SMD

HV Series

Features

- ◆ Long life of 2000 hrs at 105℃
- ◆ Reflow soldering is available
- ◆ Available for high density mounting
- ◆ RoHS Compliant
- ◆ AEC-Q200 qualified

Specifications

Item	Performance Characteristics
Operating Temperature Range	-55 +105℃
Rated Voltage Range	6.3~100 VDC
Capacitance Range	0.1 to 6800 μF
Capacitance Tolerance	±20%(120Hz,+20℃)
Leakage Current (+20℃,max.)	I≦0.01 CV or 3 (μA) After 2 minutes, whichever is greater measured with rated working voltage applied
Dissipation Factor (tan δ ，at 20℃，120Hz)	See table below
Low Temperature Characteristics (at 120Hz)	See table below
Endurance	Test conditions Duration time :2000 Hrs Ambient temperature :+105℃ Applied voltage :Rated DC working voltage After test requirement at +20℃: Capacitance change :Within ±30% of the initial value Dissipation factor :Not more than 300% of specified value Leakage current :Not more than the specified value
Shelf Life	Test conditions Duration time :1000 Hrs Ambient temperature :+105℃ Applied voltage :None After test requirement at +20℃ : Same limits as Endurance. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.
Resistance to soldering heat	The capacitors shall be kept on the hot plate maintained at 250℃for 30 seconds. After removing form the hot plate and restored at room temperature, they meet the characteristic requirements listed under.

Dissipation Factor (tan δ ，at 20℃，120Hz)

Working voltage(VDC)		6.3	10	16	25	35	50	63	100
D.F.(%)max	φ4~6.3	30	24	20	16	14	14	12	10
	φ8~10	35	26	24	18	14	14	12	10
	φ12.5	37	34	24	18	14	14	12	10

Low Temperature Characteristics (at 120Hz)

Impedance ratio max

Rated voltage(VDC)	6.3	10	16	25	35	50	63	100
Z-25℃／Z+20℃	6	4	4	3	2	2	2	3
Z-40℃／Z+20℃	12	10	8	6	4	4	4	4

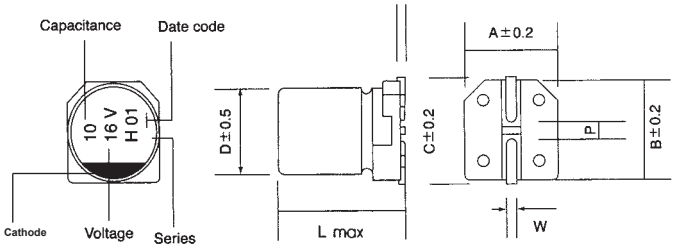
Resistance to soldering heat

Leakage current	Less than specified value
Capacitance change	Within ±10% of initial value
tan δ	Less than specified value

Multiplier for Ripple Current vs. Frequency

CAP(μF)＼Frequency(Hz)	60(50)	120	500	1K	≧10K
0.1≦CAP≦100μF	0.8	1.0	1.20	1.30	1.50
100＜CAP	0.8	1.0	1.10	1.15	1.20

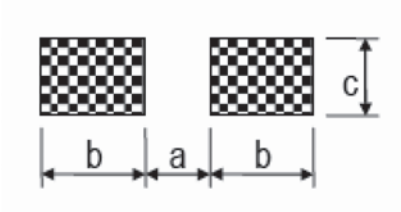
Diagram of Dimensions:(unit:mm)



(φ16:L±0.5)

φD	L	A	B	C	W	P
4	5.5	4.3	4.3	4.9	0.5~0.8	1.0
5	5.5	5.3	5.3	5.9	0.5~0.8	1.4
6.3	5.5	6.6	6.6	7.2	0.5~0.8	2.2
6.3	7.7	6.6	6.6	7.2	0.5~0.8	2.2
8	6.5	8.3	8.3	9.0	0.5~0.8	2.3
8	10.5	8.3	8.3	9.0	0.7~1.1	3.1
10	10.5	10.3	10.3	11.0	0.7~1.1	4.5
12.5	14	13.5	13.5	15.0	1.0~1.4	4.5
16	17	17.1	17.1	18.0	1.0~1.4	7.0

Recommended land pattern:(unit:mm)



ΦDxL	a	b	c
4 x all	1.0	2.6	1.6
5 x all	1.4	3.0	1.6
6.3 x all	2.1	3.5	1.6
8 x 6.5(height ≤6.5)	2.1	4.5	1.6
8 x 6.5(height>6.5)	2.8	4.2	1.9
10 x all	4.3	4.4	1.9
12.5 x all	4.3	5.8	2.5
16 x all	6.0	6.5	3.5

Case Size

ϕDxL(mm)

WV(V) / Cap(uF)	6.3		10		16		25		35		50		63		100	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1											4x5.5	1.0	4x5.5	0.7		
0.22											4x5.5	2.0	4x5.5	1.6		
0.33											4x5.5	3.0	4x5.5	2.5		
0.47											4x5.5	4.0	4x5.5	3.5		
1											4x5.5	8.4	4x5.5	7	4x5.5	7
2.2											4x5.5	11	4x5.5	11	6.3x5.5 6.3x6.1	13 15
3.3											4x5.5	13	5x5.5	14	6.3x6.1	20
4.7							4x5.5	12	4x5.5	14	4x5.5	18	5x5.5	22	6.3x7.7	28
10					4x5.5	20	4x5.5	22	4x5.5	24	6.3x5.5	28	6.3x5.5	40	6.3x7.7	35
22	4x5.5	23	4x5.5	25	4x5.5 5x5.5	31 35	5x5.5	38	5x5.5 6.3x5.5	40 46	6.3x7.7 8x6.5	50 55	6.3x7.7	58	8x10.5	85
33	4x5.5	28	4x5.5	34	5x5.5 6.3x5.5	36 40	6.3x5.5	48	6.3x7.7 8x6.5	47 50	6.3x7.7 8x10.5	95 135	8x10.5	112	10x10.5	135
47	4x5.5 5x5.5	37 40	5x5.5	42	5x5.5 6.3x5.5	45 56	6.3x7.7 8x6.5	56 60	6.3x7.7 8x6.5	60 65	6.3x7.7 8x10.5	115 155	8x10.5	119	12.5x14	240
100	5x5.5 6.3x5.5	46 57	6.3x5.5 8x6.5	55 60	6.3x7.7 8x6.5	58 62	6.3x7.7 8x10.5	110 160	6.3x7.7 8x10.5	130 180	10x10.5	315	10x10.5	280		
150	6.3x5.5 8x6.5	70 90	6.3x5.5 8x6.5	90 110	6.3x7.7 8x6.5	125 140	8x10.5	175	8x10.5	190	10x10.5	330			16x17	500
220	6.3x7.7 8x6.5	90 130	6.3x7.7 8x6.5	140 160	6.3x7.7 8x10.5	170 185	8x10.5 10x10.5	180 190	8x10.5 10x10.5	250 280	10x10.5	350	12.5x14	300		
330	6.3x7.7 8x10.5	140 170	8x10.5	195	8x10.5	250	8x10.5	290	10x10.5	360	12.5x14	400				
470	8x10.5	210	8x10.5 10x10.5	350 420	8x10.5 10x10.5	370 420	10x10.5	440	12.5x14	460	16x17	570	16x17	630		
560	8x10.5	310	10x10.5	450	10x10.5	480	12.5x14	490	12.5x14	500						
680	10x10.5	370	10x10.5	480	10x10.5	540	12.5x14	510								
1000	10x10.5	480	10x10.5	530	12.5x14	580	12.5x14	600			16x17	655				
1200	10x10.5	500	12.5x14	570	12.5x14	590										
1500	10x10.5	520	12.5x14	750	12.5x14	620			16x17	740						
1800	12.5x14	600														
2200	12.5x14	650					16x17	805								
3300	12.5x14	700			16x17	850										
4700			16x17	880												
6800	16x17	930														

Ripple Current (mA, rms) at 105℃ 120Hz