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HITANO
ENTERPRISE CORP. ®

# EHR SERIES

- **High Temperature Radial Type,105℃, 2000 hours assured Load Life.**
- **Applications: Communications equipment, switching regulators, and industrial applications.**

## Characteristics

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Voltage Range** | 6.3 to 100 VDC | | | 160 to 450 VDC | | | | |
| **Capacitance Range** | 0.47 to 10000uF | | | 0.47 to 220uF | | | | |
| **Temperature Range** | -40 to +105℃ | | | -25 to +105℃ | | | | |
| **Capacitance Tolerance** | +20% -20% (at 20℃, 120Hz) | | | | | | | |
| **Leakage Current** | I≤0.01CV or 3uA, whichever is greater<br>2 minutes after Rated Voltage applied | | | I≤0.03CV or 3uA, whichever is greater<br>2 minutes after Rated Voltage applied | | | | |
| **Dissipation Factor** | Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 |
| | Dissipation Factor( tanδ)max | 0.22 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 |
| | | | | | | | | |
| | Rated Voltage (V) | 100 | 160 | 200 | 250 | 350 | 400 | 450 |
| | Dissipation Factor( tanδ)max | 0.08 | 0.15 | 0.15 | 0.20 | 0.20 | 0.24 | 0.24 |
| | For capacitance > 1000uF, add 0.02 for every 1000uF, (at 20℃, 120Hz) | | | | | | | |

| **Stability at Low Temperature** | Impedance ration at 120Hz | | | | | | |
|---|---|---|---|---|---|---|---|
| Rated Voltage (V) | 6.3V | 10V | 16V | 25-100V | 160-250V | 350-400V | 450V |
| Z-25℃/Z 20℃ | 4 | 3 | 2 | 2 | 3 | 6 | 15 |
| Z-40℃/Z 20℃ | 8 | 6 | 4 | 3 | — | — | — |

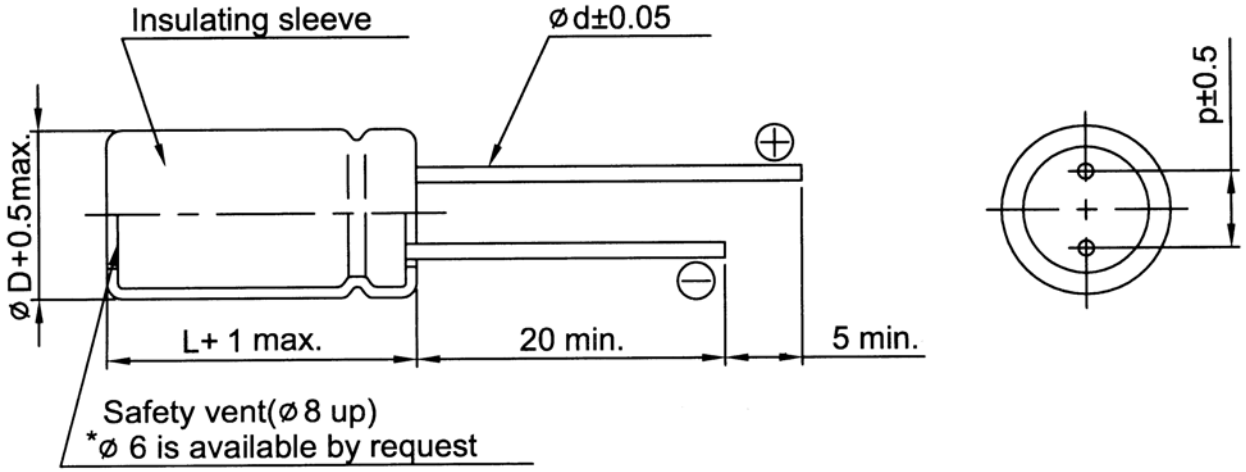
| | | | |
|---|---|---|---|
| **Load Life** | After the rated voltage has been applied for 2000 hours at 105℃ | Capacitance change | Within ±20% of initial value |
| | | D.F. tanδ | 150% or less of initial specified value |
| | | Leakage current | Less than initial specified value |
| **Shelf Life** | After storage for 1000 hours at 105℃, with no voltage applied and being stabilized at +20℃, Capacitor shall meet the limit specified in load life. | | |

## Case Size of Standard Products & Maximum Ripple Current ( mA rms 105℃ 120Hz)

| WV / Cap. uF | 6.3V | | 10V | | 16V | | 25V | | 35V | | 50V | | 63V | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. |
| **0.47** | | | | | | | | | | | 5x11 | 8 | 5x11 | 8 |
| **1** | | | | | | | | | | | 5x11 | 12 | 5x11 | 12 |
| **2.2** | | | | | | | | | | | 5x11 | 20 | 5x11 | 20 |
| **3.3** | | | | | | | | | | | 5x11 | 25 | 5x11 | 28 |
| **4.7** | | | | | | | | | | | 5x11 | 30 | 5x11 | 34 |
| **10** | | | | | 5x11 | 35 | 5x11 | 38 | 5x11 | 41 | 5x11 | 46 | 5x11 | 50 |
| **22** | | | | | 5x11 | 54 | 5x11 | 57 | 5x11 | 61 | 5x11 | 68 | 6.3x11 | 82 |
| **33** | | | | | 5x11 | 64 | 5x11 | 69 | 5x11 | 75 | 6.3x11 | 90 | 6.3x11 | 100 |
| **47** | | | 5x11 | 70 | 5x11 | 100 | 5x11 | 105 | 6.3x11 | 110 | 6.3x11 | 125 | 8x12 | 135 |
| **100** | 5x11 | 95 | 5x11 | 105 | 5x11 | 125 | 6.3x11 | 135 | 8x12 | 170 | 8x12 | 180 | 10x13 | 225 |
| **220** | 5x11 | 160 | 6.3x11 | 175 | 6.3x11 | 215 | 8x12 | 230 | 10x13 | 300 | 10x16 | 345 | 10x21 | 400 |
| **330** | 6.3x11 | 195 | 8x12 | 245 | 8x12 | 260 | 10x13 | 335 | 10x16 | 400 | 10x21 | 460 | 13x21 | 540 |
| **470** | 6.3x11<br>8x12 | 230<br>270 | 8x12 | 290 | 8x12<br>10x13 | 310<br>370 | 10x13<br>10x16 | 410<br>440 | 10x21 | 520 | 10x21<br>13x21 | 600<br>610 | 13x26 | 700 |
| **1000** | 10x13 | 460 | 10x13 | 550 | 10x16<br>10x21 | 590<br>640 | 10x21<br>13x21 | 710<br>770 | 13x26 | 920 | 16x26 | 1080 | 16x32 | 1210 |
| **2200** | 10x21 | 810 | 10x21 | 860 | 13x21 | 1000 | 13x26<br>16x26 | 1090<br>1170 | 16x26<br>16x32 | 1290<br>1350 | 16x36<br>16x32 | 1530 | 18x36 | 1610 |
| **3300** | 13x21 | 960 | 13x21 | 1100 | 16x26 | 1300 | 16x26 | 1460 | 16x36 | 1650 | 18x36 | 1750 | | |
| **4700** | 13x26 | 1330 | 13x26 | 1350 | 16x26 | 1600 | 16x36 | 1780 | 18x36 | 1900 | 22x41 | 2500 | | |
| **6800** | 13x26 | 1450 | 16x26 | 1670 | 16x32 | 1900 | 18x36 | 1950 | | | | | | |
| **10000** | 16x26 | 1680 | 16x36 | 1900 | 18x36 | 2060 | | | | | | | | |

| Cap. \ WV / uF | 100V | | 160V | | 200V | | 250V | | 350V | | 400V | | 450V | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. | Size | R.C. |
| **0.47** | 5x11 | 10 | 5x11 | 12 | 5x11 | 12 | 5x11 | 12 | 6.3x11 | 13 | 6.3x11 | 14 | 6.3x11 | 14 |
| **1** | 5x11 | 15 | 6.3x11 | 17 | 6.3x11 | 17 | 6.3x11 | 17 | 6.3x11 | 20 | 8x12 | 20 | 8x12 | 20 |
| **2.2** | 5x11 | 23 | 6.3x11 | 25 | 6.3x11 | 25 | 8x12 | 29 | 8x12 | 35 | 10x13 | 35 | 10x13 | 35 |
| **3.3** | 5x11 | 32 | 6.3x11 | 32 | 8x12 | 35 | 8x12 | 42 | 10x13 | 47 | 10x13 | 47 | 10x16 | 54 |
| **4.7** | 5x11 | 37 | 8x12 | 42 | 8x12 | 50 | 10x13 | 50 | 10x16 | 55 | 10x16 | 55 | 10x21 | 60 |
| **10** | 6.3x11 | 56 | 10x13 | 59 | 10x16 | 60 | 10x16 | 64 | 10x21 | 79 | 10x21<br>13x21 | 80<br>110 | 13x26 | 87 |
| **22** | 8x12 | 96 | 10x16 | 105 | 10x16<br>10x21 | 105<br>130 | 10x21<br>13x21 | 110<br>140 | 13x21<br>13x26 | 130<br>160 | 13x26<br>16x26 | 145<br>160 | 16x26<br>16x32 | 165 |
| **33** | 10x13 | 120 | 10x21 | 125 | 13x21 | 140 | 13x21 | 140 | 16x26 | 195 | 16x26 | 195 | 16x36 | 210 |
| **47** | 10x16 | 160 | 13x21 | 165 | 13x26 | 165 | 13x26<br>16x26 | 180<br>220 | 16x32 | 230 | 16x32<br>16x36 | 250<br>275 | 16x36<br>18x32 | 260<br>290 |
| **100** | 13x21 | 245 | 13x26<br>16x26 | 270<br>310 | 16x26 | 285 | 16x32 | 365 | 18x36 | 375 | 18x36 | 360 | | |
| **220** | 13x26<br>16x26 | 450<br>520 | 16x36 | 480 | 18x36 | 550 | | | | | | | | |
| **330** | 16x26 | 690 | 18x36 | 705 | | | | | | | | | | |
| **470** | 16x32 | 860 | 18x41 | 860 | | | | | | | | | | |

## Diagram of dimensions




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D $\phi$** | 5 | 6 | 8 | 10 | 13 | 16 | 18 |
| **F** | 2.0 | 2.5 | 3.5 | 5 | 5 | 7.5 | 7.5 |
| **d $\phi$** | 0.5 | | 0.6 | | | 0.8 | |