

# SEB series

- On the basis of SEA series ripple promotion product
- Suitable for LCD TV Power ,SMPS
- RoHS Compliance
- 在SEA系列基礎上紋波提升品
- 適用於液晶顯示電源及開關電源等



## SPECIFICATIONS

| Items 項目   | Characteristics 特性   |   |               |         |         |
|--|--|---|---------------|---------|---------|
| Capacitance Tolerance<br>靜電容量誤差  | ± 20%(120Hz,20°C)  |   |               |         |         |
| Operating Temperature Range<br>適用溫度範圍                                  | - 40 ~ +105°C  |   | - 25 ~ +105°C |         |         |
| Rated Voltage Range<br>額定電壓範圍  | 160VDC~400VDC  |   | 450VDC~460VDC |         |         |
| Leakage Current<br>洩漏電流  | I≤0.03CV +20 (μA) ( After 3 minutes application of DC rated voltage, at 20 °C)   |   |               |         |         |
| Dissipation Factor<br>散逸因素( tan δ)                                     | Measurement Frequency:120Hz. Temperature: 20°C   |   |               |         |         |
|  | Rated Voltage(V)   | 160~250                                 | 350           | 400     | 450~460 |
|  | tan δ(Max)   | 0.15                                    | 0.15          | 0.20    | 0.20    |
|  | When nominal capacitance over 1000μF, tanδ shall be added 0.02 to the listed value with increase of every 1000μF .   |   |               |         |         |
| Low Temperature Stability<br>低溫特性<br>Impedance Ratio(Max)<br>阻抗比率(最大值) | Measurement Frequency: 120Hz.  |   |               |         |         |
|  | Rated Voltage(V)   | 160~250                                 | 350           | 400~450 | 460     |
|  | Z(-25°C)/Z(20°C)   | 3                                       | 5             | 6       | 6       |
|  | Z(-40°C)/Z(20°C)   | 6                                       | -             | -       | -       |
| Load Life 負荷壽命   | 5000hours,with application of rated voltage at 105°C   |   |               |         |         |
|  | Capacitance Change   | within ±20% of Initial Value            |               |         |         |
|  | tan δ  | 200% or less of Initial Specified Value |               |         |         |
| Shelf Life 放置壽命  | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000hours 105°C without voltage applied. Before the measurement. The Capacitance shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4. |   |               |         |         |
|  | Capacitance Change   | within ±20% of Initial Value            |               |         |         |
|  | tan δ  | 200% or less of Initial Specified Value |               |         |         |
|  | Leakage Current  | Initial Specified Value or less         |               |         |         |
| Standards 參照標準   | JIS C 5101-4-1 (IEC 60384)   |   |               |         |         |

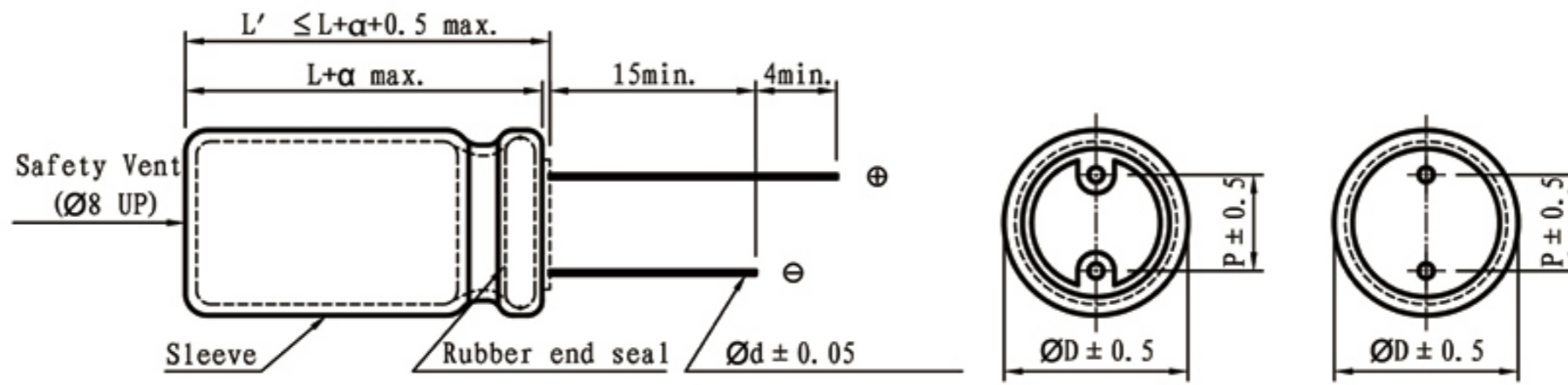
## Frequency Coefficient of Permissible Ripple Current

| Capacitance (μF) | Frequency (Hz) |      |      |      |      |
|------------------|----------------|------|------|------|------|
|                  | 120            | 1K   | 10K  | 50K  | 100K |
| 10~82            | 1.00           | 1.75 | 2.25 | 2.23 | 2.50 |
| 100~150          | 1.00           | 1.67 | 2.05 | 2.15 | 2.25 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. when long life performance is required in actual use. The rms ripple current has to be reduced.

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## DIMENSIONS(mm)



|          |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|
| $\phi D$ | 10  | 13  | 16  | 18  | 20  | 22  |
| P        | 5.0 | 5.0 | 7.5 | 7.5 | 10  | 10  |
| $\phi d$ | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.8 |

|          |                              |
|----------|------------------------------|
| $\alpha$ | (L < 16) 1.0<br>(L ≥ 16) 2.0 |
|----------|------------------------------|

## STANDARD RATINGS

D×L(mm) ; R.C.(mA rms) at 105°C 120Hz.

| Cap<br>( $\mu F$ ) | V    | 160   |      | 200   |      | 250   |      | 350   |      |
|--------------------|------|-------|------|-------|------|-------|------|-------|------|
|                    | Item | D x L | R.C. | D x L | R.C. | D x L | R.C. | D x L | R.C. |
| 10                 |      | 8x12  | 140  | 8x14  | 180  | 10x13 | 180  | 8x20  | 180  |
| 22                 |      | 8x16  | 220  | 8x16  | 220  | 10x16 | 200  | 8x30  | 250  |
|                    |      |       |      | 10x13 | 220  |       |      |       |      |
| 27                 |      | 10x14 | 220  | 10x16 | 250  | 10x20 | 240  | 10x25 | 280  |
| 33                 |      | 8x20  | 280  | 10x20 | 280  | 10x20 | 260  | 13x21 | 350  |
| 47                 |      | 10x20 | 320  | 10x25 | 320  | 10x25 | 320  | 13x25 | 380  |
| 56                 |      | 10x25 | 360  | 10x25 | 330  | 13x21 | 445  | 16x22 | 450  |
| 68                 |      | 13x21 | 445  | 10x30 | 390  | 13x25 | 520  | 16x25 | 550  |
| 82                 |      | 10x30 | 445  | 10x35 | 485  | 13x30 | 580  | 18x25 | 650  |
| 100                |      | 13x25 | 520  | 10x40 | 560  | 16x25 | 650  | 18x25 | 700  |

| Cap<br>( $\mu F$ ) | V    | 400   |      | 450   |      | 460   |      |
|--------------------|------|-------|------|-------|------|-------|------|
|                    | Item | D x L | R.C. | D x L | R.C. | D x L | R.C. |
| 10                 |      | 10x16 | 160  | 10x20 | 180  | 10x20 | 150  |
| 15                 |      | 10x20 | 180  | 13x21 | 300  | 13x21 | 210  |
| 22                 |      | 13x21 | 300  | 13x25 | 390  | 13x25 | 280  |
| 33                 |      | 13x25 | 390  | 16x22 | 450  | 16x25 | 430  |
| 47                 |      | 13x25 | 430  | 18x25 | 650  | 18x25 | 500  |
| 56                 |      | 16x25 | 530  | 18x25 | 700  | 18x25 | 540  |
| 68                 |      | 18x25 | 680  | 18x32 | 750  | 18x32 | 680  |
| 82                 |      | 18x25 | 760  | 18x32 | 780  | 18x32 | 720  |
| 100                |      | 18x32 | 830  | 18x35 | 820  | 18x35 | 800  |
| 120                |      | 18x35 | 880  | 18x40 | 920  | 18x45 | 1000 |
| 150                |      | 18x40 | 950  | 20x45 | 1080 | 20x45 | 1050 |

※ 13mm may be replaced by 12.5mm upon customer's request.