

Surface Mount Type

Series: **HD** Type : **V**

Country of Origin

Japan



■ Features Endurance: 5000h at 105°C

Vibration-proof product is available upon request. ($\phi 8 \leq$)

■ Specifications

Category temp. range	-40 to +105°C								
Rated W.V. Range	10 to 100V .DC								
Nominal Cap. Range	0.47 to 330 μ F								
Capacitance Tolerance	± 20 % (120Hz/+20°C)								
DC Leakage Current	$I \leq 0.01 CV$ or $3(\mu A)$ After 2 minutes application of rated working voltage at +20°C.(Whichever is greater)								
tan δ	Please see the attached standard products list								
Characteristics at Low Temperature	W.V. (V)	10	16	25	35	50	63	100	(Impedance ratio at 120 Hz)
	Z(-25°C) / Z(+20°C)	8	5	4	3	3	3	3	
	Z(-40°C) / Z(+20°C)	14	12	10	8	8	8	8	
Endurance	After applying rated working voltage for 5000 hours at +105 \pm 2°C and then being stabilized at +20°C, capacitors shall meet the following limits.								
	Capacitance change	± 30 % of initial measured value							
	tan δ	≤ 300 % of initial specified value							
Shelf Life	After storage for 1000hours at +105 \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)								
	Capacitance change	± 20 % of initial measured value							
	tan δ	≤ 200 % of initial specified value							
Resistance to Soldering Heat	After reflow soldering (Refer to page 184 for recommendable temperature profile.) and then being stabilized at +20°C, capacitor shall meet the following limits.								
	Capacitance change	± 10 % of initial measured value							
	tan δ	\leq initial specified value							
DC leakage current	\leq initial specified value								

■ Marking

Example. 16V10 μ F

Marking color : BLACK

W.V. code

V	10	16	25	35
Code	A	C	E	V

Capacitance (μ F)

Series identification

Lot number

V	50	63	100
Code	H	J	2A

■ Dimensions in mm (not to scale)

Size code	D	L	A,B	H max.	I	W	P	K
B	4.0	5.8	4.3	5.5	1.8	0.65 \pm 0.1	1.0	0.35 -0.20 to +0.15
C	5.0	5.8	5.3	6.5	2.2	0.65 \pm 0.1	1.5	0.35 -0.20 to +0.15
D	6.3	5.8	6.6	7.8	2.6	0.65 \pm 0.1	1.8	0.35 -0.20 to +0.15
E	8.0	6.2	8.3	9.5	3.4	0.65 \pm 0.1	2.2	0.35 -0.20 to +0.15
F	8.0	10.2	8.3	10.0	3.4	0.90 \pm 0.2	3.1	0.70 \pm 0.20
G	10.0	10.2	10.3	12.0	3.5	0.90 \pm 0.2	4.6	0.70 \pm 0.20

■ Case Size

Cap.(μ F)	W.V.	10(1A)	16(1C)	25(1E)	35(1V)	50(1H)	63(1J)	100(2A)
0.47						B		
1.0						B		
2.2						B		
3.3						B		E
4.7				B	B	C		F
10			B	C	C	D	E	F
22			C	D	D	E	F	G
33				D	E	F	G	
47			D	E	F	G		
100	E	F	F	G				
220	F	G		G				
330	G		G					

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

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification			Part No.	Min.Packaging Qty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (120Hz) (+105°C) (mA)	Impe- dance (100kHz) (+20°C) (Ω)	tan δ (120Hz) (+20°C)		Taping (pcs)
10	100	8	6.2	E	62	2.0	0.30	EEVHD1A101P	1000
	220	8	10.2	F	93	1.5	0.30	EEVHD1A221P	500
	330	10	10.2	G	118	0.8	0.30	EEVHD1A331P	500
16	10	4	5.8	B	20	12.0	0.20	EEVHD1C100R	2000
	22	5	5.8	C	33	7.2	0.20	EEVHD1C220R	1000
	47	6.3	5.8	D	55	4.0	0.20	EEVHD1C470P	1000
	100	8	10.2	F	89	1.5	0.23	EEVHD1C101P	500
	220	10	10.2	G	113	0.8	0.23	EEVHD1C221P	500
25	4.7	4	5.8	B	15	12.0	0.16	EEVHD1E4R7R	2000
	10	5	5.8	C	26	7.2	0.16	EEVHD1E100R	1000
	22	6.3	5.8	D	42	4.0	0.16	EEVHD1E220P	1000
	33	6.3	5.8	D	52	4.0	0.16	EEVHD1E330P	1000
	47	8	6.2	E	56	2.0	0.18	EEVHD1E470P	1000
	100	8	10.2	F	84	1.5	0.18	EEVHD1E101P	500
35	330	10	10.2	G	112	0.8	0.18	EEVHD1E331P	500
	4.7	4	5.8	B	17	12.0	0.13	EEVHD1V4R7R	2000
	10	5	5.8	C	28	7.2	0.13	EEVHD1V100R	1000
	22	6.3	5.8	D	47	4.0	0.13	EEVHD1V220P	1000
	33	8	6.2	E	53	2.0	0.16	EEVHD1V330P	1000
	47	8	10.2	F	79	1.5	0.16	EEVHD1V470P	500
	100	10	10.2	G	101	0.8	0.16	EEVHD1V101P	500
50	220	10	10.2	G	106	0.8	0.16	EEVHD1V221P	500
	0.47	4	5.8	B	5	12.0	0.12	EEVHD1HR47R	2000
	1.0	4	5.8	B	7	12.0	0.12	EEVHD1H1R0R	2000
	2.2	4	5.8	B	12	12.0	0.12	EEVHD1H2R2R	2000
	3.3	4	5.8	B	16	12.0	0.12	EEVHD1H3R3R	2000
	4.7	5	5.8	C	21	7.2	0.12	EEVHD1H4R7R	1000
	10	6.3	5.8	D	33	4.0	0.12	EEVHD1H100P	1000
	22	8	6.2	E	50	2.0	0.14	EEVHD1H220P	1000
63	33	8	10.2	F	74	1.5	0.14	EEVHD1H330P	500
	47	10	10.2	G	94	0.8	0.14	EEVHD1H470P	500
	10	8	6.2	E	45	2.0	0.18	EEVHD1J100P	1000
100	22	8	10.2	F	65	1.5	0.18	EEVHD1J220P	500
	33	10	10.2	G	80	0.8	0.18	EEVHD1J330P	500
	3.3	8	6.2	E	30	2.0	0.18	EEVHD2A3R3P	1000
	4.7	8	10.2	F	50	1.5	0.18	EEVHD2A4R7P	500
100	10	8	10.2	F	55	1.5	0.18	EEVHD2A100P	500
	22	10	10.2	G	70	0.8	0.18	EEVHD2A220P	500

The taping dimension are explained on p.187 of our Catalog.
Please use it as a reference guide.
Endurance: 105°C 5000h