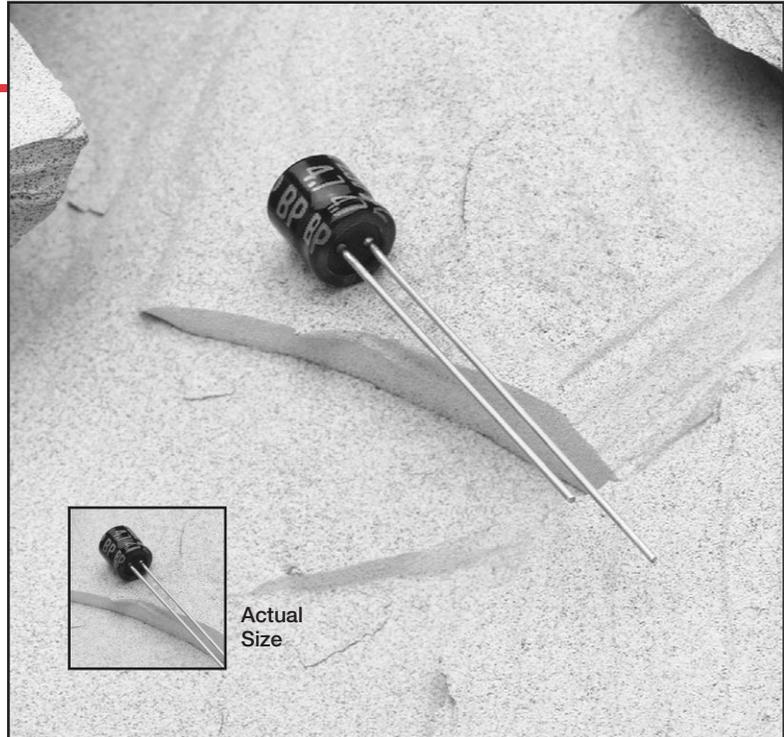


- **Miniature**
- **Bi-Polar**
- **5mm Nominal Height**
- **+85°C Maximum Temperature**



The SREBP series are bi-polar capacitors similar to the SREC series. These capacitors have a 5mm nominal height for use in ultra miniature applications where the polarity will be reversed or is unknown. Please note that these capacitors cannot withstand an AC application in which the maximum ripple current is exceeded.

The SREBP series capacitors are non-solvent proof and are not recommended when halogenated cleaning solvents are used. Refer to the Mini-Glossary for recommended cleaning conditions.

## Summary of Specifications

- **Radial lead terminals.**
- **Capacitance range: 0.1 to 47 $\mu$ F.**
- **Voltage range: 4 to 50VDC.**
- **Operating temperature range: -40°C to +85°C.**
- **Leakage current: 0.05CV or 10 $\mu$ A, whichever is greater, after 2 minutes at +20°C.**
- **Standard capacitance tolerance:  $\pm$ 20%**
- **Nominal case size (D  $\times$  L): 3  $\times$  5mm to 6.3  $\times$  5mm.**
- **Rated lifetime: 1,000 hours at +85°C.**

# SREBP Series

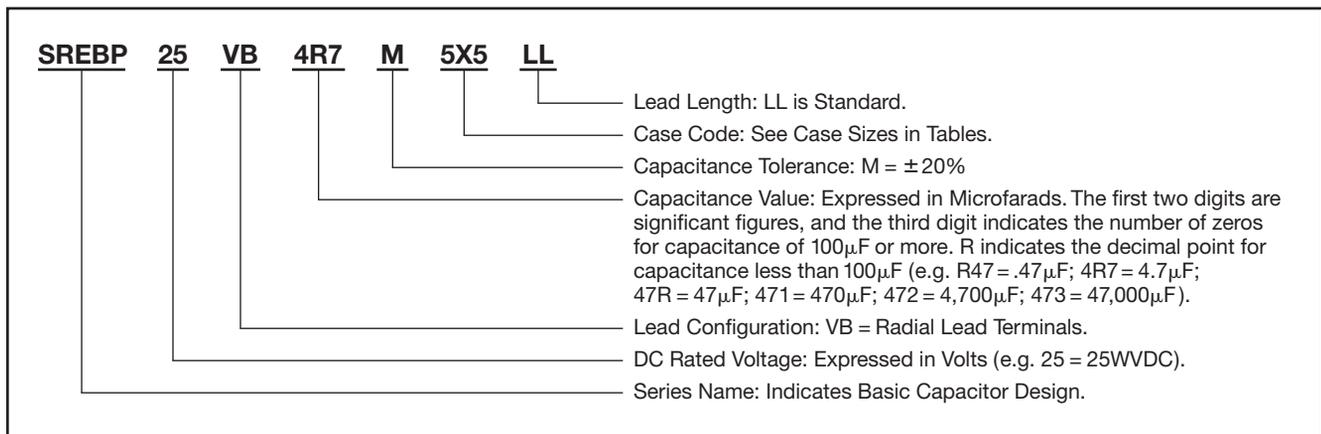
## SREBP Specifications

Item	Characteristics																								
Operating Temperature Range	-40 to +85°C																								
Rated Voltage Range	4 to 50VDC																								
Capacitance Range	0.1 to 47μF																								
Capacitance Tolerance	±20% (M) at +20°C, 120Hz																								
Leakage Current	I = 0.05CV or 10μA, whichever is greater, after 2 minutes at +20°C. Where I = Leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)																								
Dissipation Factor (Tan δ)	At +20°C, 120Hz <table border="1"> <tr> <td>Rated Voltage (V)</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>Tan δ (DF)</td> <td>0.35</td> <td>0.24</td> <td>0.20</td> <td>0.17</td> <td>0.17</td> <td>0.15</td> <td>0.15</td> </tr> </table>	Rated Voltage (V)	4	6.3	10	16	25	35	50	Tan δ (DF)	0.35	0.24	0.20	0.17	0.17	0.15	0.15								
Rated Voltage (V)	4	6.3	10	16	25	35	50																		
Tan δ (DF)	0.35	0.24	0.20	0.17	0.17	0.15	0.15																		
Low Temperature Characteristics	At 120Hz, impedance (Z) ratio between the -25°C or -40°C value and +20°C value shall not exceed the values given below. <table border="1"> <tr> <td>Rated Voltage (V)</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>Z(-25°C)/Z(+20°C)</td> <td>7</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table>	Rated Voltage (V)	4	6.3	10	16	25	35	50	Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2	Z(-40°C)/Z(+20°C)	15	10	8	6	4	3	3
Rated Voltage (V)	4	6.3	10	16	25	35	50																		
Z(-25°C)/Z(+20°C)	7	4	3	2	2	2	2																		
Z(-40°C)/Z(+20°C)	15	10	8	6	4	3	3																		
Load Life	The following specifications shall be satisfied when the capacitors are restored to +20°C after subjecting them to the DC rated voltage for 1,000 hours at +85°C. Polarization shall be reversed every 250 hours. The sum of DC voltage and peak AC voltage must not exceed the full rated voltage of the capacitors. Capacitance change: ≤ ±20% of initial measured value Tan δ (DF) : ≤ 200% of initial specified value Leakage current : ≤ initial specified value																								
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to +20°C after exposing them for 1,000 hours at +85°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. Capacitance change: ≤ ±20% of initial measured value Tan δ (DF) : ≤ 200% of initial specified value Leakage current : ≤ initial specified value																								
Others	Satisfies characteristic W of JIS C5141																								

SREBP  
MINIATURE - 85°C

## Part Numbering System for SREBP Series

When ordering, always specify complete catalog number for SREBP Series.

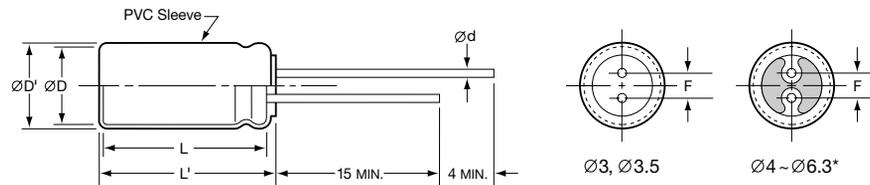


# SREBP Series

## Diagram of Dimensions

VB/Radial Lead

Unit: mm



\*Gas escape end seal for Ø4 ~ Ø6.3

For optional lead configurations and tape and ammo packaging, refer to the beginning of the Miniature section.

ØD	ØD' max.	L' max.	Ød	F
3	ØD+0.5	L+1.0	0.4	1.0±0.3
3.5	ØD+0.5	L+1.0	0.4	1.0±0.3
4	ØD+0.5	L+1.0	0.45	1.5±0.5
5	ØD+0.5	L+1.0	0.45	2.0±0.5
6.3	ØD+0.5	L+1.0	0.45	2.5±0.5

## Standard Voltage Ratings - VB/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C, 120Hz	Maximum Ripple Current (mA rms) at +85°C, 120Hz
4 Volts 5 Volts Surge	6.8	SREBP4VB6R8M3X5LL	3 × 5	85.313	8.5
	10	SREBP4VB10RM3X5LL	3.5 × 5	58.013	11
	15	SREBP4VB15RM4X5LL	4 × 5	38.675	15
	22	SREBP4VB22RM5X5LL	5 × 5	26.369	22
	33	SREBP4VB33RM6X5LL	6.3 × 5	17.58	28
	47	SREBP4VB47RM6X5LL	6.3 × 5	12.343	34
6.3 Volts 8 Volts Surge	4.7	SREBP6.3VB4R7M3X5LL	3 × 5	84.638	8.6
	6.8	SREBP6.3VB6R8M3X5LL	3.5 × 5	58.5	11
	10	SREBP6.3VB10RM4X5LL	4 × 5	39.78	15
	15	SREBP6.3VB15RM5X5LL	5 × 5	26.52	22
	22	SREBP6.3VB22RM5X5LL	5 × 5	18.082	26
	33	SREBP6.3VB33RM6X5LL	6.3 × 5	12.055	36
10 Volts 13 Volts Surge	3.3	SREBP10VB3R3M3X5LL	3 × 5	100.455	7.8
	4.7	SREBP10VB4R7M3X5LL	3.5 × 5	70.532	10
	6.8	SREBP10VB6R8M4X5LL	4 × 5	48.75	14
	10	SREBP10VB10RM5X5LL	5 × 5	33.15	19
	15	SREBP10VB15RM5X5LL	5 × 5	22.1	23
	22	SREBP10VB22RM6X5LL	6.3 × 5	15.068	31
16 Volts 20 Volts Surge	2.2	SREBP16VB2R2M3X5LL	3 × 5	128.08	7
	3.3	SREBP16VB3R3M3X5LL	3.5 × 5	85.386	9
	4.7	SREBP16VB4R7M4X5LL	4 × 5	59.952	12
	6.8	SREBP16VB6R8M5X5LL	5 × 5	41.438	17
	10	SREBP16VB10RM5X5LL	5 × 5	28.178	21
	15	SREBP16VB15RM6X5LL	6.3 × 5	18.785	27
22	SREBP16VB22RM6X5LL	6.3 × 5	12.808	33	

\*The case sizes in table are with no sleeve, refer to diagram for case sizes with sleeve.

# SREBP Series

## Standard Voltage Ratings - VB/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Maximum ESR (Ω) at +20°C, 120Hz	Maximum Ripple Current (mA rms) at +85°C, 120Hz
<b>25 Volts</b> 32 Volts Surge	1.5	SREBP25VB1R5M3X5LL	3 × 5	187.85	5.7
	2.2	SREBP25VB2R2M3X5LL	3.5 × 5	128.08	8
	3.3	SREBP25VB3R3M4X5LL	4 × 5	85.386	10
	4.7	SREBP25VB4R7M5X5LL	5 × 5	59.952	14
	6.8	SREBP25VB6R8M5X5LL	5 × 5	41.438	18
	10	SREBP25VB10R6M6X5LL	6.3 × 5	28.178	22
	15	SREBP25VB15R6M6X5LL	6.3 × 5	18.785	28
<b>35 Volts</b> 44 Volts Surge	1.0	SREBP35VB1R0M3X5LL	3 × 5	248.625	5
	1.5	SREBP35VB1R5M3X5LL	3.5 × 5	165.75	6.7
	2.2	SREBP35VB2R2M4X5LL	4 × 5	113.011	9.1
	3.3	SREBP35VB3R3M5X5LL	5 × 5	75.341	12
	4.7	SREBP35VB4R7M5X5LL	5 × 5	52.899	15
	6.8	SREBP35VB6R8M6X5LL	6.3 × 5	36.563	20
	10	SREBP35VB10R6M6X5LL	6.3 × 5	24.863	24
<b>50 Volts</b> 63 Volts Surge	0.1	SREBP50VBR10M3X5LL	3 × 5	2,486.25	1.3
	0.15	SREBP50VBR15M3X5LL	3 × 5	1,657.5	1.9
	0.22	SREBP50VBR22M3X5LL	3 × 5	1,130.114	2.3
	0.33	SREBP50VBR33M3X5LL	3 × 5	753.409	2.8
	0.47	SREBP50VBR47M3X5LL	3 × 5	528.989	3.4
	0.68	SREBP50VBR68M3X5LL	3 × 5	365.625	4.1
	1.0	SREBP50VB1R0M3X5LL	3.5 × 5	248.625	5.5
	1.5	SREBP50VB1R5M4X5LL	4 × 5	165.75	7.5
	2.2	SREBP50VB2R2M5X5LL	5 × 5	113.011	10
	3.3	SREBP50VB3R3M5X5LL	5 × 5	75.341	13
	4.7	SREBP50VB4R7M6X5LL	6.3 × 5	52.899	16
6.8	SREBP50VB6R8M6X5LL	6.3 × 5	36.563	20	

\*The case sizes in table are with no sleeve, refer to diagram for case sizes with sleeve.