

## BDA Series

• 105°C 2,000Hrs assured.

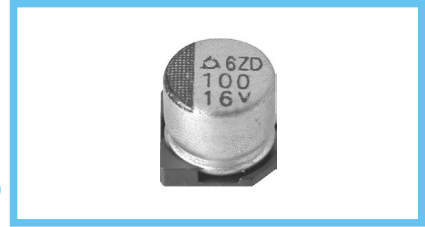
Solvent-proof

- Vertical SMD type.
- Long Life.
- For LED MT/TV, Copying Machine.
- RoHS compliant.
- Halogen-free capacitors are also available.

BDS  
(MVK)

→ Long Life

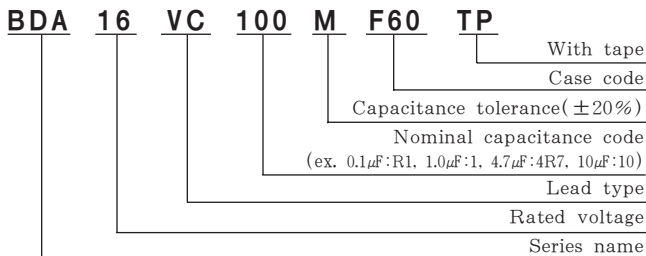
BDA



### SPECIFICATIONS

Item	Characteristics																									
<b>Rated Voltage Range</b>	4 ~ 50 V <sub>DC</sub>																									
<b>Operating Temperature Range</b>	-40 ~ +105°C																									
<b>Capacitance Tolerance</b>	±20%(M) <span style="float: right;">(at 20°C, 120Hz)</span>																									
<b>Leakage Current</b>	I = 0.01CV(μA) or 3μA, whichever is greater. Where, I: Max. Leakage current(μA), C: Nominal capacitance(μF), V: Rated voltage(V <sub>DC</sub> ) <span style="float: right;">(at 20°C, 2 minutes)</span>																									
<b>Dissipation Factor (Tanδ)</b>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="text-align: left;">Rated voltage(V<sub>DC</sub>)</td> <td>4</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td> </tr> <tr> <td style="text-align: left;">Tanδ(Max.)</td> <td>0.37</td><td>0.28</td><td>0.24</td><td>0.20</td><td>0.16</td><td>0.13</td><td>0.12</td> </tr> </table> <span style="float: right;">(at 20°C, 120Hz)</span>								Rated voltage(V <sub>DC</sub> )	4	6.3	10	16	25	35	50	Tanδ(Max.)	0.37	0.28	0.24	0.20	0.16	0.13	0.12		
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<b>Temperature Characteristics (Max. Impedance ratio)</b>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="text-align: left;">Rated voltage(V<sub>DC</sub>)</td> <td>4</td><td>6.3</td><td>10</td><td>16</td><td>25~50</td> </tr> <tr> <td style="text-align: left;">Z(-25°C)/Z(20°C)</td> <td>6</td><td>3</td><td>3</td><td>2</td><td>2</td> </tr> <tr> <td style="text-align: left;">Z(-40°C)/Z(20°C)</td> <td>12</td><td>8</td><td>5</td><td>4</td><td>3</td> </tr> </table> <span style="float: right;">(at 120Hz)</span>								Rated voltage(V <sub>DC</sub> )	4	6.3	10	16	25~50	Z(-25°C)/Z(20°C)	6	3	3	2	2	Z(-40°C)/Z(20°C)	12	8	5	4	3
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<b>Load Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 105°C. <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="text-align: left;">Rated voltage(V<sub>DC</sub>)</td> <td>4 ~ 16</td><td>25 ~ 50</td> </tr> <tr> <td style="text-align: left;">Capacitance change</td> <td>≤ ±25% of the initial value</td><td>≤ ±20% of the initial value</td> </tr> <tr> <td style="text-align: left;">Tanδ</td> <td colspan="2">≤ 200% of the initial specified value</td> </tr> <tr> <td style="text-align: left;">Leakage current</td> <td colspan="2">≤ The initial specified value</td> </tr> </table>								Rated voltage(V <sub>DC</sub> )	4 ~ 16	25 ~ 50	Capacitance change	≤ ±25% of the initial value	≤ ±20% of the initial value	Tanδ	≤ 200% of the initial specified value		Leakage current	≤ The initial specified value							
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<b>Shelf Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="text-align: left;">Rated voltage(V<sub>DC</sub>)</td> <td>4 ~ 16</td><td>25 ~ 50</td> </tr> <tr> <td style="text-align: left;">Capacitance change</td> <td>≤ ±25% of the initial value</td><td>≤ ±20% of the initial value</td> </tr> <tr> <td style="text-align: left;">Tanδ</td> <td colspan="2">≤ 200% of the initial specified value</td> </tr> <tr> <td style="text-align: left;">Leakage current</td> <td colspan="2">≤ The initial specified value</td> </tr> </table>								Rated voltage(V <sub>DC</sub> )	4 ~ 16	25 ~ 50	Capacitance change	≤ ±25% of the initial value	≤ ±20% of the initial value	Tanδ	≤ 200% of the initial specified value		Leakage current	≤ The initial specified value							
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<b>Others</b>	Satisfied characteristics KS C IEC 60384-4																									

### PART NUMBERING SYSTEM



### RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

Cap.(μF) \ Freq.(Hz)	120	1K	10K	100K
1	1.00	1.50	1.75	1.80
2.2 ~ 10	1.00	1.30	1.40	1.50
22 ~ 100	1.00	1.05	1.08	1.08

## DIMENSIONS OF BDA Series

Unit(mm)

### DIMENSIONS

Technical drawings showing dimensions:  $\phi D \pm 0.5$ ,  $L \pm 0.3$ ,  $0.3 \text{ max.}$ ,  $B \pm 0.2$ ,  $A \pm 0.2$ ,  $W$ ,  $C \pm 0.2$ , and  $P$ .

### MARKING

Marking diagram showing: Lot No., Symbol mark (Note 1), Capacitance, Rated voltage (Note 2), and polarity symbols (+ and -).

Note 1 : 4×5.2(D55), 5×5.2(E55) is excluded symbol mark  
 Note 2 : 6.3WV is marked by 6V

Case code	$\phi D$	L	A	B	C	W	P	a	b	c
D55	4	5.2	4.3	4.3	5.1	0.5-0.8	1.0	1.0	2.6	1.6
E55	5	5.2	5.3	5.3	5.9	0.5-0.8	1.4	1.4	3.0	1.6
F55	6.3	5.2	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6
F60	6.3	5.7	6.6	6.6	7.2	0.5-0.8	1.9	1.9	3.5	1.6

### Recommended solder land on PC board

Legend: : Solder land on PC board

## RATINGS OF BDA Series

$\mu F$ \ Vdc	4		6.3		10		16		25		35		50		
	1													D55	5.6
2.2														D55	10
3.3														D55	14
4.7									D55	13	D55	15		E55	19
10							D55	16	E55	25	E55	25		F55	29
22	D55	19	D55	21	E55	30	E55	30	F55	40	F55	40			
33	E55	30	E55	34	E55	34	F55	45	F55	45					
47	E55	34	E55	36	F55	48	F55	48	F60	52					
100	E55	45	F60	56	F60	90	F60	110							

Case code  
 Rated Ripple Current (mA rms/105°C, 120Hz)