HVK,HTK CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

ELNA®

Conductive Polymer Hybrid Capacitors

GREEN CAP | SMD | Low ESR | 125℃ 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)
- Guaranteed 125℃, 6000 hours. (φ5, 6.3V to 16V, 63V or more : 4000 hours)

Marking color : Blue print

Vibration resistance ⇦ High temperature

HTK ⇦ HVK ⇦ HV

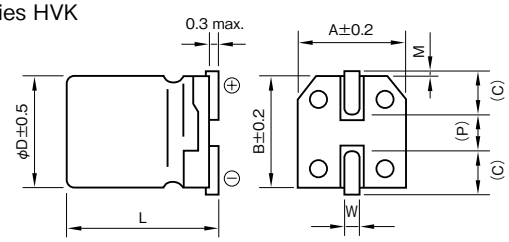
Specifications

Item	Performance
Category temperature range (℃)	−55～+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)	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 (20℃, 120Hz)
Characteristics at high and low temperature	Impedance ratio (max.): Z−25℃/Z+20℃ 1.5; Z−55℃/Z+20℃ 2.0 (100kHz)
Endurance (125℃) (Applied ripple current)	Test time: 6000 hours (φ5, 6.3V to 16V, 63V or more : 4000 hours) Leakage current: The initial specified value or less Percentage of capacitance change: Within ±30% of initial value Tangent of the loss angle: 200% or less of the initial specified value ESR change: 200% or less of the initial specified value
Shelf life (125℃)	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



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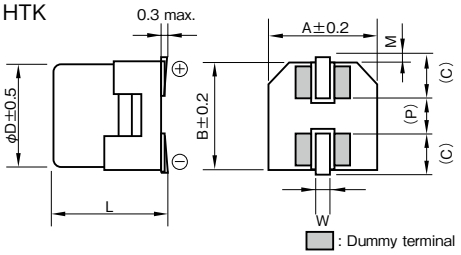
φD	L	A	B	C	M	W	P	Casing symbol
5	5.8±0.3	5.3	5.3	2.3	0.4±0.2	0.5 to 0.8	1.5	E61
6.3	5.8±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	F61
6.3	7.7±0.3	6.6	6.6	2.7	0.4±0.2	0.5 to 0.8	2.0	F80
8	8.7±0.3	8.4	8.4	3.0	0.4±0.2	0.5 to 0.8	3.1	G90
8	10±0.5	8.4	8.4	3.0	0.4±0.2	0.7 to 1.1	3.1	G10
10	8.7±0.3	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	H90
10	10±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	H10
10	12.5±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	HC5
12.5	13.5±0.5	13.0	13.0	4.9	0.7±0.3	1.0 to 1.4	4.6	IE

Series HTK



( ) : Reference size

φD	L	A	B	C	M	W	P	Casing symbol
8	10±0.5	8.4	8.4	3.0	0.4±0.2	0.7 to 1.1	3.1	G10
10	10±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	H10
10	12.5±0.5	10.4	10.4	3.3	0.4±0.2	0.7 to 1.1	4.7	HC5
12.5	13.5±0.5	13.0	13.0	4.9	0.7±0.3	1.0 to 1.4	4.6	IE

- Soldering conditions are described on page 15.
- Land pattern size are described on page 13.
- The taping specifications are described on page 16.

Coefficient of Frequency for Rated Ripple Current

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

Part numbering system (6000 hours guaranteed)

HVK (example : 35V270μF)

HVK	—	35	V	271	M	H10	B	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping symbol

HTK (example : 35V270μF)

HTK	—	35	V	271	M	H10	B	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping symbol

(4000 hours guaranteed)

HVK (example : 16V470μF)

HVK	—	16	V	471	M	H10	E	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping symbol

HTK (example : 63V56μF)

HTK	—	63	V	560	M	H10	E	—	□
Series code		Rated voltage symbol		Rated capacitance symbol	Capacitance tolerance symbol	Casing symbol			Taping symbol

Standard Ratings

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

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

Rated voltage (V) / Item / Rated capacitance (μF)	80			100		
	Case φD×L (mm)	ESR (mΩ max.)	Rated ripple current (mArms)	Case φD×L (mm)	ESR (mΩ max.)	Rated ripple current (mArms)
15	—	—	—	10×10	45	1000
22	8×10	45	1100	—	—	—
33	10×10	36	1200	—	—	—

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

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.