

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

BH For PSU, High Ripple Current Series



RH → BH
High Ripple



- Higher ripple current compared with RH series
- Operating temperature range of -25 ~ +105°C
- High reliability withstandng 5000 hours load life at 105°C
- Complied to the RoHS directive

| Item | Characteristics | | | | | | |
|---|--|------------------------------------|------|------|------|------|------|
| Operating temperature range | -40 ~ +105°C | | | | | | |
| Leakage current max. | $I = 0.04CV + 100\mu A$ (after 1 minute) $I = 0.02CV + 25\mu A$ (after 5 minutes) | | | | | | |
| Capacitance tolerance | $\pm 20\%$ at 120Hz, 20°C | | | | | | |
| Dissipation factor max. (at 120Hz, 20°C) | WV | 200 | 250 | 350 | 400 | 450 | 500 |
| | $\tan\delta$ | 0.15 | 0.15 | 0.20 | 0.24 | 0.24 | 0.24 |
| Low temperature characteristics (Impedance ratio at 120Hz) | WV | 200 | 250 | 350 | 400 | 450 | 500 |
| | Z-25°C/Z+20°C | 3 | 3 | 3 | 3 | 3 | 3 |
| | Z-40°C/Z+20°C | 11 | 11 | 11 | 11 | 11 | 11 |
| Load life | After an application of DC bias voltage plus the rated AC ripple current for 5000 hours at 105°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage. | | | | | | |
| | Leakage current | Less than specified value | | | | | |
| | Capacitance change | Within $\pm 20\%$ of initial value | | | | | |
| Shelf life (at 105°C) | $\tan\delta$ | Less than 200% of specified value | | | | | |
| | After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4 | | | | | | |

DRAWING (See page 91)

Unit : mm

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| μF | WV | 200 | | 250 | | 350 | | 400 | |
|---------|-----|-----------|------|-----------|------|-----------|---------|-----------|-----------|
| | | 2.2 | 3.3 | 4.7 | 6.8 | 8.2 | 10 | 22 | 33 |
| | 2.2 | | | | | | | | 10 × 12.5 |
| | 3.3 | | | | | | | 10 × 20 | 140 |
| | 4.7 | | | | | | 10 × 16 | 220 | 10 × 16 |
| | 6.8 | | | | | | 10 × 16 | 280 | 10 × 16 |
| | 8.2 | | | | | | 8 × 20 | 300 | 8 × 20 |
| | 10 | 10 × 16 | 320 | 10 × 16 | 320 | | 8 × 20 | 300 | 8 × 23 |
| | | | | | | | 10 × 20 | 400 | 10 × 20 |
| | 22 | 8 × 20 | 300 | 8 × 23 | 350 | 10 × 30 | 500 | 12.5 × 20 | 700 |
| | | 10 × 20 | 550 | 10 × 20 | 550 | 12.5 × 20 | 650 | 12.5 × 25 | 780 |
| | 33 | 12.5 × 20 | 700 | 12.5 × 20 | 800 | 16 × 25 | 910 | 16 × 25 | 920 |
| | 47 | 12.5 × 20 | 980 | 12.5 × 25 | 1040 | 12.5 × 30 | 1050 | | |
| | | 12.5 × 20 | 1100 | 12.5 × 30 | 1300 | 18 × 20 | 1150 | | |
| | 68 | 12.5 × 25 | 1300 | 16 × 25 | 1350 | 16 × 31.5 | 1300 | | |
| | 82 | 16 × 20 | 1450 | 12.5 × 30 | 1450 | | | | |
| | 100 | 12.5 × 30 | 1550 | | | | | | |
| | | 16 × 25 | 1630 | | | | | | |

Ripple current (mA rms) at 105°C, 100kHz

Case size ØD × L (mm)

| WV | Cap.(μF) | $\text{ØD} \times \text{L}(\text{mm})$ | Rated ripple current (mA rms) 105°C | | | | |
|-----|-----------------|--|-------------------------------------|------|-------|-------|---------------|
| | | | 120Hz | 1kHz | 10kHz | 50kHz | 100kHz \leq |
| 450 | 8.2 | 8 × 20 | 160 | 280 | 360 | 380 | 400 |
| 500 | 4.7 | 8 × 20 | 70 | 120 | 160 | 216 | 240 |
| | 5.6 | 8 × 20 | 120 | 210 | 270 | 285 | 300 |

FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

| μF | Frequency | Ripple current coefficient | | | | |
|----------|-----------|----------------------------|------|-------|-------|---------------|
| | | 120Hz | 1kHz | 10kHz | 50kHz | 100kHz \leq |
| ~ 4.7 | | 0.40 | 0.60 | 0.80 | 0.90 | 1.00 |
| 6.8 ~ 10 | | 0.40 | 0.70 | 0.90 | 0.95 | 1.00 |
| 22 ~ | | 0.50 | 0.80 | 0.90 | 0.95 | 1.00 |