HVE

Surface mount type

series

Low ESR, High ripple current
Load life of 4,000h at 135°C
Compliance with AEC-Q200

• Specifications

Items	Characteristics	
Category temperature range	-55 to +135°C	
Rated voltage range	25 to 80Vdc	
Capacitance range	22 to 560μF	
Capacitance tolerance	±20% [M] (at 20°C, 120Hz)	
Leakage current	I=0.01CV or 3μA whichever is greater (at 20°C, after 2 minutes)	
Tangent of loss angle(tanδ)	Rated voltage(V) 25 / 35 / 50 / 63 / 80 Tanδ 0.14 / 0.12 / 0.10 / 0.08 / 0.08 (at 20°C, 120Hz)	
ESR	Less than or equal to the value of Standard Ratings (at 20°C, 100kHz)	
Low temperature characteristics (Impedance ratio at 100kHz)	Z (-25°C) / Z (+20°C) ≤ 1.5 Z (-55°C) / Z (+20°C) ≤ 2.0	
Endurance	135°C, 4,000 hrs(6.3Ø : 2,000 hrs), apply the rated ripple current without exceeding the rated voltage	
	Capacitance change	Within±30% of the initial value
	Tangent of loss angle (tanδ)	≤200% of the initial specified value
	ESR(mΩ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value
Shelf life	After storage for 1,000 hrs at 135°C with no voltage applied and then being stabilized at 20°C, capacitors shall meet the specified values for the endurance characteristics listed above.(with voltage treatment)	
Damp Heat (Steady State)	85°C, 85% RH, 2,000 hrs, rated voltage applied	
	Capacitance change	Within±30% of the initial value
	Tangent of loss angle (tanδ)	≤200% of the initial specified value
	ESR(mΩ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value

• Part numbering system

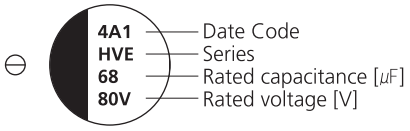
Example: HVE series, 80V / 33μF / Vibration resistant structure

80	HVE	33	M	E	10	V
Voltage	Series	Capacitance	Tolerance	Diameter	Length	Vibration resistant structure

• Frequency coefficient for ripple current

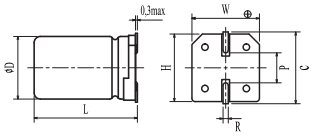
Frequency	120Hz	1kHz	10kHz	100kHz
Coefficient	0.15	0.40	0.75	1.00

• Marking and Dimensions

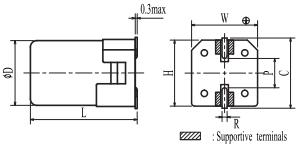


• Dimensions

[Standard]



[Vibration Resistance]



[Standard] (unit: mm)

Size	ØD±0.5	L	W±0.2	H±0.2	C±0.2	R	P±0.2
6.3×5.9	6.3	5.9±0.3	6.6	6.6	7.3	0.6 to 0.8	2.1
6.3×7.7	6.3	7.7±0.3	6.6	6.6	7.3	0.6 to 0.8	2.1
8.0×9.7	8.0	9.7±0.5	8.3	8.3	9.0	0.8 to 1.1	3.2
10.0×10.5	10.0	10.5±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6
10.0×12.5	10.0	12.5±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6
10.0×16.5	10.0	16.5±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6

[Vibration Resistance] (unit: mm)

Size	ØD±0.5	L	W±0.2	H±0.2	C±0.2	R	P±0.2
6.3×6.2	6.3	6.2±0.3	6.6	6.6	7.3	0.6 to 0.8	2.1
6.3×8.0	8.0	8.0±0.3	6.6	6.6	7.3	0.6 to 0.8	2.1
8.0×9.9	8.0	9.9±0.5	8.3	8.3	9.0	0.8 to 1.1	3.2
10.0×10.7	10.0	10.7±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6
10.0×12.7	10.0	12.7±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6
10.0×16.7	10.0	16.7±0.5	10.3	10.3	11.0	0.8 to 1.1	4.6

• Standard Ratings

Rated Voltage [Vdc]	Rated Capacitance [μF]	Size ØD x L [mm]	ESR (20°C, 100kHz) [mΩ] [max.]	Rated Ripple Current (100kHz) [mArms]		Part Number
				125°C	135°C	
25	56	6.3 x 5.9	50	1400	900	25HVE56MC6☐
	100	6.3 x 7.7	30	2100	1400	25HVE100MC8☐
	220	8.0 x 9.7	22	2900	1600	25HVE220MD10☐
	330	10.0 x 10.5	20	3300	2000	25HVE330ME10☐
	470	10.0 x 12.5	16	3900	2300	25HVE470ME12☐
	560	10.0 x 12.5	14	4200	2500	25HVE560ME12☐
35	47	6.3 x 5.9	60	1400	900	35HVE47MC6☐
	68	6.3 x 7.7	35	2100	1400	35HVE68MC8☐
	150	8.0 x 9.7	22	2900	1600	35HVE150MD10☐
	270	10.0 x 10.5	20	3300	2000	35HVE270ME10☐
	330	10.0 x 12.5	17	3800	2200	35HVE330ME12☐
	390	10.0 x 12.5	14	4100	2400	35HVE390ME12☐
50	33	8.0 x 9.7	30	2400	1250	50HVE33MD10☐
	47	8.0 x 9.7	30	2400	1250	50HVE47MD10☐
	68	8.0 x 9.7	30	2400	1250	50HVE68MD10☐
	100	10.0 x 10.5	25	2900	1600	50HVE100ME10☐
	120	10.0 x 10.5	25	2900	1600	50HVE120ME10☐
	150	10.0 x 12.5	19	3400	2000	50HVE150ME12☐
63	22	8.0 x 9.7	40	2100	1100	63HVE22MD10☐
	33	8.0 x 9.7	40	2100	1100	63HVE33MD10☐
	47	8.0 x 9.7	40	2100	1100	63HVE47MD10☐
	56	10.0 x 10.5	30	2600	1400	63HVE56ME10☐
	82	10.0 x 10.5	30	2600	1400	63HVE82ME10☐
	100	10.0 x 12.5	22	3200	1900	63HVE100ME12☐
	150	10.0 x 16.5	15	4900	3500	63HVE150ME16☐
	180	10.0 x 16.5	15	4900	3500	63HVE180ME16☐
80	68	10.0 x 12.5	32	3500	2400	80HVE68ME12☐
	100	10.0 x 16.5	16	4400	3200	80HVE100ME16☐

*Terminal Code : V(Vibration-proof products)