



RN 系列 Series

特点 Features

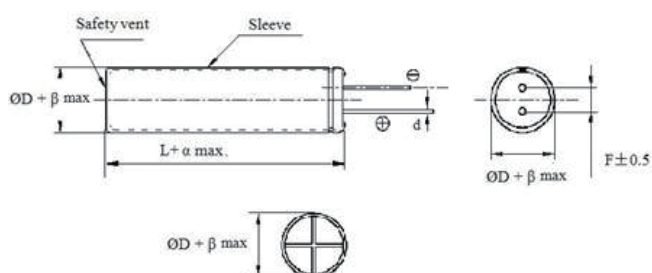
- 长寿命品105°C 2000小时。 Long Load life of 105°C 2000h .
- 体积Φ8×30~Φ12.5×60。 Body diameter of Φ8×30 to Φ12.5×60.
- 适合于超薄电视、承受高纹波电流。
Used in super thin TV.with high ripple current capability.
- RoHS指令已对应完毕。
Adapted to the RoHS directive.



主要技术性能 Specifications

| 项目 Items | 特性 Characteristics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------|------|------|------|-------|-------|-----|-----|------|------|------|--------------------|------|------|------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 使用温度范围 Operating Temperature Range | -40~+105°C | -25~+105°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 额定电压范围 Rated Voltage Range | 16~100V | 160~500V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 标称容量范围 Nominal Capacitance Range | 22~2200μF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 标称容量允许偏差 Capacitance Tolerance | ±20% (+20°C, 120Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 漏电流 Leakage Current | I ≤ 0.02CV + 15 (μA) 5分钟 (at 20°C, after 5 minutes) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 损耗角正切值 (tgδ) Dissipation Factor (+20°C, 120Hz) | <table border="1"> <tr> <td>U_R (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63~80</td> <td>100</td> </tr> <tr> <td>tgδ</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </table> | U _R (V) | 16 | 25 | 35 | 50 | 63~80 | 100 | tgδ | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | U _R (V) | 16 | 25 | 35 | 50 | 63~80 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | tgδ | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>U_R (V)</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>tgδ</td> <td>0.18</td> <td>0.18</td> <td>0.18</td> <td>0.20</td> <td>0.22</td> <td>0.24</td> <td>0.24</td> </tr> </table> | U _R (V) | 160 | 200 | 250 | 400 | 420 | 450 | 500 | tgδ | 0.18 | 0.18 | 0.18 | 0.20 | 0.22 | 0.24 | 0.24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U _R (V) | 160 | 200 | 250 | 400 | 420 | 450 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tgδ | 0.18 | 0.18 | 0.18 | 0.20 | 0.22 | 0.24 | 0.24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 容量大于1000μF者, 每增加1000μF, 其损耗角正切值增加0.02 When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 温度特性 Temperature Characteristic (Impedance ratio at 120Hz) | <table border="1"> <tr> <td>U_R (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> <td>160</td> <td>200</td> <td>250</td> <td>400</td> <td>420</td> <td>450</td> <td>500</td> </tr> <tr> <td>Z-25°C / Z+20°C</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>4</td> <td>4</td> <td>5</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </table> | | | | | | | | | | | | U _R (V) | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 400 | 420 | 450 | 500 | Z-25°C / Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | Z-40°C / Z+20°C | 6 | 4 | 3 | 3 | 3 | 3 | - | - | - | - | - | - | - |
| U _R (V) | 16 | 25 | 35 | 50 | 63 | 100 | 160 | 200 | 250 | 400 | 420 | 450 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-25°C / Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z-40°C / Z+20°C | 6 | 4 | 3 | 3 | 3 | 3 | - | - | - | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 耐久性 Load Life | +105°C加额定电压2000小时, 恢复16小时后: After applying rated voltage for Load life of 2000h, at +105°C and then resumed for 16 hours: 电容量变化率 Capacitance change: ±20%初始测量值以内 ±20% of the initial measured value 漏电流 Leakage current: ≤初始规定值 ≤Initial specified value 损耗角正切值 Dissipation factor: ≤2倍初始规定值 ≤2times of the initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 高温贮存 Shelf Life | +105°C, 1000小时贮存后, 恢复16小时后: After storage for 1000 hours at +105°C and then resumed for 16 hours 电容量变化率 Capacitance change: ±20%初始测量值以内 ±20% of the initial measured value 漏电流 Leakage current: ≤2倍初始规定值 ≤2times of the initial specified value 损耗角正切值 Dissipation factor: ≤2倍初始规定值 ≤2times of the initial specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

外形图及尺寸表 Case Size Table



单位 Unit: mm

| D | 8 | 10 | 12.5 |
|------|-----|-----|------|
| F | 3.5 | 5.0 | |
| d | 0.6 | | |
| αMAX | 2.0 | | |
| βMAX | 0.5 | | |

频率修正系数 Frequency Coefficient

6.3~100V

| Frequency (Hz) \ CAP(μF) | 120 | 1K | 10K | 100K |
|--------------------------|------|------|------|------|
| 330~560 | 0.50 | 0.85 | 0.94 | 1.00 |
| 680~1800 | 0.60 | 0.87 | 0.95 | 1.00 |
| 2200 | 0.75 | 0.90 | 0.95 | 1.00 |

160~500V

| Freq.(Hz) | 60 | 120 | 300 | 1K | 10K | ≥100K |
|-------------|------|------|------|------|------|-------|
| Coefficient | 0.80 | 1.00 | 1.25 | 1.45 | 1.50 | 1.50 |

尺寸 Dimensions

| WV \ CAP(μF) | | 16V(1C) | | | 25V(1E) | | | 35V(1V) | | | 50V(1H) | | |
|--------------|-----|---------|-------|--------|---------|-------|--------|---------|-------|--------|---------|-------|--------|
| | | Size | ESR | Ripple | Size | ESR | Ripple | Size | ESR | Ripple | Size | ESR | Ripple |
| 330 | 331 | | | | | | | | | | 8×30 | 0.065 | 1110 |
| 470 | 471 | | | | | | | | | | 8×40 | 0.060 | 1400 |
| 680 | 681 | | | | | | | 8×30 | 0.045 | 1340 | 8×45 | 0.050 | 1600 |
| 820 | 821 | | | | 8×30 | 0.06 | 1200 | 8×35 | 0.042 | 1450 | 8×55 | 0.045 | 1820 |
| | | | | | | | | | | | 10×40 | 0.040 | 1750 |
| 1000 | 102 | | | | 8×30 | 0.055 | 1300 | 8×40 | 0.036 | 1720 | 10×45 | 0.039 | 1950 |
| 1500 | 152 | 8×30 | 0.032 | 1600 | 8×45 | 0.040 | 1700 | 8×60 | 0.035 | 2080 | | | |
| | | | | | | | | 10×40 | 0.035 | 1850 | | | |
| 1800 | 182 | 8×35 | 0.028 | 1760 | 8×50 | 0.035 | 2000 | 10×45 | 0.034 | 2010 | | | |
| 2200 | 222 | 8×40 | 0.027 | 1960 | 8×60 | 0.032 | 2200 | | | | | | |
| | | | | | 10×40 | 0.032 | 2100 | | | | | | |

| WV \ CAP(μF) | | 63V(1J) | | | 80V(1H) | | | 100V(2A) | | |
|--------------|-----|---------|-------|--------|---------|-------|--------|----------|-------|--------|
| | | Size | ESR | Ripple | Size | ESR | Ripple | Size | ESR | Ripple |
| 220 | 221 | 8×30 | 0.060 | 1150 | 8×40 | 0.058 | 1340 | 8×50 | 0.055 | 1540 |
| 330 | 331 | 8×40 | 0.058 | 1340 | 8×50 | 0.050 | 1620 | 10×45 | 0.050 | 1730 |
| | | | | | 10×40 | 0.050 | 1640 | | | |
| 470 | 471 | 8×50 | 0.045 | 1700 | 10×45 | 0.048 | 1765 | 10×60 | 0.038 | 2250 |
| 680 | 681 | 10×45 | 0.042 | 1900 | | | | | | |

Size φD×L(mm)

Maximum Allowable Ripple Current (mA rms) at 105°C 100kHz

Maximum ESR (Ω) at 20°C 100KHz



尺寸 Dimensions

| WV CAP(μF) | | 160V(2C) | | 200V(2D) | | 250V(2E) | | 400V(2G) | | 420V(2M) | | 450V(2W) | | 500V(2H) | |
|---------------|-----|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|
| | | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |
| 22 | 220 | | | | | | | 8×35 | 220 | 8×40 | 225 | 8×45 | 260 | | |
| 25 | 250 | | | | | | | 8×40 | 230 | 8×45 | 235 | 8×50 | 270 | | |
| 27 | 270 | | | | | | | 8×45 | 245 | 8×50 | 245 | 8×50 | 290 | | |
| 33 | 330 | | | | | 8×35 | 240 | 8×50 | 300 | 10×35 | 290 | 10×40 | 330 | | |
| 39 | 390 | | | | | 8×40 | 250 | 10×40 | 320 | 10×40 | 340 | 10×45 | 360 | | |
| 47 | 470 | | | | | 8×45 | 310 | 10×45 | 400 | 10×45 | 400 | 10×50 | 410 | 12.5×45 | 480 |
| | | | | | | 10×35 | 310 | 12.5×30 | 400 | 12.5×30 | 400 | 12.5×35 | 400 | 10×50 | 448 |
| 53 | 530 | | | | | 10×35 | 330 | 10×50 | 430 | 10×50 | 430 | 10×50 | 450 | | |
| 56 | 560 | 8×35 | 265 | 8×45 | 290 | 8×50 | 340 | 12.5×30 | 520 | 12.5×35 | 480 | 12.5×35 | 450 | 12.5×50 | 550 |
| 68 | 680 | 8×40 | 340 | 8×50 | 360 | 10×40 | 390 | 10×55 | 550 | 10×60 | 545 | 12.5×40 | 549 | 12.5×56 | 640 |
| | | 10×30 | 310 | 10×35 | 320 | 12.5×30 | 390 | 12.5×35 | 540 | 12.5×40 | 545 | 12.5×50 | 590 | | |
| 82 | 820 | 8×45 | 400 | 10×40 | 420 | 10×45 | 450 | 12.5×40 | 620 | 12.5×45 | 630 | 12.5×50 | 620 | | |
| 100 | 101 | 8×50 | 480 | 10×45 | 500 | 10×50 | 540 | 12.5×50 | 730 | 12.5×55 | 730 | 12.5×60 | 760 | | |
| 120 | 121 | 10×40 | 530 | 10×50 | 580 | 12.5×40 | 610 | 12.5×50 | 800 | | | | | | |
| 150 | 151 | 10×50 | 660 | 12.5×45 | 720 | 12.5×50 | 750 | | | | | | | | |
| 180 | 181 | 12.5×40 | 760 | 12.5×50 | 800 | 12.5×55 | 850 | | | | | | | | |
| 220 | 221 | 12.5×45 | 850 | 12.5×55 | 900 | | | | | | | | | | |
| 270 | 271 | 12.5×50 | 980 | 12.5×60 | 1050 | | | | | | | | | | |
| 330 | 331 | 12.5×55 | 1130 | | | | | | | | | | | | |

Size φD×L(mm)

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz