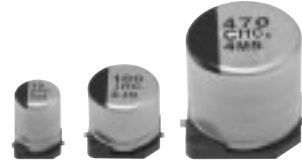
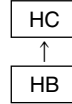


### Surface Mount Type

Series: **HC** Type: **V**

Long life



#### ■ Features

- Life time: 3000 h to 5000 h at 105 °C
- Vibration-proof product is available upon request. ( $\phi 8$  mm and larger)
- RoHS directive compliant

#### ■ Specifications

Category Temp. Range	-40 °C to +105 °C	
Rated W.V. Range	6.3 V.DC to 50 V.DC	
Nominal Cap. Range	0.1 $\mu$ F to 1000 $\mu$ F	
Capacitance Tolerance	$\pm 20$ % (120 Hz/+20 °C)	
DC Leakage Current	$I \leq 0.01$ CV or 3 ( $\mu$ A) After 2 minutes (Whichever is greater)	
$\tan \delta$	Please see the attached standard products list	
Endurance	After applying rated working voltage for +105 °C $\pm 2$ °C and then being stabilized at +20 °C, Capacitors shall meet the following limits. $\phi 4$ to $\phi 6.3$ (3000 hours After applying rated working voltage) $\phi 8$ to $\phi 10$ (5000 hours After applying rated working voltage)	
	Capacitance change	$\pm 30$ % of initially measured value
	$\tan \delta$	$\leq 300$ % of initially specified values
	DC leakage current	$\leq$ initially specified values
Shelf life	After storage for 1000 hours at +105 °C $\pm 2$ °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)	
Resistance to Soldering Heat	Capacitance change	$\pm 10$ % of initially measured values
	$\tan \delta$	$\leq$ initially specified values
	DC leakage current	$\leq$ initially specified values

#### ■ Frequency correction factor for ripple current

Correction factor	Frequency (Hz)			
	50, 60	120	1 k	10 k to
	0.70	1.00	1.30	1.70

#### ■ Marking

Example: 6.3 V 22  $\mu$ F  
Marking color : BLACK

Rated Voltage Mark			
j	6.3 V	E	25 V
A	10 V	V	35 V
C	16 V	H	50 V

#### ■ Dimensions in mm (not to scale)

(Unit : mm)

Size code	D	L	A, B	H	I	W	P	K
B	4.0	5.8 $\pm 0.3$	4.3	5.5 max.	1.8	0.65 $\pm 0.1$	1.0	0.35 $^{+0.15}_{-0.20}$
C	5.0	5.8 $\pm 0.3$	5.3	6.5 max.	2.2	0.65 $\pm 0.1$	1.5	0.35 $^{+0.15}_{-0.20}$
D	6.3	5.8 $\pm 0.3$	6.6	7.8 max.	2.6	0.65 $\pm 0.1$	1.8	0.35 $^{+0.15}_{-0.20}$
D8	6.3	7.7 $\pm 0.3$	6.6	7.8 max.	2.6	0.65 $\pm 0.1$	1.8	0.35 $^{+0.15}_{-0.20}$
F	8.0	10.2 $\pm 0.3$	8.3	10.0 max.	3.4	0.90 $\pm 0.2$	3.1	0.70 $\pm 0.2$
G	10.0	10.2 $\pm 0.3$	10.3	12.0 max.	3.5	0.90 $\pm 0.2$	4.6	0.70 $\pm 0.2$

( ) Reference size

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

### Standard Products

Endurance : 105 °C 3000 h (φ8, φ10 : 5000 h)

W.V.	Cap. (±20 %)	Case size			Specification		Part No. (RoHS:compliant)	Reflow	Min. Packaging Q'ty
		Dia.	Length	Size Code	Ripple Current (120 Hz) (+105 °C) (mA r.m.s.)	tan δ (120 Hz) (+20 °C)			Taping  (pcs)
(V)	(μF)	(mm)	(mm)						
6.3	22	4	5.8	B	26	0.30	EEEHC0J220R	(1)	2000
	47	5	5.8	C	46	0.30	EEEHC0J470R	(1)	1000
	100	6.3	5.8	D	71	0.30	EEEHC0J101P	(1)	1000
	220	6.3	7.7	D8	101	0.30	EEEHC0J221XP	(1)	900
	330	8	10.2	F	230	0.30	EEEHC0J331P	(2)	500
	1000	10	10.2	G	313	0.50	EEEHC0J102P	(2)	500
10	33	5	5.8	C	43	0.26	EEEHC1A330R	(1)	1000
	220	8	10.2	F	160	0.26	EEEHC1A221P	(2)	500
16	10	4	5.8	B	28	0.20	EEEHC1C100R	(1)	2000
	22	5	5.8	C	39	0.20	EEEHC1C220R	(1)	1000
	47	6.3	5.8	D	70	0.20	EEEHC1C470P	(1)	1000
	100	6.3	7.7	D8	81	0.20	EEEHC1C101XP	(1)	900
	470	10	10.2	G	340	0.20	EEEHC1C471P	(2)	500
25	33	6.3	5.8	D	65	0.16	EEEHC1E330P	(1)	1000
	47	6.3	7.7	D8	65	0.16	EEEHC1E470XP	(1)	900
	100	8	10.2	F	130	0.16	EEEHC1E101P	(2)	500
	330	10	10.2	G	238	0.16	EEEHC1E331P	(2)	500
35	4.7	4	5.8	B	15	0.14	EEEHC1V4R7R	(1)	2000
	10	5	5.8	C	28	0.14	EEEHC1V100R	(1)	1000
	22	6.3	5.8	D	55	0.14	EEEHC1V220P	(1)	1000
	33	6.3	7.7	D8	57	0.14	EEEHC1V330XP	(1)	900
	220	10	10.2	G	220	0.14	EEEHC1V221P	(2)	500
50	0.1	4	5.8	B	1	0.12	EEEHC1HR10R	(1)	2000
	0.22	4	5.8	B	2.6	0.12	EEEHC1HR22R	(1)	2000
	0.33	4	5.8	B	3.2	0.12	EEEHC1HR33R	(1)	2000
	0.47	4	5.8	B	5	0.12	EEEHC1HR47R	(1)	2000
	1	4	5.8	B	10	0.12	EEEHC1H1R0R	(1)	2000
	2.2	4	5.8	B	16	0.12	EEEHC1H2R2R	(1)	2000
	3.3	4	5.8	B	16	0.12	EEEHC1H3R3R	(1)	2000
	4.7	5	5.8	C	23	0.12	EEEHC1H4R7R	(1)	1000
	10	6.3	5.8	D	35	0.12	EEEHC1H100P	(1)	1000
	22	6.3	7.7	D8	49	0.12	EEEHC1H220XP	(1)	900
	33	8	10.2	F	91	0.12	EEEHC1H330P	(2)	500
	47	8	10.2	F	100	0.12	EEEHC1H470P	(2)	500
100	10	10.2	G	160	0.12	EEEHC1H101P	(2)	500	

- Please refer to the page of "Reflow Profile" and "The Taping Dimensions".
- When requesting vibration-proof product, please put the last "V" instead to "P"