

BDS(MVK) Series

• 105°C 1,000~2,000Hrs assured.

- Vertical SMD type.
- Wide Temperature range.
- For CD/DVD-ROM, Navigation, LED MT/TV.
- RoHS compliant.
- Halogen-free capacitors are also available.

Solvent-proof

WV ≤ 63V_{DC}



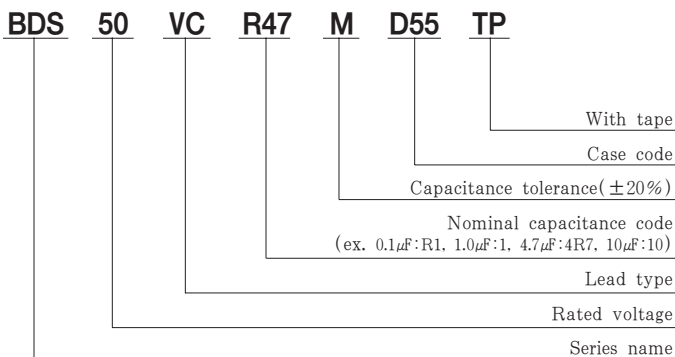
Wide Temp.

SPECIFICATIONS

| Item | Characteristics | |
|---|--|--|
| Rated Voltage Range | 6.3 ~ 450 V _{DC} | |
| Operating Temperature Range | -40 ~ +105°C | |
| Capacitance Tolerance | ±20%(M) (at 20°C, 120Hz) | |
| Leakage Current | Rated Voltage(V _{DC}) | 6.3~100 160~450 |
| | Max. Leakage current(μA) | 0.01CV (μA) or 3μA, whichever is greater. (at 20°C, 2 minutes) 0.04CV + 100(μA) (at 20°C, 1 minute) |
| Where, C:Nominal capacitance(μF), V:Rated voltage(V _{DC}) | | |
| Dissipation Factor (Tanδ) | Rated voltage(V _{DC}) | 6.3 10 16 25 35 50~100 160~250 400~450 |
| | φ 4~φ 6.3 | 0.30 0.24 0.20 0.16 0.14 0.12 - - |
| | φ 8~φ 18 | 0.40 0.30 0.26 0.16 0.14 0.12 0.15 0.20 |
| (at 20°C, at 120Hz) | | |
| Temperature Characteristics (Max. Impedance ratio) | Rated voltage(V _{DC}) | 6.3 10 16 25 35 50~100 160~250 400~450 |
| | Z(-25°C)/Z(+20°C) | 4 3 2 2 2 3 3 6 |
| | Z(-40°C)/Z(+20°C) | 10 8 6 4 3 4 6 10 |
| (at 120Hz) | | |
| Load Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied with the following conditions. φ 4~φ 6.3:105°C, 1,000 hours, φ 8~φ 18:105°C, 2,000 hours. Capacitance change φ 4~φ 6.3 ≤ ±30% of the initial value φ 8~φ 18 ≤ ±20% of the initial value Tanδ φ 4~φ 6.3 ≤ 300% of the initial specified value φ 8~φ 18 ≤ 200% of the initial specified value Leakage current ≤ The initial specified value | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for the specified time 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. φ 4~φ 6.3:105°C, 500 hours, φ 8~φ 18:105°C, 1,000 hours. Capacitance change φ 4~φ 6.3 ≤ ±25% of the initial value φ 8~φ 18 ≤ ±20% of the initial value Tanδ ≤ 200% of the initial specified value Leakage current ≤ The initial specified value | |
| Others | Satisfied characteristics KS C IEC 60384-4 | |

BDS(MVK) Series

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency Multipliers

| Size code | Cap.(μF) | Freq.(Hz) | | | |
|-----------|---------------|-----------|------|------|------|
| | | 120 | 1K | 10K | 100K |
| D55~J10 | 0.1 ~ 1.0 | 1.00 | 1.50 | 1.75 | 1.80 |
| | 2.2 ~ 10 | 1.00 | 1.30 | 1.40 | 1.50 |
| | 22 ~ 1,500 | 1.00 | 1.05 | 1.08 | 1.08 |
| K14~M22 | 3.3 ~ 4.7 | 1.00 | 1.75 | 2.30 | 2.50 |
| | 10 ~ 68 | 1.00 | 1.50 | 1.75 | 1.80 |
| | 100 ~ 1,000 | 1.00 | 1.30 | 1.40 | 1.50 |
| | 1,500 ~ 6,800 | 1.00 | 1.05 | 1.08 | 1.08 |

DIMENSIONS OF BDS(MVK) Series

Unit(mm)

DIMENSIONS

● Vibration Resistance

<Size code: D55~M22> <Size code: H10~M22>

■ : Dummy terminals

Recommended Solder land on PC board

■ : Solder land on PC board

MARKING

Note 1 : $L \pm 0.5$ for 8×6.3 (H63) ~ 18×21.5 (M22)
 Note 2 : 4×5.2 (D55), 5×5.2 (E55) is excluded symbol mark
 Note 3 : 6.3WV is marked by 6V

| Case code | ∅D | L | A | B | C | W | P | a | b | c | 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 | | | |
| F80 | 6.3 | 7.7 | 6.6 | 6.6 | 7.2 | 0.5-0.8 | 1.9 | 1.9 | 3.5 | 1.6 | | | |
| H63 | 8 | 6.3 | 8.3 | 8.3 | 9.0 | 0.5-0.8 | 2.3 | 2.3 | 4.5 | 1.6 | | | |
| H10 | 8 | 10 | 8.3 | 8.3 | 9.0 | 0.7-1.1 | 3.1 | 3.1 | 4.2 | 2.2 | 3.1 | 4.2 | 3.5 |
| J10 | 10 | 10 | 10.3 | 10.3 | 11.0 | 0.7-1.1 | 4.5 | 4.5 | 4.4 | 2.2 | 4.5 | 4.4 | 3.5 |
| K14 | 12.5 | 13.5 | 13.0 | 13.0 | 13.7 | 1.0-1.3 | 4.2 | 4.0 | 5.7 | 2.5 | 3.4 | 6.3 | 9.3 |
| L17 | 16 | 16.5 | 17.0 | 17.0 | 18.0 | 1.0-1.3 | 6.5 | 6.0 | 6.9 | 2.5 | 4.7 | 7.8 | 9.6 |
| L22 | 16 | 21.5 | 17.0 | 17.0 | 18.0 | 1.0-1.3 | 6.5 | 6.0 | 6.9 | 2.5 | | | |
| M17 | 18 | 16.5 | 19.0 | 19.0 | 20.0 | 1.0-1.3 | 6.5 | 6.0 | 7.9 | 2.5 | 4.7 | 8.8 | 9.6 |
| M22 | 18 | 21.5 | 19.0 | 19.0 | 20.0 | 1.0-1.3 | 6.5 | 6.0 | 7.9 | 2.5 | | | |

● Vibration Resistance

RATINGS OF BDS(MVK) Series

| Vdc | 6.3 | | 10 | | 16 | | 25 | | 35 | | 50 | | 63 | | 100 | | |
|-------|---------|-------|---------|-------|---------|-------|---------|---------|-----|-------|-----|-------|-----|-----|-----|-----|-----|
| 0.1 | | | | | | | | | | | D55 | 1.3 | D55 | 1.3 | | | |
| 0.22 | | | | | | | | | | | D55 | 2.6 | D55 | 3.0 | | | |
| 0.33 | | | | | | | | | | | D55 | 3.2 | D55 | 4.0 | | | |
| 0.47 | | | | | | | | | | | D55 | 3.8 | D55 | 5.0 | | | |
| 1 | | | | | | | | | | | D55 | 5.6 | D55 | 8.0 | | | |
| 2.2 | | | | | | | | | | | D55 | 10 | D55 | 12 | | | |
| 3.3 | | | | | | | | | | | D55 | 14 | E55 | 17 | | | |
| 4.7 | | | | | | | | | D55 | 15 | E55 | 19 | E55 | 20 | | | |
| 10 | | | | | D55 | 16 | E55 | 25 | E55 | 25 | F55 | 29 | F60 | 32 | H63 | 48 | |
| 22 | D55 | 21 | E55 | 30 | E55 | 30 | F55 | 40 | F55 | 40 | H63 | 70 | H10 | 80 | H10 | 90 | |
| 33 | E55 | 34 | E55 | 34 | F55 | 45 | F55 | 45 | H63 | 80 | H10 | 140 | H10 | 145 | J10 | 150 | |
| 47 | E55 | 36 | F55 | 48 | F55 | 48 | F60/H63 | 52 | H63 | 140 | H10 | 170 | H10 | 180 | K14 | 250 | |
| 100 | F55/F60 | 56 | F60/H63 | 90 | F60/H10 | 110 | 180 | F80/H63 | 135 | H10 | 250 | J10 | 310 | K14 | 380 | K14 | 380 |
| 220 | H63 | 150 | F80/H63 | 150 | F80/H10 | 150 | 275 | H10 | 275 | J10 | 375 | K14 | 420 | K14 | 470 | M17 | 750 |
| 330 | F80/H10 | 127 | 290 | J10 | 450 | J10 | 450 | J10 | 450 | K14 | 480 | K14 | 500 | L17 | 700 | M22 | 980 |
| 470 | J10 | 460 | J10 | 460 | J10 | 460 | J10 | 460 | K14 | 520 | L17 | 700 | M17 | 900 | | | |
| 1,000 | J10 | 520 | J10 | 540 | K14 | 550 | K14 | 550 | L17 | 750 | M22 | 1,200 | | | | | |
| 1,500 | J10 | 550 | K14 | 620 | | | | | | | | | | | | | |
| 2,200 | K14 | 680 | L17 | 850 | M17 | 1,000 | M22 | 1,300 | M22 | 1,450 | | | | | | | |
| 3,300 | M17 | 1,000 | M17 | 1,100 | M17 | 1,200 | | | | | | | | | | | |
| 4,700 | L22 | 1,200 | M22 | 1,350 | | | | | | | | | | | | | |
| 6,800 | M22 | 1,350 | | | | | | | | | | | | | | | |

| Vdc | 160 | | 200 | | 250 | | 400 | | 450 | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 3.3 | | | | | | | K14 | 30 | K14 | 40 |
| 4.7 | | | | | K14 | 65 | L17 | 60 | L17 | 60 |
| 10 | J10 | 45 | K14 | 80 | L17 | 100 | L17 | 85 | L17 | 85 |
| 22 | K14 | 85 | K14 | 85 | L17 | 180 | M22 | 130 | M22 | 130 |
| 33 | K14 | 95 | L17 | 220 | M17 | 230 | | | | |
| 47 | L17 | 260 | M17 | 270 | M22 | 280 | | | | |
| 68 | M17 | 320 | M22 | 330 | | | | | | |
| 100 | L22 | 380 | | | | | | | | |

↑ Rated Ripple Current(mArms/105°C, 120Hz)
 ↑ Case code