

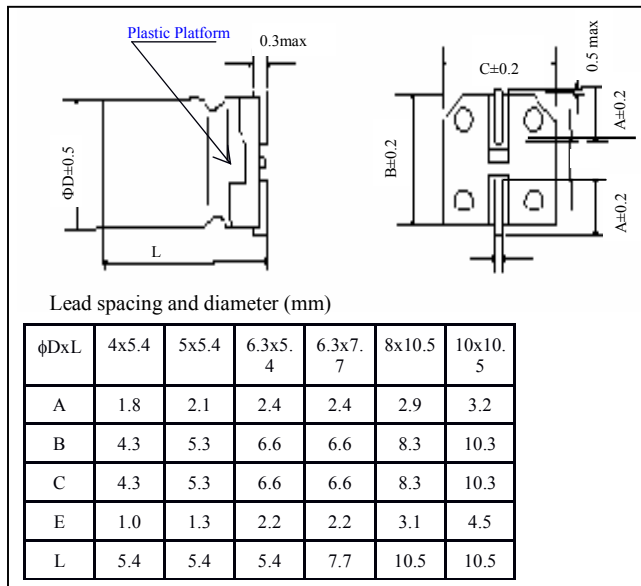
- Extra low impedance with temperature range  $-55^{\circ}\sim+105^{\circ}$  and load life of 1000~2000 hrs
- Impedance 40~60% less than RVP
- Lead free soldering product is available subject to customers request



## SPECIFICATIONS

Item	Characteristics																							
Operating Temperature Range (°C)	$-55\sim+105^{\circ}\text{C}$																							
Leakage Current ( $\mu\text{A}$ )	After 2 minutes application of rated voltage, leakage current is not more than 0.002 CV or 0.5 $\mu\text{A}$ , whichever is greater.																							
Capacitance Tolerance (20°C, 120 Hz)	$\pm 20\%$ at 120 Hz, 20°C																							
Surge Voltage & Max Tan $\delta$ 120Hz, Temperature 20°C	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Tan <math>\delta</math></td> <td>0.22</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.12</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	Tan $\delta$	0.22	0.19	0.16	0.14	0.12	0.12									
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Low Temperature Stability	<table border="1"> <thead> <tr> <th colspan="2">Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio ZT/Z20(max)</td> <td>Z-25°C/Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>5</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated voltage (V)		6.3	10	16	25	35	50	Impedance Ratio ZT/Z20(max)	Z-25°C/Z+20°C	3	2	2	2	2	2	Z-40°C/Z+20°C	5	4	4	3	3	3
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Load Life (85°C)	<table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within <math>\pm 25\%</math> of initial value</td> </tr> <tr> <td>Tan <math>\delta</math></td> <td>200 or less of Initial specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Initial specified value or less</td> </tr> </tbody> </table>	Capacitance Change	Within $\pm 25\%$ of initial value	Tan $\delta$	200 or less of Initial specified value	Leakage Current	Initial specified value or less																	
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Leakage Current	Initial specified value or less																							
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.																							
Resistance to soldering heat	After re-flow soldering according to re-flow soldering condition and restored at room temperature, they meet the characteristics requirements listed at right <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within <math>\pm 10\%</math> of initial value</td> </tr> <tr> <td>Tan <math>\delta</math></td> <td>High specified value or less</td> </tr> <tr> <td>Leakage Current</td> <td>Initial specified value or less</td> </tr> </tbody> </table>	Capacitance Change	Within $\pm 10\%$ of initial value	Tan $\delta$	High specified value or less	Leakage Current	Initial specified value or less																	
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## DIMENSIONS



## MULTIPLIER FOR RIPPLE CURRENT

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz
Coefficient	0.35	0.50	0.64	0.83	1.00

## ■ Standard Ripple Current

WV CAP (μF)		6.3			10			16		
		10	1R0						4x5.4	1.8
15	15R						4x5.4	1.8	(80)	
22	22R	4x5.4	1.8	80	45.4	1.8	80	5x5.4 4x5.4	0.76 1.8	150 (80)
27	27R	4x5.4	1.8	80	5x5.4 (4x5.4)	0.76 (1.8)	150 (80)	5x5.4	0.76	150
33	33R	5x5.4 4x5.4	0.76 (1.8)	150 (80)	5x5.4 (4x5.4)	0.76 (1.8)	150 80	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)
47	47R	5x5.4 4x5.4	0.76 (1.8)	150 (80)	6.3x5.4 (5x5.4)	0.44 (0.76)	230 150	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)
56	56R	5x5.4	0.76	150	6.3x5.4	0.44	230	6.3x5.4	0.44	230
68	68R	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x5.4	0.44	230	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)
100	101	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x7.7 (6.3x5.4)	0.34 (0.44)	280 230	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)
150	151	6.3x5.4	0.44	230	6.3x7.7	0.34	280	6.3x7.7	0.34	280
220	221	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)	6.3x7.7	0.34	280	8x10.5 6.3x7.7	0.17 (0.34)	450 (280)
330	331	6.3x7.7	0.34	280	8x10.5	0.17	450	10x10.5 8x10.5	0.09 (0.17)	670 (450)
470	471	8x10.5	0.17	450	8x10.5	0.17	450	10x10.5 8x10.5	0.09 (0.17)	670 (450)
680	681	10x10.5 8x10.5	0.09 (0.17)	670 (450)	10x10.5	0.09	670	10x10.5	0.09	670
1000	102	10x10.5 8x10.5	0.09 (0.17)	670 (450)	10x10.5	0.09	670			
1500	152	10x10.5	0.09	670						

## ■ Standard Ripple Current

WV		25			35			50		
CAP (μF)										
4.7	4R7				4x5.4	18	80	5x5.4	1.52	85
10	10R	4x5.4	1.8	80	5x5.4 4x5.4	0.76 (1.8)	150 (80)	6.3x5.4	0.88	165
15	15R	5x5.4	0.76	150	5x5.4	0.76	150	6.3x5.4	0.88	165
22	22R	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x7.7	0.68	185
27	27R	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x5.4	0.44	230	6.3x7.7	0.68	185
33	33R	6.3x5.4 5x5.4	0.44 (0.76)	230 (150)	6.3x5.4	0.44	230	6.3x7.7	0.68	185
47	47R	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)	6.3x7.7	0.68	185
56	56R	6.3x7.7 6.3x5.4	0.34 (0.44)	280 (230)	6.3x7.7	0.34	280	8x10.5	0.34	300
68	68R	6.3x7.7	0.34	280	6.3x7.7	0.34	280	8x10.5	0.34	300
100	101	6.3x7.7	0.34	280	8x10.5	0.17	450	10x10.5	0.18	670
150	151	8x10.5 6.3x7.7	0.17 (0.34)	450 (280)	10x10.5	0.09	670	10x10.5	0.18	670
220	221	8x10.5	0.17	450	10x10.5	0.09	670	10x10.5	0.18	670
330	331	10x10.5 8x10.5	0.09 (0.17)	670 (450)	10x10.5	0.09	670	CASE	IMPEDANCE	Allowable Ripple
470	471	10x10.5	0.09	670				SIZE		