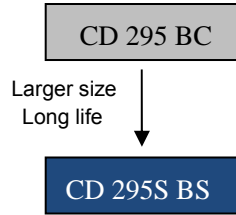




CD 295S BS SERIES

5000 hours at 85°C

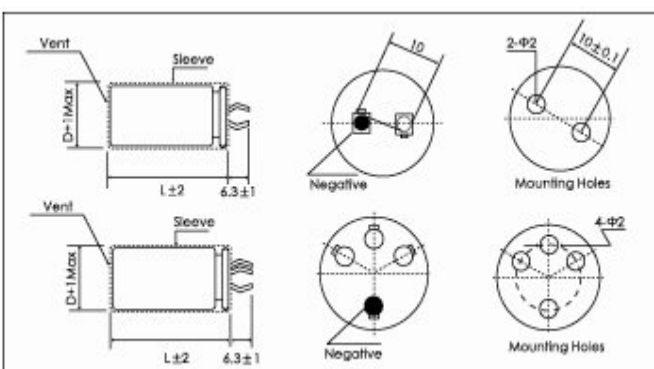
- Larger Size Components
- Long Useful Life
- High Ripple Current
- Industrial Power Supplies
- Voltage derating (0.93*V_R) enables 105°C operation



| Items | Characteristics | | | |
|---|---|---------|-----------|---------|
| Operating Temperature Range(°C) | -40 ~ +85 | | -25 ~ +85 | |
| Voltage Range (V) | 160~400 | | 450 ~ 500 | |
| Capacitance Range(µF) | 390~4700 | | | |
| Capacitance Tolerance (20°C,120Hz) | ±20% | | | |
| Leakage Current (µA) | After 5 minutes at 20°C application of rated voltage, leakage current is not more than 0.01CV or 1.5mA, whichever is smaller. C:Nominal Capacitance(µF) V:Rated Voltage(V) | | | |
| Dissipation Factor (20°C, 120Hz) | WV(V) | 160~500 | | |
| | Tan δ | 0.15 | | |
| Stability at Low Temperature (Impedance Ratio at 120Hz) | Rated Voltage (V) | 160~200 | 250~400 | 450~500 |
| | Z _{-25°C} / Z _{+20°C} | 3 | 4 | |
| | Z _{-40°C} / Z _{+20°C} | 6 | 8 | - |

| | Useful Life | | Load Life | Endurance Life | Shelf Life |
|--|--|---|--|--|---|
| Lifetime | 12000h | >100000h | 5000h | 7000h | 1000h |
| Leakage Current | Not more than specified value | | Not more than specified value | Not more than specified value | Not more than specified value |
| Capacitance Change | Within ±30% of initial value | | Within ±20% of initial value | Within ±20% of initial value | Within ±20% of initial value |
| Dissipation Factor | No more than 300% of specified value | | Not more than 200% of specified value | Not more than 200% of specified value | Not more than 200% of specified value |
| Condition: Applied Voltage Applied Current Applied Temperature | U _R I _R 85°C | U _R 1.2x I _R 40°C | U _R I _R 85°C | U _R I _R = 0 85°C | After test: U _R to be applied for 30min>24h before measurement U _R =0 I _R = 0 85°C |

Dimensions

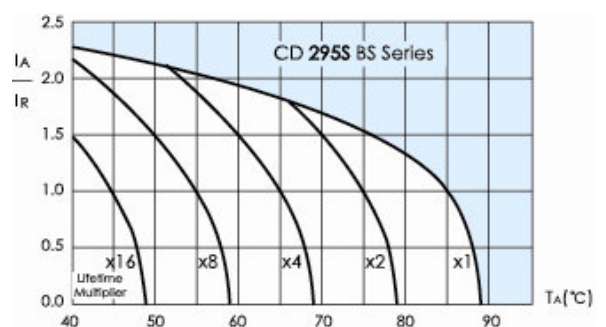


mm

Frequency Coefficient

| Frequency (Hz) | 50/60Hz | 120 Hz | 300 Hz | 1K Hz | 10K Hz | ≥50K Hz |
|----------------|---------|--------|--------|-------|--------|---------|
| Factor | 0.80 | 1.00 | 1.16 | 1.30 | 1.41 | 1.45 |

Lifetime Diagram



Temperature Coefficient

| Temperature(°C) | +40 | +55 | +70 | +85 |
|-------------------|-----|-----|------|-----|
| Factor | 2.3 | 2.1 | 1.75 | 1.0 |

I_A = actual ripple current at 120Hz, I_R = rated ripple current at 120Hz, 85°C
Multiplier of Useful Life as a function of ambient temperature and ripple current load

Ratings for CD 295S BS series

| U _R (Surge Voltage) Code | Rated Capacitance | Max ESR 20°C, 120Hz | Typ ESR 20°C, 120Hz | Rated Ripple Current 85°C, 120Hz | Size Φ D × L | P/N |
|---|--------------------|------------------------|------------------------|-------------------------------------|-----------------|---------------------|
| (V) | (μF) | (mΩ) | (mΩ) | (Arms) | (mm) | - |
| 160 (200) 2C | 2200 | 91 | 63 | 4.9 | 35x45 | ECS2CBS222M□□350045 |
| | 2700 | 74 | 52 | 5.3 | 35x50 | ECS2CBS272M□□350050 |
| | 3300 | 60 | 42 | 5.5 | 35x70 | ECS2CBS332M□□350070 |
| | | 60 | 42 | 5.5 | 40x60 | ECS2CBS332M□□400060 |
| | 3900 | 51 | 36 | 5.9 | 35x80 | ECS2CBS392M□□350080 |
| | 4700 | 42 | 30 | 7.3 | 40x80 | ECS2CBS472M□□400080 |
| 200 (250) 2D | 1500 | 133 | 93 | 4.3 | 35x40 | ECS2DBS152M□□350040 |
| | 1800 | 111 | 77 | 4.7 | 35x45 | ECS2DBS182M□□350045 |
| | 2200 | 91 | 63 | 5.4 | 35x50 | ECS2DBS222M□□350050 |
| | | 91 | 63 | 5.4 | 40x40 | ECS2DBS222M□□400040 |
| | 2700 | 74 | 52 | 5.9 | 35x60 | ECS2DBS272M□□350060 |
| | | 74 | 52 | 5.9 | 40x50 | ECS2DBS272M□□400050 |
| | 3300 | 60 | 42 | 6.5 | 35x80 | ECS2DBS332M□□350080 |
| | | 60 | 42 | 6.5 | 40x60 | ECS2DBS332M□□400060 |
| | 3900 | 51 | 36 | 7.0 | 40x80 | ECS2DBS392M□□400080 |
| | 4700 | 42 | 30 | 9.2 | 40x90 | ECS2DBS472M□□400090 |
| 250 (300) 2E | 1000 | 199 | 139 | 3.7 | 35x40 | ECS2EBS102M□□350040 |
| | 1200 | 166 | 116 | 3.8 | 35x45 | ECS2EBS122M□□350045 |
| | 1500 | 133 | 93 | 4.4 | 35x50 | ECS2EBS152M□□350050 |
| | | 133 | 93 | 4.5 | 40x40 | ECS2EBS152M□□400040 |
| | 1800 | 111 | 77 | 5.0 | 35x70 | ECS2EBS182M□□350070 |
| | | 111 | 77 | 5.0 | 40x50 | ECS2EBS182M□□400050 |
| | 2200 | 91 | 63 | 5.4 | 35x70 | ECS2EBS222M□□350070 |
| | 2700 | 74 | 52 | 6.9 | 40x80 | ECS2EBS272M□□400080 |
| 350 (400) 2V | 680 | 293 | 205 | 3.6 | 35x45 | ECS2VBS681M□□350045 |
| | | 293 | 205 | 3.6 | 40x40 | ECS2VBS681M□□400040 |
| | 820 | 243 | 170 | 4.5 | 35x60 | ECS2VBS821M□□350060 |
| | | 243 | 170 | 4.5 | 40x50 | ECS2VBS821M□□400050 |
| | 1000 | 199 | 139 | 5.2 | 35x70 | ECS2VBS102M□□350070 |
| | | 199 | 139 | 4.9 | 40x60 | ECS2VBS102M□□400060 |
| | 1200 | 166 | 116 | 5.5 | 35x80 | ECS2VBS122M□□350080 |
| | | 166 | 116 | 5.6 | 40x70 | ECS2VBS122M□□400070 |
| | 1500 | 133 | 93 | 6.5 | 40x80 | ECS2VBS152M□□400080 |
| | | 133 | 93 | 6.2 | 45x70 | ECS2VBS152M□□450070 |
| | 1800 | 111 | 77 | 7.9 | 40x100 | ECS2VBS182M□□400100 |
| | | 111 | 77 | 7.1 | 45x70 | ECS2VBS182M□□450070 |
| | 2200 | 91 | 63 | 8.7 | 40x100 | ECS2VBS222M□□400100 |
| | 400 (450) 2G | 560 | 355 | 249 | 3.2 | 35x50 |
| 355 | | | 249 | 2.8 | 40x40 | ECS2GBS561M□□400040 |
| 680 | | 293 | 205 | 3.7 | 35x60 | ECS2GBS681M□□350060 |
| | | 293 | 205 | 3.8 | 40x50 | ECS2GBS681M□□400050 |
| 820 | | 243 | 170 | 4.2 | 35x60 | ECS2GBS821M□□350060 |
| | | 243 | 170 | 4.1 | 40x50 | ECS2GBS821M□□400050 |
| 1000 | | 199 | 139 | 4.9 | 35x70 | ECS2GBS102M□□350070 |
| | | 199 | 139 | 4.8 | 40x60 | ECS2GBS102M□□400060 |
| | | 199 | 139 | 4.6 | 45x50 | ECS2GBS102M□□450050 |
| 1200 | | 166 | 116 | 5.8 | 35x80 | ECS2GBS122M□□350080 |
| | | 166 | 116 | 5.5 | 40x70 | ECS2GBS122M□□400070 |
| 1500 | | 133 | 93 | 6.9 | 40x80 | ECS2GBS152M□□400080 |
| | | 133 | 93 | 6.6 | 45x70 | ECS2GBS152M□□450070 |
| | | 133 | 93 | 6.8 | 45x80 | ECS2GBS152M□□450080 |
| 1800 | | 111 | 77 | 7.9 | 40x90 | ECS2GBS182M□□400090 |
| | | 111 | 77 | 7.3 | 45x80 | ECS2GBS182M□□450080 |
| 450 (500) 2W | 470 | 424 | 296 | 3.0 | 35x50 | ECS2WBS471M□□350050 |
| | | 424 | 296 | 3.0 | 40x40 | ECS2WBS471M□□400040 |
| | 560 | 355 | 249 | 3.1 | 35x50 | ECS2WBS561M□□350050 |
| | | 355 | 249 | 3.3 | 35x60 | ECS2WBS561M□□350060 |
| | | 355 | 249 | 3.4 | 40x50 | ECS2WBS561M□□450050 |
| | 680 | 293 | 205 | 3.5 | 35x60 | ECS2WBS681M□□350060 |
| | | 293 | 205 | 3.8 | 35x70 | ECS2WBS681M□□350070 |
| | | 293 | 205 | 3.8 | 40x60 | ECS2WBS681M□□400060 |
| | 820 | 243 | 170 | 4.6 | 35x80 | ECS2WBS821M□□350080 |
| | | 243 | 170 | 4.4 | 40x60 | ECS2WBS821M□□400060 |



Ratings for CD 295S BS series

| U _R (Surge Voltage) Code | Rated Capacitance | Max ESR 20°C,120Hz | Typ ESR 20°C,120Hz | Rated Ripple Current 85°C, 120Hz | Size ΦD×L | P/N |
|---|-----------------------------|-----------------------|-----------------------|-------------------------------------|--------------|---------------------|
| (v) | (μF) | (m Ω) | (m Ω) | (Arms) | (mm) | - |
| 450 (500) 2W | 1000 | 199 | 139 | 5.7 | 35x80 | ECS2WBS102M□□350080 |
| | | 199 | 139 | 5.2 | 40x60 | ECS2WBS102M□□400060 |
| | 1200 | 166 | 116 | 5.9 | 40x70 | ECS2WBS122M□□400070 |
| | | 166 | 116 | 6.2 | 45x70 | ECS2WBS122M□□450070 |
| | 1500 | 133 | 93 | 7.3 | 40x100 | ECS2WBS152M□□400100 |
| | | 133 | 93 | 7.0 | 45x80 | ECS2WBS152M□□450080 |
| | 1800 | 111 | 77 | 7.9 | 45x100 | ECS2WBS182M□□450100 |
| | 500 (550) 2H | 390 | 510 | 357 | 1.9 | 35x50 |
| 470 | | 424 | 296 | 2.3 | 35x60 | ECS2HBS471M□□350060 |
| 560 | | 355 | 249 | 2.5 | 35x60 | ECS2HBS561M□□350060 |
| | | 355 | 249 | 2.7 | 40x60 | ECS2HBS561M□□400060 |
| 680 | | 293 | 205 | 3.1 | 35x80 | ECS2HBS681M□□350080 |
| | | 293 | 205 | 2.8 | 40x70 | ECS2HBS681M□□400070 |
| 820 | | 243 | 170 | 3.4 | 35x90 | ECS2HBS821M□□350090 |
| | | 243 | 170 | 3.3 | 40x70 | ECS2HBS821M□□400070 |
| 1000 | | 199 | 139 | 3.9 | 40x80 | ECS2HBS102M□□400080 |
| | | 199 | 139 | 3.9 | 45x70 | ECS2HBS102M□□450070 |
| 1200 | | 166 | 116 | 4.3 | 40x90 | ECS2HBS122M□□400090 |
| 1500 | | 133 | 93 | 4.8 | 45x100 | ECS2HBS152M□□450100 |

Customer products are available on request.