>Within ±30% of initial value</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Tangent of the loss angle</td> <td>200% or less of the initial specified value</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>ESR change</td> <td>200% or less of the initial specified value</td> <td>200% or less of the initial specified value</td> </tr> </tbody> </table>	Test time	4000 hours	6000 hours (25V~63V : φ6.3 or more)	Leakage current	The initial specified value or less	The initial specified value or less	Percentage of capacitance change	Within ±30% of initial value	Within ±30% of initial value	Tangent of the loss angle	200% or less of the initial specified value	200% or less of the initial specified value	ESR change	200% or less of the initial specified value	200% or less of the initial specified value					
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ESR change	200% or less of the initial specified value	200% or less of the initial specified value																			
Shelf life (125°C)	Test time : 1000hours ; other items are same as the endurance. Voltage application treatment : According to JIS C5101-4 4.1.																				

Outline Drawing

Unit : mm

Series HVK

φD	L	A	B	C	M	W	P	Size code
5	5.8±0.3	5.3	5.3	2.3	0.4±0.2	0.5 to 0.8	1.5	CC8
6.3	5.8±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	DC8
6.3	7.7±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	DE7
8	8.7±0.3	8.4	8.4	3.0	0.4±0.2	0.5 to 0.8	3.1	EF7
8	10±0.5	8.4	8.4	3.0	0.4±0.2	0.7 to 1.1	3.1	EH0
10	8.7±0.3	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	FF7
10	10±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	FH0
10	12.5±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	FK5
12.5	13.5±0.5	13.0	13.0	4.9	0.7±0.3	1.0 to 1.4	4.6	GL5

() : Reference size

Series HTK

φD	L	A	B	C	M	W	P	Size code
6.3	5.8±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	DC8
6.3	7.7±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	DE7
8	10±0.5	8.4	8.4	3.0	0.4±0.2	0.7 to 1.1	3.1	EH0
10	10±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	FH0
10	12.5±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	FK5
12.5	13.5±0.5	13.0	13.0	4.9	0.7±0.3	1.0 to 1.4	4.6	GL5

() : Reference size

□ : Dummy terminal

Refer to individual page.

(Soldering conditions, Land pattern size, The taping specifications)

Coefficient of Frequency for Rated Ripple Current

Frequency (Hz)	120	1k	10k	100k or more
Rated voltage (V)				
6.3 to 100	0.10	0.30	0.60	1

4000 hours guaranteed: Product code system (*For general product)

HVK (example : 16V470µF)

RS*	HVK	471	M	1E	FH0	□	E
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

HTK (example : 63V56µF)

RS*	HTK	560	M	4E	FH0	□	E
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

6000 hours guaranteed: Product code system (*For general product)

HVK-B (example : 25V100µF)

RS*	HVK	101	M	1T	DE7	□	B
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

HTK-B (example : 25V100µF)

RS*	HTK	101	M	1T	DE7	□	B
Category code	Series code	capacitance code	Cap tol. code	Voltage code	Size code	Taping and packing code	Additional code

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.

HVK series Standard Ratings (●Marked: 6000 hours guaranteed)

Rated voltage (V) Case φ D × L (mm)	Item	6.3 (1J)			10 (1L)			16 (1E)			25 (1T)		
		Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)
5×5.8		—	—	—	—	—	—	47	70	600	33	80	550
6.3×5.8		220	45	950	100	45	950	82	45	950	● 56	50	900
6.3×7.7		330	24	1450	220	24	1450	150	27	1450	● 100	30	1400
8×8.7		—	—	—	—	—	—	—	—	—	● 150	27	1500
8×10		560	22	1700	330	22	1700	270	22	1700	● 220	27	1600
10×8.7		—	—	—	—	—	—	—	—	—	● 270	25	1700
10×10		820	18	2100	470	18	2100	470	18	2100	● 330	20	2000
10×12.5		—	—	—	—	—	—	—	—	—	● 560	18	3000
12.5×13.5		—	—	—	—	—	—	—	—	—	● 820	15	3500

Rated voltage (V) Case φ D × L (mm)	Item	35 (1G)			50 (1U)			63 (4E)		
		Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)
5×5.8		22	100	550	10	120	500	—	—	—
6.3×5.8		● 47	60	900	● 22	80	750	● 10	120	700
6.3×7.7		● 68	35	1400	● 33	40	1100	● 22	80	900
8×8.7		● 100	30	1500	● 47	35	1200	● 27	50	1000
8×10		● 150	27	1600	● 68	30	1250	● 33	40	1100
10×8.7		● 220	25	1700	● 82	28	1400	● 47	35	1200
10×10		● 270	20	2000	● 100	28	1600	● 56	30	1400
10×12.5		● 390	18	3000	● 150	24	2500	● 100	26	2000
12.5×13.5		● 560	15	3500	● 330	20	3000	● 120	22	2500

Rated voltage (V) Case φ D × L (mm)	Item	80 (1R)			100 (1H)		
		Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)
8×10		22	45	1100	—	—	—
10×10		33	36	1200	15	45	1000

(Note) Rated ripple current : 125°C , 100kHz ; ESR : 20°C , 100kHz

HTK series Standard Ratings (●Marked: 6000 hours guaranteed)

Rated voltage (V) Case φ D × L (mm)	Item	6.3 (1J)			10 (1L)			16 (1E)			25 (1T)		
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6.3×5.8		220	45	950	100	45	950	82	45	950	● 56	50	900
6.3×7.7		330	24	1450	220	24	1450	150	27	1450	● 100	30	1400
8×10		560	22	1700	330	22	1700	270	22	1700	● 220	27	1600
10×10		820	18	2100	470	18	2100	470	18	2100	● 330	20	2000
10×12.5		—	—	—	—	—	—	—	—	—	● 560	18	3000
12.5×13.5		—	—	—	—	—	—	—	—	—	● 820	15	3500

Rated voltage (V) Case φ D × L (mm)	Item	35 (1G)			50 (1U)			63 (4E)		
		Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)	Rated capacitance (μF)	ESR (mΩ max.)	Rated ripple current (mA rms)
6.3×5.8		● 47	60	900	● 22	80	750	● 10	120	700
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8×10		22	45	1100	—	—	—
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(Note) Rated ripple current : 125°C , 100kHz ; ESR : 20°C , 100kHz

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