

MV Series Chip type ,Long Life, High CV

Features

- ◆ Chip type long life capacitance in large case sizes
- ◆ Chip type with Endurance of 5000 hours at +105°C
- ◆ Designed for surface mounting on high density PC board
- ◆ Applicable to automatic insertion machine using carrier tape
- ◆ Complied to the RoHS directive
- ◆ RoHS Compliant



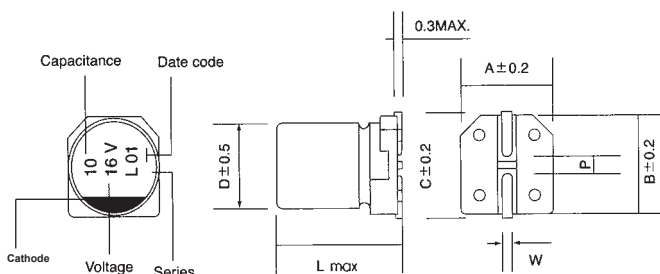
Specifications

Item	Performance Characteristics						
Operating Temperature Range	-40~+105°C						
Rated Voltage Range	6.3~50 VDC						
Capacitance Range	0.1 to 1000 μ F						
Capacitance Tolerance	$\pm 20\%$ (120Hz,+20°C)						
Leakage Current (+20°C,max.)	$I \leq 0.01$ CV or 3 (μ A)After 2 minutes whichever is greater measured with rated working voltage applied.						
Dissipation Factor ($\tan \delta$, at 20°C , 120Hz)	Working Voltage(VDC)	6.3	10	16	25	35	50
	D.F.(%)max.	32	28	22	16	13	12
Low Temperature Characteristics (at 120Hz)	Impedance ratio max (at: 120Hz)						
	Working voltage(VDC)	6.3	10	16	25	35	50
	Z-25°C / Z+20°C	4	3	2	2	2	2
	Z-40°C / Z+20°C	10	7	5	3	3	3
Endurance	Test condition Duration time : 5000 Hrs Ambient temperature : +105°C Applied voltage : Rated DC working voltage						
	After test requirement at +20°C Capacitance change : Within $\pm 30\%$ of initial value Dissipation factor : Less than 300% of specified value Leakage current : Less than specified value						
Shelf Life	Test condition Duration time : 1000 Hrs Ambient temperature : +105°C Applied voltage : None						
	After test requirement at +20°C : 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 following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 30 seconds.						
	Leakage current	Less than specified value					
	Capacitance change	Within $\pm 10\%$ of initial value					
	$\tan \delta$	Less than specified value					

Multiplier for Ripple Current vs. Frequency

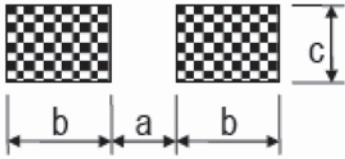
CAP(μ F) \ Frequency(Hz)	60(50)	120	500	1K	$\geq 10K$
$0.1 \leq CAP \leq 100 \mu F$	0.8	1.0	1.20	1.30	1.50
$100 < CAP \leq 1000 \mu F$	0.8	1.0	1.10	1.15	1.20

Diagram of Dimensions:(unit:mm)



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

Recommended land pattern:(unit:mm)



Φ DxL	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

WV Cap(μF)	φ DxL(mm)											
	6.3		10		16		25		35		50	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1											4x5.5	1.0
0.22											4x5.5	2.6
0.33											4x5.5	3.2
0.47											4x5.5	3.8
1.0											4x5.5	6.2
2.2											4x5.5	11
3.3											4x5.5	14
4.7							4x5.5	13	4x5.5	15	5x5.5	19
10					4x5.5	17	4x5.5	23	5x5.5	25	6.3x5.5	30
22	4x5.5	22	5x5.5	28	5x5.5	30	6.3x5.5	40	6.3x5.5	42	6.3x7.7	52
33	5x5.5	32	5x5.5	34	6.3x5.5	44	6.3x5.5	48	6.3x7.7	57	8x10.5	80
47	5x5.5	36	6.3x5.5	48	6.3x5.5	50	6.3x7.7	63	8x10.5	92	8x10.5	95
100	6.3x5.5	60	6.3x7.7	79	6.3x7.7	81	8x10.5	116	10x10.5	150	10x10.5	160
220	6.3x7.7	110	8x10.5	140	10x10.5	216	10x10.5	240	10x10.5	280		
330	8x10.5	160	10x10.5	240	10x10.5	300	10x10.5	375				
470	10x10.5	260	10x10.5	280	10x10.5	320						
1000	10x10.5	340										

Ripple Current (mA, rms) at 105°C 120Hz