

HV Series

Features

- ◆ Long life of 2000 hrs at 105°C
- ◆ Reflow soldering is available
- ◆ Available for high density mounting
- ◆ For detail specifications, please refer to Engineering Bulletin No. E131
- ◆ RoHS Compliant



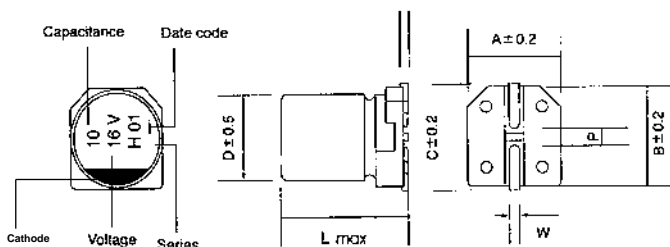
Specifications

Item	Performance Characteristics																						
Operating Temperature Range	-55 +105°C																						
Rated Voltage Range	6.3~50 VDC																						
Capacitance Range	0.1 to 1500 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)	<table border="1"> <tr> <td>Working voltage(VDC)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td rowspan="2">D.F.(%)max</td> <td>ϕ 4~6.3</td> <td>30</td> <td>24</td> <td>20</td> <td>16</td> <td>14</td> <td>14</td> </tr> <tr> <td>ϕ 8~10</td> <td>35</td> <td>26</td> <td>24</td> <td>18</td> <td>14</td> <td>14</td> </tr> </table>	Working voltage(VDC)	6.3	10	16	25	35	50	D.F.(%)max	ϕ 4~6.3	30	24	20	16	14	14	ϕ 8~10	35	26	24	18	14	14
	Working voltage(VDC)	6.3	10	16	25	35	50																
D.F.(%)max	ϕ 4~6.3	30	24	20	16	14	14																
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Low Temperature Characteristics (at 120Hz)	Impedance ratio max																						
	<table border="1"> <tr> <td>Rated voltage(VDC)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> </tr> </table>	Rated voltage(VDC)	6.3	10	16	25	35	50	Z-25°C / Z+20°C	6	4	4	3	2	2	Z-40°C / Z+20°C	12	10	8	6	4	4	
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Z-25°C / Z+20°C	6	4	4	3	2	2																	
Z-40°C / Z+20°C	12	10	8	6	4	4																	
Load Life	Test conditions Duration time :2000 Hrs Ambient temperature :+105°C Applied voltage :Rated DC working voltage After test requirement at +20°C: Capacitance change :Within $\pm 30\%$ 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°C Applied voltage :None After test requirement at +20°C : Same limits as Load life. 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°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed under.																						
	<table border="1"> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within $\pm 10\%$ of initial value</td> </tr> <tr> <td>$\tan \delta$</td> <td>Less than specified value</td> </tr> </table>	Leakage current	Less than specified value	Capacitance change	Within $\pm 10\%$ of initial value	$\tan \delta$	Less than specified value																
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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
$100 < CAP \leq 1500 \mu F$	0.8	1.0	1.10	1.15	1.20

Diagram of Dimensions:(unit:mm)



ϕ D	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

Case Size

φ DxL(mm)

WV (SV) Cap(μF)	6.3 (8)		10 (13)		16 (20)		25 (32)		35 (44)		50 (63)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
0.1											4X5.5	1.0
0.22											4X5.5	2.0
0.33											4X5.5	3.0
0.47											4X5.5	4.0
1											4X5.5	8.4
2.2											4X5.5	11
3.3											4X5.5	13
4.7							4X5.5	12	4X5.5	14	4X5.5	18
10					4X5.5	20	4X5.5	22	4X5.5	24	6.3X5.5	28
22	4X5.5	23	4X5.5	25	4X5.5	31	5X5.5	38	5X5.5	40	6.3X7.7	50
					5X5.5	35			6.3X5.5	46	8X6.5	55
33	4X5.5	28	4X5.5	34	5X5.5	36	6.3X5.5	48	6.3X7.7	47	6.3X7.7	95
					6.3X5.5	40			8X6.5	50	8X10.5	135
47	4X5.5	37	5X5.5	40	5X5.5	45	6.3X7.7	56	6.3X7.7	60	6.3X7.7	115
	5X5.5	42			6.3X5.5	56	8X6.5	60	8X6.5	65	8X10.5	155
100	5X5.5	46	6.3X5.5	55	6.3X7.7	58	6.3X7.7	110	6.3X7.7	130	10X10.5	315
	6.3X5.5	57	8X6.5	60	8X6.5	62	8X10.5	160	8X10.5	180		
150	6.3X5.5	70	6.3X5.5	90	6.3X7.7	125	8X10.5	175	8X10.5	190	10X10.5	330
	8X6.5	90	8X6.5	110	8X6.5	140						
220	6.3X7.7	90	6.3X7.7	140	6.3X7.7	170	8X10.5	180	8X10.5	250	10X10.5	350
	8X6.5	130	8X6.5	160	8X10.5	185	10X10.5	190	10X10.5	280		
330	6.3X7.7	140	8X10.5	195	8X10.5	250	8X10.5	290	10X10.5	360		
	8X10.5	170										
470	8X10.5	210	8X10.5	350	8X10.5	370	10X10.5	440				
			10X10.5	420	10X10.5	420						
560	8X10.5	310	10X10.5	450	10X10.5	480						
680	10X10.5	370	10X10.5	480	10X10.5	540						
1000	10X10.5	480	10X10.5	530								
1200	10X10.5	500										
1500	10X10.5	520										

Ripple Current (mA, rms) at 105°C