

**Rubycon**

# 小型铝电解电容器

## MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

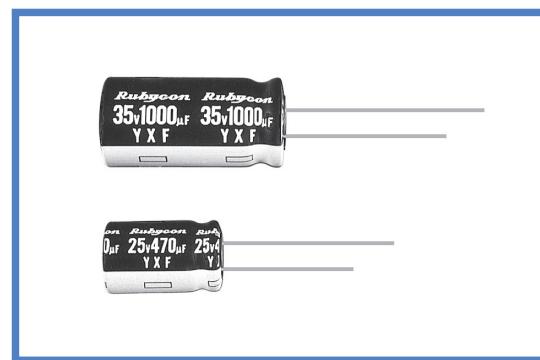
YXF

### YXF 系列 SERIES

105°C长寿命 低阻抗品  
105°C Long Life, Low Impedance

#### ◆特 长 / FEATURES

- 105°C、4000~10000小时品。  
Load Life : 105°C 4000~10000 hours.
- 高频阻抗规格设定。  
Prescribe Impedance value at 100 kHz.
- RoHS指令对应品  
RoHS compliance.



#### ◆规格表 / SPECIFICATIONS

| 项 目 Items  | 特 性 Characteristics   |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
|--|---|------|------|------|-----------|------|------|------|----------------------------------|---|----|----|----|----|----|----|-----|--------------------------------|--|------|------|------|------|------|------|------|-----------------------|---|---|---|---|---|---|---|---|----------------|----------------------|--|--|--|--|--|--|--|--|-----------|--|--|--|-----------|--|--|--|---------|------|--|--|--|------|--|--|--|----------|------|--|--|--|------|--|--|--|----------|------|--|--|--|-------|--|--|--|
| 工作温度范围 Category Temperature Range                                    | -40~+105°C  |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 额定电压范围 Rated Voltage Range   | 6.3~100Vdc  |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 静电容量允许差 Capacitance Tolerance  | ±20% (20°C, 120Hz)  |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 漏 电 流 Leakage Current(MAX)   | <p>小于I=0.01CV和3μA中的较大值 (施加额定电压2分钟后)<br/>I=0.01CV or 3μA whichever is greater. (After 2 minutes)</p> <p>I=漏电流 (μA)      C=静电容量 (μF)<br/>Leakage Current      Capacitance      V=额定电压 (Vdc)<br/>                            Rated Voltage</p>   |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 损失角正切值(tan δ ) Dissipation Factor(MAX)                               | <table border="1"> <tr> <td>额定电压 (Vdc)<br/>Rated Voltage</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>tan δ</td><td>0.22</td><td>0.19</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> <p>(20°C, 120Hz)</p> <p>对于静电容量超过1000μF的产品，其静电容量每增加1000μF，则损失角正切值在上表值的基础上加上0.02。<br/>When capacitance is over 1000μF, tan δ shall be added 0.02 to the listed value with increase of every 1000μF.</p>  |      |      |      |           |      |      |      | 额定电压 (Vdc)<br>Rated Voltage      | 6.3   | 10 | 16 | 25 | 35 | 50 | 63 | 100 | tan δ                          | 0.22   | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 额定电压 (Vdc)<br>Rated Voltage  | 6.3   | 10   | 16   | 25   | 35        | 50   | 63   | 100  |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| tan δ  | 0.22  | 0.19 | 0.16 | 0.14 | 0.12      | 0.10 | 0.09 | 0.08 |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 耐 久 性 Endurance  | <p>在105°C环境中，不超过额定电压的范围内叠加额定纹波电流，连续加载右表时间后，满足以下各项要求。<br/>After applying rated voltage with rated ripple current for specified time at 105°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>静 电 容 量 变 化 率 Capacitance Change</td> <td colspan="8">初期值的±25%以内<br/>Within ±25% of the initial value.</td> </tr> <tr> <td>损 失 角 正 切 值 Dissipation Factor</td> <td colspan="8">规格值的200%以下<br/>Not more than 200% of the specified value.</td> </tr> <tr> <td>漏 电 流 Leakage Current</td> <td colspan="8">规格值以下<br/>Not more than the specified value.</td> </tr> </table> <table border="1"> <tr> <td>铝壳尺寸 Case Size</td> <td colspan="8">时间(hrs)<br/>Life Time</td> </tr> <tr> <td></td> <td colspan="4">6.3~10Vdc</td> <td colspan="4">16~100Vdc</td> </tr> <tr> <td>Φ D≤6.3</td> <td colspan="4">4000</td> <td colspan="4">5000</td> </tr> <tr> <td>Φ D=8,10</td> <td colspan="4">6000</td> <td colspan="4">7000</td> </tr> <tr> <td>Φ D=12.5</td> <td colspan="4">8000</td> <td colspan="4">10000</td> </tr> </table> |      |      |      |           |      |      |      | 静 电 容 量 变 化 率 Capacitance Change | 初期值的±25%以内<br>Within ±25% of the initial value. |    |    |    |    |    |    |     | 损 失 角 正 切 值 Dissipation Factor | 规格值的200%以下<br>Not more than 200% of the specified value. |      |      |      |      |      |      |      | 漏 电 流 Leakage Current | 规格值以下<br>Not more than the specified value. |   |   |   |   |   |   |   | 铝壳尺寸 Case Size | 时间(hrs)<br>Life Time |  |  |  |  |  |  |  |  | 6.3~10Vdc |  |  |  | 16~100Vdc |  |  |  | Φ D≤6.3 | 4000 |  |  |  | 5000 |  |  |  | Φ D=8,10 | 6000 |  |  |  | 7000 |  |  |  | Φ D=12.5 | 8000 |  |  |  | 10000 |  |  |  |
| 静 电 容 量 变 化 率 Capacitance Change                                     | 初期值的±25%以内<br>Within ±25% of the initial value.   |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 损 失 角 正 切 值 Dissipation Factor                                       | 规格值的200%以下<br>Not more than 200% of the specified value.  |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 漏 电 流 Leakage Current  | 规格值以下<br>Not more than the specified value.   |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 铝壳尺寸 Case Size   | 时间(hrs)<br>Life Time  |      |      |      |           |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
|  | 6.3~10Vdc   |      |      |      | 16~100Vdc |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| Φ D≤6.3  | 4000  |      |      |      | 5000      |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| Φ D=8,10   | 6000  |      |      |      | 7000      |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| Φ D=12.5   | 8000  |      |      |      | 10000     |      |      |      |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 低 温 特 性 Low Temperature Stability<br>(阻 抗 比)<br>Impedance Ratio(MAX) | <table border="1"> <tr> <td>额定电压 (Vdc)<br/>Rated Voltage</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>Z(-25°C)/Z(20°C)</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr> <tr> <td>Z(-40°C)/Z(20°C)</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr> </table> <p>(120Hz)</p>  |      |      |      |           |      |      |      | 额定电压 (Vdc)<br>Rated Voltage      | 6.3   | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Z(-25°C)/Z(20°C)               | 4  | 3    | 2    | 2    | 2    | 2    | 2    | 2    | Z(-40°C)/Z(20°C)      | 8   | 6 | 4 | 3 | 3 | 3 | 3 | 3 |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| 额定电压 (Vdc)<br>Rated Voltage  | 6.3   | 10   | 16   | 25   | 35        | 50   | 63   | 100  |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| Z(-25°C)/Z(20°C)   | 4   | 3    | 2    | 2    | 2         | 2    | 2    | 2    |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |
| Z(-40°C)/Z(20°C)   | 8   | 6    | 4    | 3    | 3         | 3    | 3    | 3    |                                  |   |    |    |    |    |    |    |     |                                |  |      |      |      |      |      |      |      |                       |   |   |   |   |   |   |   |   |                |                      |  |  |  |  |  |  |  |  |           |  |  |  |           |  |  |  |         |      |  |  |  |      |  |  |  |          |      |  |  |  |      |  |  |  |          |      |  |  |  |       |  |  |  |

#### ◆纹波电流补正系数 / MULTIPLIER FOR RIPPLE CURRENT

| 频率 (Hz)<br>Frequency | 120          | 1k   | 10k  | 100k ≤ |
|----------------------|--------------|------|------|--------|
| 系 数<br>Coefficient   | 1uF          | 0.35 | 0.60 | 0.80   |
|                      | 2.2~10uF     | 0.42 | 0.60 | 0.80   |
|                      | 22~33uF      | 0.55 | 0.75 | 0.90   |
|                      | 47~330uF     | 0.70 | 0.85 | 0.95   |
|                      | 470~1000uF   | 0.75 | 0.90 | 0.98   |
|                      | 2200~15000uF | 0.80 | 0.95 | 1.00   |

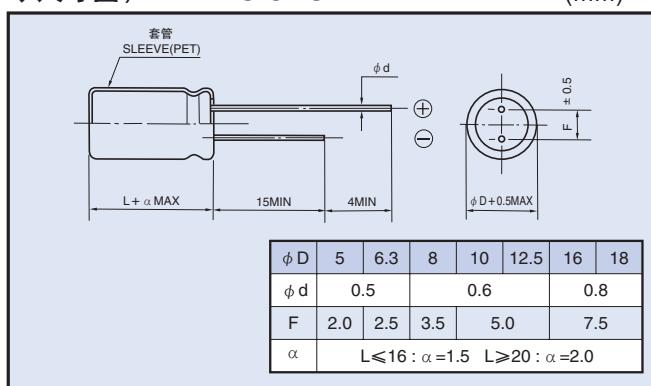
#### ◆副记号 / OPTION

|                  | 记 号 Code |
|------------------|----------|
| PET套管 PET Sleeve | EFC      |

#### ◆产品型号体系 / PART NUMBER

| □□□                   | YXF            | □□□□□               | M                                | □□□           | □□                     | D × L             |
|-----------------------|----------------|---------------------|----------------------------------|---------------|------------------------|-------------------|
| 额定电压<br>Rated Voltage | 系列名称<br>Series | 静电容量<br>Capacitance | 静电容量允许差<br>Capacitance Tolerance | 副记号<br>Option | 引线加工记号<br>Lead Forming | 铝壳尺寸<br>Case Size |

#### ◆尺寸图 / DIMENSIONS





**小型铝电解电容器**  
MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

YXF

◆标准品一览表 / STANDARD SIZE

| 额定电压<br>Rated Voltage<br>(Vdc) | 静电容量<br>Capacitance (μF) | 外形尺寸<br>Size<br>φ DxL(mm) | 额定纹波电流<br>Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | 阻抗 (Ω MAX)<br>Impedance |               |
|--------------------------------|--------------------------|---------------------------|---|-------------------------|---------------|
|                                |                          |                           |   | 20°C, 100kHz            | -10°C, 100kHz |
| 6.3                            | 100                      | 5×11                      | 150   | 0.90                    | 3.6           |
|                                | 220                      | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 330                      | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 470                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
|                                | 1000                     | 10×12.5                   | 580   | 0.16                    | 0.65          |
|                                | 2200                     | 12.5×20                   | 1300  | 0.062                   | 0.21          |
|                                | 3300                     | 12.5×20                   | 1300  | 0.062                   | 0.21          |
|                                | 4700                     | 16×25                     | 1850  | 0.034                   | 0.096         |
|                                | 6800                     | 16×25                     | 1850  | 0.034                   | 0.096         |
|                                | 10000                    | 16×31.5                   | 2000  | 0.029                   | 0.087         |
|                                | 15000                    | 18×35.5                   | 2200  | 0.025                   | 0.058         |
|                                | 100                      | 5×11                      | 150   | 0.90                    | 3.6           |
| 10                             | 220                      | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 330                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
|                                | 470                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
|                                | 1000                     | 10×16                     | 770   | 0.12                    | 0.46          |
|                                | 2200                     | 12.5×20                   | 1300  | 0.062                   | 0.21          |
|                                | 3300                     | 12.5×25                   | 1650  | 0.048                   | 0.16          |
|                                | 4700                     | 16×25                     | 1850  | 0.034                   | 0.096         |
|                                | 6800                     | 16×31.5                   | 2000  | 0.029                   | 0.087         |
|                                | 10000                    | 18×35.5                   | 2200  | 0.025                   | 0.058         |
|                                | 47                       | 5×11                      | 150   | 0.90                    | 3.6           |
|                                | 100                      | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 220                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
| 16                             | 330                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
|                                | 470                      | 10×12.5                   | 580   | 0.16                    | 0.65          |
|                                | 1000                     | 10×20                     | 1050  | 0.078                   | 0.30          |
|                                | 2200                     | 12.5×25                   | 1650  | 0.048                   | 0.16          |
|                                | 3300                     | 16×25                     | 1850  | 0.034                   | 0.096         |
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|                                | 47                       | 5×11                      | 150   | 0.90                    | 3.6           |
|                                | 100                      | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 220                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
| 25                             | 330                      | 10×12.5                   | 580   | 0.16                    | 0.65          |
|                                | 470                      | 10×16                     | 770   | 0.12                    | 0.46          |
|                                | 1000                     | 12.5×20                   | 1300  | 0.062                   | 0.21          |
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|                                | 220                      | 10×12.5                   | 580   | 0.16                    | 0.65          |
| 35                             | 330                      | 10×16                     | 770   | 0.12                    | 0.46          |
|                                | 470                      | 10×20                     | 1050  | 0.078                   | 0.30          |
|                                | 1000                     | 12.5×25                   | 1650  | 0.048                   | 0.16          |
|                                | 2200                     | 16×31.5                   | 2000  | 0.029                   | 0.087         |
|                                | 3300                     | 18×35.5                   | 2200  | 0.025                   | 0.058         |

| 额定电压<br>Rated Voltage<br>(Vdc) | 静电容量<br>Capacitance (μF) | 外形尺寸<br>Size<br>φ DxL(mm) | 额定纹波电流<br>Rated ripple current<br>(mA r.m.s./105°C, 100kHz) | 阻抗 (Ω MAX)<br>Impedance |               |
|--------------------------------|--------------------------|---------------------------|---|-------------------------|---------------|
|                                |                          |                           |   | 20°C, 100kHz            | -10°C, 100kHz |
| 50                             | 1                        | 5×11                      | 30  | 4.0                     | 8.0           |
|                                | 2.2                      | 5×11                      | 43  | 2.5                     | 6.0           |
|                                | 3.3                      | 5×11                      | 53  | 2.2                     | 5.6           |
|                                | 4.7                      | 5×11                      | 88  | 1.9                     | 5.0           |
|                                | 10                       | 5×11                      | 100   | 1.5                     | 4.0           |
|                                | 22                       | 5×11                      | 150   | 0.90                    | 3.6           |
|                                | 33                       | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 47                       | 6.3×11                    | 250   | 0.40                    | 1.6           |
|                                | 100                      | 8×11.5                    | 400   | 0.25                    | 1.0           |
|                                | 220                      | 10×16                     | 770   | 0.12                    | 0.46          |
|                                | 330                      | 10×20                     | 1050  | 0.078                   | 0.30          |
|                                | 470                      | 12.5×20                   | 1300  | 0.062                   | 0.21          |
| 1000                           | 1000                     | 16×25                     | 1850  | 0.034                   | 0.096         |
|                                | 2200                     | 18×35.5                   | 2200  | 0.025                   | 0.058         |
|                                | 10                       | 5×11                      | 87  | 2.3                     | 9.3           |
| 63                             | 22                       | 6.3×11                    | 140   | 1.3                     | 5.2           |
|                                | 33                       | 6.3×11                    | 140   | 1.2                     | 5.0           |
|                                | 47                       | 8×11.5                    | 210   | 0.63                    | 2.8           |
|                                | 100                      | 10×12.5                   | 300   | 0.43                    | 1.8           |
|                                | 220                      | 10×20                     | 520   | 0.21                    | 0.84          |
|                                | 330                      | 12.5×20                   | 660   | 0.16                    | 0.64          |
|                                | 470                      | 12.5×25                   | 750   | 0.12                    | 0.45          |
| 100                            | 1000                     | 16×31.5                   | 1390  | 0.054                   | 0.20          |
|                                | 1                        | 5×11                      | 20  | 4.5                     | 15.0          |
|                                | 2.2                      | 5×11                      | 30  | 3.0                     | 13.0          |
|                                | 3.3                      | 5×11                      | 40  | 2.7                     | 11.0          |
|                                | 4.7                      | 5×11                      | 65  | 2.5                     | 10.0          |
|                                | 10                       | 6.3×11                    | 140   | 1.2                     | 5.0           |
|                                | 22                       | 8×11.5                    | 160   | 0.63                    | 2.8           |
|                                | 33                       | 10×12.5                   | 230   | 0.43                    | 1.8           |
|                                | 47                       | 10×16                     | 290   | 0.31                    | 1.5           |
| 100                            | 100                      | 12.5×20                   | 430   | 0.16                    | 0.64          |
|                                | 220                      | 16×25                     | 900   | 0.073                   | 0.27          |
|                                | 330                      | 16×25                     | 900   | 0.073                   | 0.27          |