

# RT系列

## RT



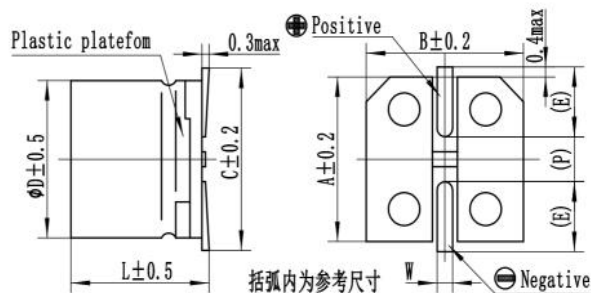
### 特长/用途

- 工作温度范围宽 (-55℃~+125℃)
- 适用于高密度表面组装
- 适用于再流焊
- 性能稳定、可靠性高
- ROHS、REACH指令已对应完毕

### 规格表

|                       |                                                                                                                                                                                                                                                                                                                                                              |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|--------------------|-----------------------------------------|-----------|------------|-------------|--------|----|----|-----------------------|------|------|------|------|------|------|------|-----------------------|------|---|---|---|---|---|---|
| 工作温度范围                | -55℃~+125℃                                                                                                                                                                                                                                                                                                                                                   |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 额定电压范围                | 6.3V~100V                                                                                                                                                                                                                                                                                                                                                    |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 标称电容量范围               | 0.1~1500YF                                                                                                                                                                                                                                                                                                                                                   |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 标称电容量允许偏差             | ±20%(120Hz, 20℃)                                                                                                                                                                                                                                                                                                                                             |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 漏 电 流 (20℃)           | I≤0.01CV 或 3( μ A), 取较大者(2分钟) CR: 标称电容量( μ F) UR额定电压(V)                                                                                                                                                                                                                                                                                                      |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 损耗角正切值                | <table><tr><td>V</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>100</td></tr><tr><td>tg δ</td><td>0.30</td><td>0.24</td><td>0.20</td><td>0.18</td><td>0.16</td><td>0.14</td><td>0.14</td><td>0.10</td></tr></table>                                                                                                   |      |      |      |      |      |      |      | V                  | 6.3                                     | 10        | 16         | 25          | 35     | 50 | 63 | 100                   | tg δ | 0.30 | 0.24 | 0.20 | 0.18 | 0.16 | 0.14 | 0.14                  | 0.10 |   |   |   |   |   |   |
| V                     | 6.3                                                                                                                                                                                                                                                                                                                                                          | 10   | 16   | 25   | 35   | 50   | 63   | 100  |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| tg δ                  | 0.30                                                                                                                                                                                                                                                                                                                                                         | 0.24 | 0.20 | 0.18 | 0.16 | 0.14 | 0.14 | 0.10 |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 耐久性                   | <div>+105℃施加额定电压1000小时，恢复16小时后， 电容器应满足要求</div> <table><tr><td>电 容 量 变 化 率</td><td>≤±20%初始值以内</td></tr><tr><td>漏电流值</td><td>≤200%初始规定值</td></tr><tr><td>损 耗 角 正 切 值</td><td>≤初始规定值</td></tr></table>                                                                                                                                                          |      |      |      |      |      |      |      | 电 容 量 变 化 率        | ≤±20%初始值以内                              | 漏电流值      | ≤200%初始规定值 | 损 耗 角 正 切 值 | ≤初始规定值 |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 电 容 量 变 化 率           | ≤±20%初始值以内                                                                                                                                                                                                                                                                                                                                                   |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 漏电流值                  | ≤200%初始规定值                                                                                                                                                                                                                                                                                                                                                   |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 损 耗 角 正 切 值           | ≤初始规定值                                                                                                                                                                                                                                                                                                                                                       |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 高温贮存                  | +105℃贮存1000小时后， 电容器应满足以上耐久性要求                                                                                                                                                                                                                                                                                                                                |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 低温特性<br>阻抗比           | <table><tr><td>U<sub>R</sub> (V)</td><td>4</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Z (-25℃)<br/>/Z (+20℃)</td><td>7</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z (-40℃)<br/>/Z (+20℃)</td><td>15</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td></tr></table> |      |      |      |      |      |      |      | U <sub>R</sub> (V) | 4                                       | 6.3       | 10         | 16          | 25     | 35 | 50 | Z (-25℃)<br>/Z (+20℃) | 7    | 4    | 3    | 2    | 2    | 2    | 2    | Z (-40℃)<br>/Z (+20℃) | 15   | 8 | 6 | 4 | 4 | 3 | 3 |
| U <sub>R</sub> (V)    | 4                                                                                                                                                                                                                                                                                                                                                            | 6.3  | 10   | 16   | 25   | 35   | 50   |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| Z (-25℃)<br>/Z (+20℃) | 7                                                                                                                                                                                                                                                                                                                                                            | 4    | 3    | 2    | 2    | 2    | 2    |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| Z (-40℃)<br>/Z (+20℃) | 15                                                                                                                                                                                                                                                                                                                                                           | 8    | 6    | 4    | 4    | 3    | 3    |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 耐焊接热                  | <div>在250℃的条件下， 电容器应在热板上保持30秒，然后从热板上取出电容器，让其在温度下恢复， 电容器应满足以下要求：</div> <table><tr><td>电 容 量 变 化 率</td><td>±10%初始值内<br/>Within 10% of initial value</td></tr><tr><td>损 耗 角 正 切</td><td>≤初始规定值</td></tr><tr><td>漏电流</td><td>≤初始规定值</td></tr></table>                                                                                                            |      |      |      |      |      |      |      | 电 容 量 变 化 率        | ±10%初始值内<br>Within 10% of initial value | 损 耗 角 正 切 | ≤初始规定值     | 漏电流         | ≤初始规定值 |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 电 容 量 变 化 率           | ±10%初始值内<br>Within 10% of initial value                                                                                                                                                                                                                                                                                                                      |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 损 耗 角 正 切             | ≤初始规定值                                                                                                                                                                                                                                                                                                                                                       |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |
| 漏电流                   | ≤初始规定值                                                                                                                                                                                                                                                                                                                                                       |      |      |      |      |      |      |      |                    |                                         |           |            |             |        |    |    |                       |      |      |      |      |      |      |      |                       |      |   |   |   |   |   |   |

外形图及尺寸表 Case Size Table



| D    | L        | A    | B    | C    | W       | P±0.2 |
|------|----------|------|------|------|---------|-------|
| 4    | 5.4±0.5  | 4.3  | 4.3  | 5.1  | 0.5~0.8 | 1.0   |
| 5    | 5.4±0.5  | 5.3  | 5.3  | 6.1  | 0.5~0.8 | 1.3   |
| 6.3  | 5.4±0.5  | 6.6  | 6.6  | 7.4  | 0.5~0.8 | 2.2   |
| 6.3  | 7.7±0.5  | 6.6  | 6.6  | 7.4  | 0.5~0.8 | 2.2   |
| 8    | 10.2±0.5 | 8.3  | 8.3  | 9.2  | 0.7~1.1 | 3.1   |
| 10   | 7.7±0.5  | 10.3 | 10.3 | 11.2 | 0.7~1.1 | 4.5   |
| 10   | 10.2±0.5 | 10.3 | 10.3 | 11.2 | 0.7~1.1 | 4.5   |
| 12.5 | 13.5±0.5 | 13.0 | 13.0 | 13.8 | 0.7~1.1 | 4.5   |
| 12.5 | 16±0.5   | 13.0 | 13.0 | 13.8 | 0.7~1.1 | 4.5   |
| 16   | 16.5±0.5 | 17.0 | 17.0 | 18.0 | 1.1~1.4 | 6.5   |
| 16   | 21.5±0.5 | 17.0 | 17.0 | 18.0 | 1.1~1.4 | 6.5   |
| 18   | 16.5±0.5 | 19.0 | 19.0 | 20.0 | 1.1~1.4 | 6.5   |
| 18   | 21.5±0.5 | 19.0 | 19.0 | 20.0 | 1.1~1.4 | 6.5   |

### 标称电容量、额定电压、额定纹波电流与外形尺寸对应表

Nominal capacitance, rated voltage, rated ripple current and case size table

| WV<br><br>μF | 6.3     |     | 10      |     | 16      |     | 25      |     | 35      |     | 50      |     |
|--------------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
|              | ΦD×L    | mA  | ΦD×L    | mA  | ΦD×L    | mA  | ΦD×L    | mA  | ΦD×L    | mA  | ΦD×L    | mA  |
|              | 0.1     |     |         |     |         |     |         |     |         |     | 4×5.4   | 2.3 |
| 0.22         |         |     |         |     |         |     |         |     |         |     | 4×5.4   | 3.4 |
| 0.33         |         |     |         |     |         |     |         |     |         |     | 4×5.4   | 4.1 |
| 0.47         |         |     |         |     |         |     |         |     |         |     | 4×5.4   | 5   |
| 1.0          |         |     |         |     |         |     |         |     |         |     | 4×5.4   | 10  |
| 2.2          |         |     |         |     |         |     |         |     |         |     | 4×5.4   | 16  |
| 3.3          |         |     |         |     |         |     |         |     | 4×5.4   | 13  | 4×5.4   | 16  |
| 4.7          |         |     |         |     |         |     | 4×5.4   | 22  | 4×5.4   | 22  | 5×5.4   | 23  |
| 10           |         |     |         |     | 4×5.4   | 28  | 5×5.4   | 28  | 5×5.4   | 30  | 6.3×5.4 | 32  |
| 22           | 4×5.4   | 29  | 5×5.4   | 30  | 5×5.4   | 39  | 6.3×5.4 | 55  | 6.3×5.4 | 60  | 6.3×7.7 | 51  |
|              |         |     |         |     |         |     | 5×5.4   | 48  | 5×5.4   | 52  |         |     |
| 33           | 5×5.4   | 34  | 5×5.4   | 34  | 5×5.4   | 35  | 6.3×5.4 | 65  | 8×6.5   | 84  | 6.3×7.7 | 70  |
| 47           | 5×5.4   | 46  | 6.3×5.4 | 48  | 6.3×5.4 | 70  | 6.3×5.4 | 70  | 6.3×7.7 | 80  | 6.3×7.7 | 80  |
| 100          | 6.3×7.7 | 71  | 6.3×5.4 | 69  | 6.3×5.4 | 70  | 6.3×7.7 | 100 | 8×10.2  | 296 | 8×10.2  | 230 |
| 220          | 6.3×7.7 | 120 | 6.3×7.7 | 120 | 6.3×7.7 | 120 | 8×10.2  | 320 | 10×10.2 | 435 | 10×10.2 | 375 |
| 330          | 8×10.2  | 290 | 8×10.2  | 305 | 8×10.2  | 425 | 10×10.2 | 450 | 10×10.2 | 450 |         |     |
| 470          | 8×10.2  | 330 | 8×10.2  | 340 | 8×10.2  | 340 | 10×10.2 | 490 |         |     |         |     |
| 1000         | 8×10.2  | 340 | 10×10.2 | 410 | 10×10.2 | 450 |         |     |         |     |         |     |
| 1500         |         |     |         |     |         |     |         |     |         |     |         |     |
|              | 63      |     | 100     |     |         |     |         |     |         |     |         |     |
|              | ΦD×L    | mA  | ΦD×L    | mA  |         |     |         |     |         |     |         |     |
| 10           | 6.3X5.4 | 29  | 6.3X7.7 | 30  |         |     |         |     |         |     |         |     |
| 22           | 6.3X7.7 | 34  | 8X10.2  | 34  |         |     |         |     |         |     |         |     |
| 47           | 8X10.2  | 46  | 10X10.2 | 48  |         |     |         |     |         |     |         |     |
| 100          | 10X10.2 | 71  |         |     |         |     |         |     |         |     |         |     |

RT

额定纹波电流的频率系数  
Frequency coefficient of rated ripple current

|                   |      |       |       |      |        |
|-------------------|------|-------|-------|------|--------|
| 频率<br>Frequency   | 50Hz | 120Hz | 300Hz | 1KHz | ≥10KHz |
| 系数<br>Coefficient | 0.70 | 1.00  | 1.17  | 1.36 | 1.50   |

产品编码说明

RT系列      6.3V      470微法拉      ±20%      8×10

RT      OJ      471      M      0810

系列名      额定电压      额定静电容量      容许误差值      制品尺寸

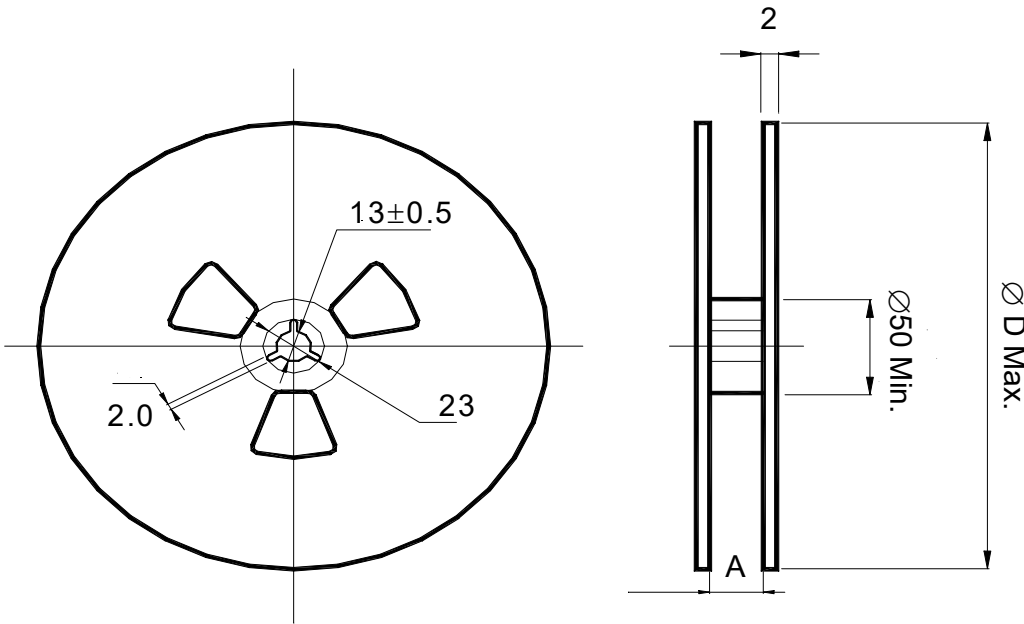
|            |     |     |     |     |     |     |     |     |     |    |     |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| 额定电压(W .V) | 4   | 6.3 | 10  | 16  | 20  | 25  | 35  | 50  | 63  | 80 | 100 |
| 电压代码       | 0G  | 0J  | 1A  | 1C  | 1D  | 1E  | 1V  | 1H  | 1J  | 1K | 2A  |
| 额定电压(W .V) | 160 | 180 | 200 | 250 | 315 | 350 | 400 | 420 | 450 |    |     |
| 电压代码       | 2C  | 2S  | 2D  | 2E  | 2F  | 2V  | 2G  | 2P  | 2W  |    |     |

|        |         |     |       |         |         |      |         |     |       |       |        |     |
|--------|---------|-----|-------|---------|---------|------|---------|-----|-------|-------|--------|-----|
| 标称容量   | 1       | 2.2 | 3.3   | 4.7     | 6.8     | 8.2  | 10      | 22  | 33    | 47    | 100    | 150 |
| 容量代码   | 1R0     | 2R2 | 3R3   | 4R7     | 6R8     | 8R2  | 100     | 220 | 330   | 470   | 101    | 151 |
| 容量允许误差 | ±5%     |     |       | ±10%    |         |      | ±20%    |     |       | 0~20% |        |     |
| 代码     | J       |     |       | K       |         |      | M       |     |       | A     |        |     |
| 尺寸     | 4*5.4   |     | 5*5.4 |         | 6.3*5.4 |      | 6.3*7.7 |     | 8*6.5 |       | 8*10.2 |     |
| 代码     | 0405    |     | 0505  |         | 0605    |      | 0607    |     | 0806  |       | 0810   |     |
| 标称容量   | 220     | 330 | 470   | 680     | 1000    | 1500 | 2200    |     |       |       |        |     |
| 容量代码   | 221     | 331 | 471   | 681     | 102     | 152  | 222     |     |       |       |        |     |
| 容量允许误差 | -10~30% |     |       | -10~20% |         |      |         |     |       |       |        |     |
| 代码     | Q       |     |       | V       |         |      |         |     |       |       |        |     |
| 尺寸     | 10*10.2 |     | 8*12  |         | 10*12   |      |         |     |       |       |        |     |
| 代码     | 1010    |     | 0812  |         | 1012    |      |         |     |       |       |        |     |

贴片型铝电解电容器

RT

卷筒



包装数量: Package quantity

| 规格<br>Specification | 卷装数量<br>Quantity/Reel | 大箱装数量<br>Quantity/Bag | 小箱装数量<br>Quantity/Bag | A±<br>0.3<br>(MM) | D±2<br>(MM) |
|---------------------|-----------------------|-----------------------|-----------------------|-------------------|-------------|
| Φ 4*5.4             | 2000 pcs              | 54000pcs              | 24000pcs              | 14                | 382         |
| Φ 5*5.4             | 1000 pcs              | 27000pcs              | 12000pcs              | 14                | 382         |
| Φ 6.3*4.5           | 1500 pcs              | 22000pcs              | 10000pcs              | 18                | 382         |
| Φ 6.3*5.4           | 1000 pcs              | 22000pcs              | 10000pcs              | 18                | 382         |
| Φ 6.3*7.7           | 1000 pcs              | 16500pcs              | 7500pcs               | 18                | 382         |
| Φ 8*10.2            | 500 pcs               | 7500pcs               | 3500pcs               | 26                | 382         |
| Φ 10*10.2           | 500 pcs               | 7500pcs               | 3500pcs               | 26                | 382         |
| Φ 12.5*13.5         | 200 pcs               | 2400pcs               | 1000pcs               | 34                | 332         |
| Φ 16*16.5           | 125pcs                | 1125pcs               | 500pcs                | 46                | 332         |
| Φ 16*16.5           | 150 pcs               | 1350 pcs              | 600pcs                | 46                | 332         |

## 无铅回流焊接: Lead-free Reflow Soldering Condition

### A. 回流焊条件推荐: Recommended Conditions for Reflow Soldering:

(1) 应采用红外线及热风回流焊接, 不宜采用汽相加热回流焊接;

A thermal condition system such as infrared radiation (IR) or hot blast should be adopted, and vapor heat transfer systems (VPS) are not recommended.

(2) 推荐回流焊只进行一次, 回流焊次数如果需要二次, 必须相隔60分钟以上;

Reflow soldering should be performed one time. If the capacitor has to be reflowed twice, 60 minutes must be layout between each time.

(3) 无铅回流焊, 请符合下述条件:

For lead-free type reflow soldering, please observe proper conditions below:

a) 从150°C至180°C的预热时间 < 120秒以内;

The time of preheating from 150°C to 180°C shall be within maximum 120 seconds;

b) 电容器顶部温度超过217°C的焊接时间不超过tL时间;

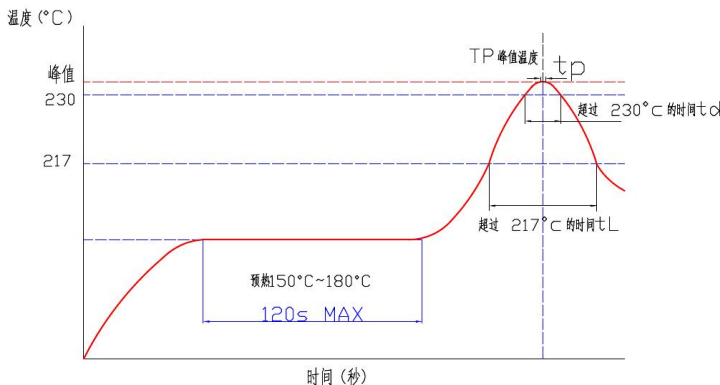
The time of soldering temperature at 217°C measured on capacitors' top shall not exceed tL (second);

c) 电容器顶部温度超过230°C的焊接时间不超过td时间;

The time of soldering temperature at 230°C measured on capacitors' top shall not exceed td (second);

d) 电容器顶部尖峰温度不超过Tp°C, 在5°C范围内的实际尖峰温度时间不超过tp时间

The peak temperature on capacitors' top shall not exceed Tp(°C), and the time within 5°C of actual peak temperature shall not exceed tp (second).



## 尖峰温度允许范围: Allowable Range of Peak Temperature

| Size         | Thicknes<br>s (mm) | Tp(° C) | tL<br>(second) | td<br>(secon<br>d) | tp<br>(secon<br>d) |
|--------------|--------------------|---------|----------------|--------------------|--------------------|
| Ø4~Ø6.3*7.7L | ≥2.5               | 260±0   | ≤60            | ≤20                | ≤5                 |
| Ø8*6.5L      | ≥2.5               | 260±0   | ≤30            | ≤10                | ≤5                 |
| Ø8/10×13.5L  | ≥2.5               | 235±0   | ≤40            | ≤10                | ≤5                 |
| Ø12.5~Ø16    | ≥3.0               | 235±0   | ≤20            | --                 | ≤3                 |

## 表面安装推荐尺寸: Recommended Land Size (Unit: mm)

| 尺寸Size | X   | Y   | a   |
|--------|-----|-----|-----|
| Φ4     | 1.6 | 2.6 | 1.0 |
| Φ5     | 1.6 | 3.0 | 1.4 |
| Φ6.3   | 1.6 | 3.5 | 1.9 |
| Φ8     | 2.5 | 3.5 | 3.0 |
| Φ10    | 2.5 | 4.0 | 4.0 |
| Φ12.5  | 3.0 | 5.7 | 4.0 |
| Φ16    | 3.5 | 6.5 | 6.0 |

