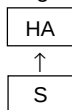


Surface Mount Type

Series: HA Type : V

■ Features Endurance : 105°C 1000 h
5.5 mm height (≤ φ6.3)

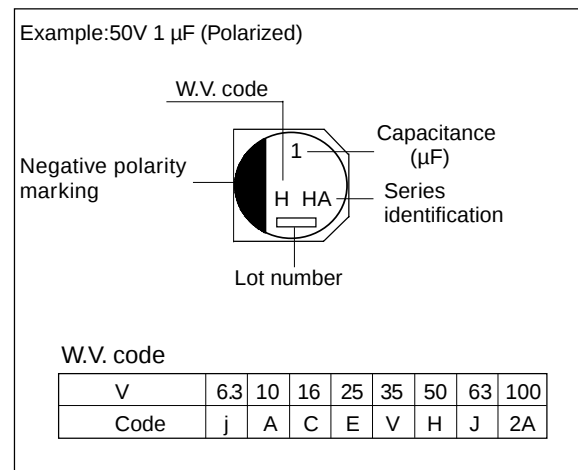
Long life



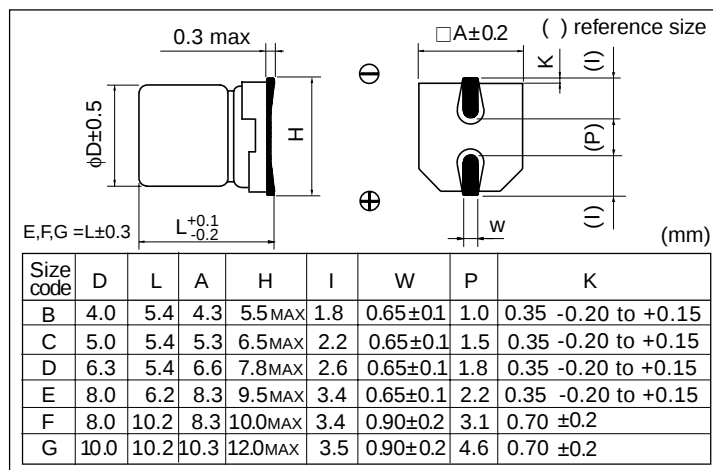
■ Specifications

Category temp. range	-40 to +105°C									
Rated W.V. Range	6.3 to 100 V .DC									
Nominal Cap. Range	0.1 to 1500 μ F									
Capacitance Tolerance	±20 % (120Hz/+20°C)									
DC Leakage Current	I ≤ 0.01 CV or 3(μ A) after 2 minutes (Whichever , greater)									
Dissipation Factor	Please see the attached standard products list									
Characteristics at Low Temperature	W.V. (V)	6.3	10	16	25	35	50	63	100	(Impedance ratio at 120 Hz)
	-25 / +20 °C	4	3	2	2	2	2	3	3	
	-40 / +20 °C	8	6	4	4	3	3	4	4	
Endurance	After applying rated working voltage for 1000 hours at +105±2°C and then being stabilized at +20°C, capacitors shall meet the following limits.									
	Capacitance change	±20% of initial measured value(6.3W.V. of minature : ±30%)								
	D.F.	≤200 % of initial specified value								
	DC leakage current	≤initial specified value								
Shelf Life	After storage for 1000 hours at +105±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	After reflow soldering (Refer to page 20 for recommendable temperature profile.) and then being stabilized at +20°C, capacitor shall meet the following limits.									
	Capacitance change	±10% of initial measured value								
	D.F.	≤ initial specified value								
	DC leakage current	≤ initial specified value								

■ Marking



■ Dimensions in mm (not to scale)



■ Case size

Cap. (μF)	W.V.(V)	6.3 (0J)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)	63(1J)	100(2A)
0.1 to 2.2							B		
3.3							B		E
4.7							C		F
10				B	C(B)	C(B)	D	E	F
22	B	(B)	C(B)	D(C)	D(C)	E	F	G	G
33	(B)	C(B)	(C)	D(C)	E(D)	F	G	G	G
47	C(B)	(C)	D(C)	E(D)	F	G(F)	G		
100	D(C)	E(D)	(D)	F	G(F)	G(F)			
220	(D)	F	G(F)	G(F)	G(F)	G			
330	F		G(F)	G(F)	G				
470		G(F)	G(F)	G					
680			G						
1000	G(F)								
1500	G								

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■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification		Part No.	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple current (120Hz) (+105°C) (mA)	D.F. (120Hz) (+20°C)		Taping (pcs)
6.3	22	4	5.4	B	29	0.30	EEVHA0J220R	2000
	33	4	5.4	B	29	0.35	EEVHA0J330WR	2000
	47	4	5.4	B	36	0.35	EEVHA0J470WR	2000
		5	5.4	C	46	0.30	EEVHA0J470R	1000
	100	5	5.4	C	47	0.35	EEVHA0J101WR	1000
		6.3	5.4	D	71	0.35	EEVHA0J101P	1000
	220	6.3	5.4	D	74	0.35	EEVHA0J221WP	1000
	330	8	10.2	F	230	0.35	EEVHA0J331P	500
	1000	8	10.2	F	300	0.35	EEVHA0J102UP	500
		10	10.2	G	400	0.35	EEVHA0J102P	500
	1500	10	10.2	G	480	0.22	EEVHA0J152P	500
10	22	4	5.4	B	28	0.30	EEVHA1A220WR	2000
	33	4	5.4	B	29	0.30	EEVHA1A330WR	2000
		5	5.4	C	43	0.22	EEVHA1A330R	1000
	47	5	5.4	C	43	0.30	EEVHA1A470WR	1000
	100	6.3	5.4	D	71	0.26	EEVHA1A101WP	1000
		8	6.2	E	110	0.30	EEVHA1A101P	1000
	220	8	10.2	F	160	0.26	EEVHA1A221P	500
	470	8	10.2	F	200	0.26	EEVHA1A471UP	500
		10	10.2	G	420	0.16	EEVHA1A471P	500
16	10	4	5.4	B	28	0.16	EEVHA1C100R	2000
	22	4	5.4	B	28	0.26	EEVHA1C220WR	2000
		5	5.4	C	39	0.16	EEVHA1C220R	1000
	33	5	5.4	C	35	0.26	EEVHA1C330WR	1000
	47	5	5.4	C	39	0.26	EEVHA1C470WR	1000
		6.3	5.4	D	70	0.20	EEVHA1C470P	1000
	100	6.3	5.4	D	70	0.26	EEVHA1C101WP	1000
	220	8	10.2	F	150	0.20	EEVHA1C221UP	500
		10	10.2	G	210	0.20	EEVHA1C221P	500
	330	8	10.2	F	170	0.20	EEVHA1C331UP	500
		10	10.2	G	230	0.20	EEVHA1C331P	500
	470	8	10.2	F	190	0.20	EEVHA1C471UP	500
		10	10.2	G	340	0.20	EEVHA1C471P	500
25	680	10	10.2	G	380	0.14	EEVHA1C681P	500
	4.7	4	5.4	B	22	0.14	EEVHA1E4R7R	2000
	10	4	5.4	B	22	0.20	EEVHA1E100WR	2000
		5	5.4	C	28	0.14	EEVHA1E100R	1000
	22	5	5.4	C	35	0.20	EEVHA1E220WR	1000
		6.3	5.4	D	55	0.14	EEVHA1E220P	1000
	33	5	5.4	C	42	0.20	EEVHA1E330WR	1000
		6.3	5.4	D	65	0.16	EEVHA1E330P	1000
	47	6.3	5.4	D	70	0.20	EEVHA1E470WP	1000
		8	6.2	E	91	0.16	EEVHA1E470P	1000

The taping dimension are explained on p.24 of our Catalog.
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Endurance: 105°C 1000h

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■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case size			Specification		Part No.	Min.Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple current (120Hz) (+105°C) (mA)	D.F. (120Hz) (+20°C)		Taping (pcs)
25	100	8	10.2	F	130	0.16	EEVHA1E101P	500
	220	8	10.2	F	160	0.16	EEVHA1E221UP	500
		10	10.2	G	190	0.16	EEVHA1E221P	500
	330	8	10.2	F	180	0.16	EEVHA1E331UP	500
		10	10.2	G	340	0.16	EEVHA1E331P	500
	470	10	10.2	G	360	0.12	EEVHA1E471P	500
35	4.7	4	5.4	B	22	0.12	EEVHA1V4R7R	2000
	10	4	5.4	B	22	0.16	EEVHA1V100WP	2000
		5	5.4	C	30	0.12	EEVHA1V100R	1000
	22	5	5.4	C	35	0.16	EEVHA1V220WR	1000
		6.3	5.4	D	60	0.14	EEVHA1V220P	1000
	33	6.3	5.4	D	42	0.16	EEVHA1V330WP	1000
		8	6.2	E	64	0.14	EEVHA1V330P	1000
	47	8	10.2	F	98	0.14	EEVHA1V470P	500
	100	8	10.2	F	120	0.14	EEVHA1V101UP	500
		10	10.2	G	160	0.14	EEVHA1V101P	500
	220	8	10.2	F	170	0.14	EEVHA1V221UP	500
		10	10.2	G	210	0.14	EEVHA1V221P	500
	330	10	10.2	G	250	0.14	EEVHA1V331P	500
50	0.1	4	5.4	B	1	0.12	EEVHA1HR10R	2000
	0.22	4	5.4	B	2	0.12	EEVHA1HR22R	2000
	0.33	4	5.4	B	3	0.12	EEVHA1HR33R	2000
	0.47	4	5.4	B	5	0.12	EEVHA1HR47R	2000
	1	4	5.4	B	10	0.12	EEVHA1H1R0R	2000
	2.2	4	5.4	B	16	0.12	EEVHA1H2R2R	2000
	3.3	4	5.4	B	16	0.12	EEVHA1H3R3R	2000
	4.7	5	5.4	C	23	0.12	EEVHA1H4R7R	1000
	10	6.3	5.4	D	35	0.12	EEVHA1H100P	1000
	22	8	6.2	E	70	0.12	EEVHA1H220P	1000
		10	10.2	F	91	0.12	EEVHA1H330P	500
	47	8	10.2	F	95	0.12	EEVHA1H470UP	500
		10	10.2	G	100	0.12	EEVHA1H470P	500
	100	8	10.2	F	110	0.12	EEVHA1H101UP	500
		10	10.2	G	120	0.12	EEVHA1H101P	500
	220	10	10.2	G	150	0.12	EEVHA1H221P	500
63	10	8	6.2	E	25	0.18	EEVHA1J100P	1000
	22	8	10.2	F	30	0.18	EEVHA1J220P	500
	33	10	10.2	G	45	0.18	EEVHA1J330P	500
	47	10	10.2	G	50	0.18	EEVHA1J470P	500
100	3.3	8	6.2	E	30	0.18	EEVHA2A3R3P	1000
	4.7	8	10.2	F	50	0.18	EEVHA2A4R7P	500
	10	8	10.2	F	55	0.18	EEVHA2A100P	500
	22	10	10.2	G	60	0.18	EEVHA2A220P	500
	33	10	10.2	G	65	0.18	EEVHA2A330P	500

The taping dimension are explained on p.24 of our Catalog.

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