



| 1   | 2   | 3    | 4  | 5    | 6   | 7       | 8  | 9        | 10  | 11   | 12 | 13        | 14                  | 15      | 16      |
|-----|-----|------|----|------|-----|---------|----|----------|-----|------|----|-----------|---------------------|---------|---------|
| ↓   |     | ↓    |    |      |     |         | ↓  |          | ↓   |      |    | ↓         | ↓                   | ↓       |         |
| 系列  | 代码  | 产品直径 | 代码 | 产品高度 | 代码  | 额定电压(V) | 代码 | 静电容量(μF) | 代码  | 容量范围 | 代码 | 附属码(引脚成型) |                     | 附属码(外观) |         |
| NGY | NGY | 3.55 | W  | 3.95 | 039 | 2       | 0D | 1.0      | 1R0 | ±20% | M  | A         | 切直脚A图               | JG      | 胶管      |
| NHT | NHT | 4    | A  | 4.2  | 042 | 2.5     | 0E | 1.2      | 1R2 | ±10% | K  | B         | 切脚成型B图              | TM      | 涂膜丝印    |
| NHX | NHX | 4.5  | G  | 4.5  | 045 | 4       | 0G | 1.5      | 1R5 |      |    | C         | 切脚成型C图              | CG      | 车规      |
| NP1 | NP1 | 5    | B  | 5    | 050 | 6.3     | 0J | 1.8      | 1R8 |      |    | D         | 切脚成型D图              | KZ      | 抗震品     |
| NPG | NPG | 5.5  | H  | 5.4  | 054 | 6.8     | 0A | 2.2      | 2R2 |      |    | E         | 切脚成型E图              | MR      | 品红色涂膜丝印 |
| NPH | NPH | 6.3  | C  | 5.7  | 057 | 7.5     | 0L | 2.7      | 2R7 |      |    | Q         | 切脚折弯90°<br>F图A型(右)  | JP      | 军规      |
| NPL | NPL | 8    | D  | 5.8  | 058 | 10      | 1A | 3.3      | 3R3 |      |    | P         | 切脚折弯90°<br>F图B型(左)  | LG      | 雷管      |
| NPM | NPM | 10   | E  | 6    | 060 | 12      | 1B | 3.9      | 3R9 |      |    | X         | 切脚成型G图              |         |         |
| NPT | NPT | 12.5 | L  | 6.1  | 061 | 16      | 1C | 4.7      | 4R7 |      |    | G         | 切脚双折弯90°<br>H图A型(右) |         |         |
| NPX | NPX | 13   | S  | 7    | 070 | 20      | 1D | 5.6      | 5R6 |      |    | R         | 切脚双折弯90°<br>H图B型(左) |         |         |
| VGY | VGY | 16   | I  | 7.5  | 075 | 25      | 1E | 6.8      | 6R8 |      |    | K         | 编带A图                |         |         |
| VHM | VHM | 18   | J  | 7.7  | 077 | 35      | 1V | 8.2      | 8R2 |      |    | L         | 编带B图                |         |         |
| VHR | VHR | 20   | N  | 8    | 080 | 50      | 1H | 10       | 100 |      |    | V         | SMD                 |         |         |
| VHT | VHT | 22   | K  | 8.5  | 085 | 63      | 1J | 12       | 120 |      |    | J         | 固态引线型               |         |         |
| VHU | VHU | 25   | M  | 9    | 090 | 80      | 1K | 15       | 150 |      |    |           |                     |         |         |
| VHX | VHX | 30   | P  | 9.5  | 095 | 100     | 2A | 18       | 180 |      |    |           |                     |         |         |
| VP1 | VP1 | 35   | Q  | 10   | 100 | 120     | 2K | 22       | 220 |      |    |           |                     |         |         |
| VP4 | VP4 | 40   | R  | 10.5 | 105 | 125     | 2B | 27       | 270 |      |    |           |                     |         |         |
| VPG | VPG |      |    | 11   | 110 | 160     | 2C | 33       | 330 |      |    |           |                     |         |         |
| VPH | VPH |      |    | 11.5 | 115 | 200     | 2D | 39       | 390 |      |    |           |                     |         |         |
| VPL | VPL |      |    | 12   | 120 | 250     | 2E | 47       | 470 |      |    |           |                     |         |         |
| VPT | VPT |      |    | 12.5 | 125 | 350     | 2V | 56       | 560 |      |    |           |                     |         |         |
| VPW | VPW |      |    | 13   | 130 | 400     | 2G | 68       | 680 |      |    |           |                     |         |         |
| VPX | VPX |      |    | 13.5 | 135 | 450     | 2W | 82       | 820 |      |    |           |                     |         |         |
|     |     |      |    | 14   | 140 | 500     | 2H | 100      | 101 |      |    |           |                     |         |         |
|     |     |      |    | 14.5 | 145 | 600     | 2J | 120      | 121 |      |    |           |                     |         |         |
|     |     |      |    | 15   | 150 | 630     | 2Y | 150      | 151 |      |    |           |                     |         |         |
|     |     |      |    | 15.5 | 155 | 650     | 2X | 180      | 181 |      |    |           |                     |         |         |
|     |     |      |    | 16   | 160 |         |    | 200      | 201 |      |    |           |                     |         |         |
|     |     |      |    | 16.5 | 165 |         |    | 220      | 221 |      |    |           |                     |         |         |
|     |     |      |    | 17   | 170 |         |    | 250      | 251 |      |    |           |                     |         |         |
|     |     |      |    | 17.5 | 175 |         |    | 270      | 271 |      |    |           |                     |         |         |
|     |     |      |    | 18   | 180 |         |    | 330      | 331 |      |    |           |                     |         |         |
|     |     |      |    | 18.5 | 185 |         |    | 390      | 391 |      |    |           |                     |         |         |
|     |     |      |    | 19   | 190 |         |    | 470      | 471 |      |    |           |                     |         |         |
|     |     |      |    | 19.5 | 195 |         |    | 560      | 561 |      |    |           |                     |         |         |
|     |     |      |    | 20   | 200 |         |    | 680      | 681 |      |    |           |                     |         |         |
|     |     |      |    | 21   | 210 |         |    | 820      | 821 |      |    |           |                     |         |         |
|     |     |      |    | 21.5 | 215 |         |    | 1000     | 102 |      |    |           |                     |         |         |
|     |     |      |    | 22   | 220 |         |    | 1200     | 122 |      |    |           |                     |         |         |
|     |     |      |    | 23   | 230 |         |    | 1500     | 152 |      |    |           |                     |         |         |
|     |     |      |    | 25   | 250 |         |    | 1800     | 182 |      |    |           |                     |         |         |
|     |     |      |    | 26.5 | 265 |         |    | 2000     | 202 |      |    |           |                     |         |         |
|     |     |      |    | 30   | 300 |         |    | 2200     | 222 |      |    |           |                     |         |         |
|     |     |      |    | 31.5 | 315 |         |    | 2400     | 242 |      |    |           |                     |         |         |
|     |     |      |    | 35.5 | 355 |         |    | 2500     | 252 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 2700     | 272 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 3300     | 332 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 3900     | 392 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 4700     | 472 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 5600     | 562 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 6800     | 682 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 8200     | 822 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 10000    | 103 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 12000    | 123 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 15000    | 153 |      |    |           |                     |         |         |
|     |     |      |    |      |     |         |    | 18000    | 183 |      |    |           |                     |         |         |



# NPH

- ◆高可靠性 低ESR 高容许纹波电流
- ◆105℃ 2000小时保证
- ◆已应对RoHS指令
- ◆高电压品

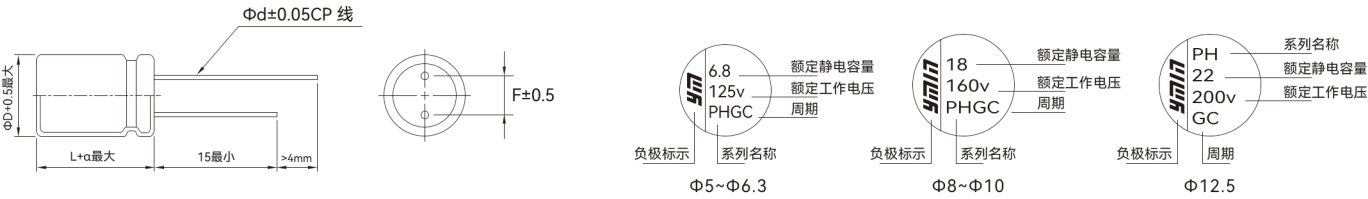


## 主要技术参数

| 项目          | 特性                                                                                                                                                                                                                                                     |         |          |             |             |        |             |     |        |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|-------------|-------------|--------|-------------|-----|--------|
| 工作温度范围      | -55 ~ +105℃                                                                                                                                                                                                                                            |         |          |             |             |        |             |     |        |
| 额定工作电压      | 125 ~ 250V                                                                                                                                                                                                                                             |         |          |             |             |        |             |     |        |
| 容量范围        | 1 ~ 82 μF 120Hz 20℃                                                                                                                                                                                                                                    |         |          |             |             |        |             |     |        |
| 容量允许偏差      | ±20% (120Hz 20℃)                                                                                                                                                                                                                                       |         |          |             |             |        |             |     |        |
| 损耗角正切值      | 标准品一览表的值以下 120Hz 20℃                                                                                                                                                                                                                                   |         |          |             |             |        |             |     |        |
| 漏电流※        | 标准品一览表的值以下 额定电压下充电2分钟, 20℃                                                                                                                                                                                                                             |         |          |             |             |        |             |     |        |
| 等效串联电阻(ESR) | 标准品一览表的值以下 100kHz 20℃                                                                                                                                                                                                                                  |         |          |             |             |        |             |     |        |
| 耐久性         | 在105℃温度下, 施加额定工作电压2000小时, 并在20℃下放置16小时后, 产品应满足 <table><tr><td>静电容量变化率</td><td>初始值的±20%</td></tr><tr><td>等效串联电阻(ESR)</td><td>≤初始规格值的150%</td></tr><tr><td>损耗角正切值</td><td>≤初始规格值的150%</td></tr><tr><td>漏电流</td><td>≤初始规格值</td></tr></table>              | 静电容量变化率 | 初始值的±20% | 等效串联电阻(ESR) | ≤初始规格值的150% | 损耗角正切值 | ≤初始规格值的150% | 漏电流 | ≤初始规格值 |
| 静电容量变化率     | 初始值的±20%                                                                                                                                                                                                                                               |         |          |             |             |        |             |     |        |
| 等效串联电阻(ESR) | ≤初始规格值的150%                                                                                                                                                                                                                                            |         |          |             |             |        |             |     |        |
| 损耗角正切值      | ≤初始规格值的150%                                                                                                                                                                                                                                            |         |          |             |             |        |             |     |        |
| 漏电流         | ≤初始规格值                                                                                                                                                                                                                                                 |         |          |             |             |        |             |     |        |
| 高温高湿        | 在60℃温度、90%~95%R.H湿度条件下不施加电压, 放置1000小时, 并在20℃下放置16小时后, 产品应满足 <table><tr><td>静电容量变化率</td><td>初始值的±20%</td></tr><tr><td>等效串联电阻(ESR)</td><td>≤初始规格值的150%</td></tr><tr><td>损耗角正切值</td><td>≤初始规格值的150%</td></tr><tr><td>漏电流</td><td>≤初始规格值</td></tr></table> | 静电容量变化率 | 初始值的±20% | 等效串联电阻(ESR) | ≤初始规格值的150% | 损耗角正切值 | ≤初始规格值的150% | 漏电流 | ≤初始规格值 |
| 静电容量变化率     | 初始值的±20%                                                                                                                                                                                                                                               |         |          |             |             |        |             |     |        |
| 等效串联电阻(ESR) | ≤初始规格值的150%                                                                                                                                                                                                                                            |         |          |             |             |        |             |     |        |
| 损耗角正切值      | ≤初始规格值的150%                                                                                                                                                                                                                                            |         |          |             |             |        |             |     |        |
| 漏电流         | ≤初始规格值                                                                                                                                                                                                                                                 |         |          |             |             |        |             |     |        |

※当对漏电流值有疑义时, 请将产品置于105℃温度下施加额定工作电压2小时, 降温到20℃后再进行漏电流的测试。

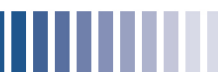
## 产品尺寸图 (单位: mm)



|           |           |           |     |     |      |
|-----------|-----------|-----------|-----|-----|------|
| D (±0.5)  | 5         | 6.3       | 8   | 10  | 12.5 |
| d (±0.05) | 0.45/0.50 | 0.45/0.50 | 0.6 | 0.6 | 0.6  |
| F (±0.5)  | 2         | 2.5       | 3.5 | 5   | 5    |
| a         | +1        |           |     |     |      |

## 频率修正因子

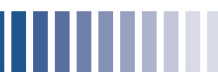
|        |       |      |       |        |        |
|--------|-------|------|-------|--------|--------|
| 频率(Hz) | 120Hz | 1kHz | 10kHz | 100kHz | 500kHz |
| 修正因子   | 0.05  | 0.30 | 0.70  | 1.00   | 1.00   |



# NPH

## ■ 标准品一览表

| 额定电压<br>(浪涌电压)<br>(V) | 标称容量<br>( $\mu$ F) | 产品尺寸<br>$\Phi D \times L$ (mm) | L.C.<br>( $\mu$ A, 2min) | Tan $\delta$<br>120Hz | ESR<br>(m $\Omega$ 100kHz) | 额定纹波电流<br>(mA r.m.s./105°C100kHz) |
|-----------------------|--------------------|--------------------------------|--------------------------|-----------------------|----------------------------|-----------------------------------|
| 125(144)              | 1.5                | 6.3×5.7                        | 300                      | 0.12                  | 400                        | 1200                              |
| 125(144)              | 2.2                | 6.3×5.7                        | 300                      | 0.12                  | 400                        | 1200                              |
| 125(144)              | 2.7                | 6.3×7                          | 300                      | 0.12                  | 350                        | 1550                              |
| 125(144)              | 3.3                | 6.3×7                          | 300                      | 0.12                  | 350                        | 1550                              |
| 125(144)              | 4.7                | 6.3×9                          | 300                      | 0.12                  | 250                        | 1700                              |
| 125(144)              | 5.6                | 6.3×9                          | 300                      | 0.12                  | 250                        | 1700                              |
| 125(144)              | 5.6                | 8×7                            | 300                      | 0.12                  | 200                        | 1450                              |
| 125(144)              | 6.8                | 6.3×11                         | 300                      | 0.12                  | 200                        | 1850                              |
| 125(144)              | 6.8                | 8×8                            | 300                      | 0.12                  | 200                        | 1450                              |
| 125(144)              | 8.2                | 6.3×11                         | 300                      | 0.12                  | 200                        | 1850                              |
| 125(144)              | 8.2                | 8×9                            | 300                      | 0.12                  | 80                         | 1800                              |
| 125(144)              | 10                 | 8×9                            | 300                      | 0.12                  | 80                         | 1800                              |
| 125(144)              | 12                 | 8×11.5                         | 300                      | 0.12                  | 80                         | 1980                              |
| 125(144)              | 12                 | 10×7                           | 300                      | 0.12                  | 100                        | 1500                              |
| 125(144)              | 15                 | 8×11.5                         | 375                      | 0.12                  | 80                         | 1980                              |
| 125(144)              | 15                 | 10×9                           | 375                      | 0.12                  | 80                         | 1950                              |
| 125(144)              | 18                 | 8×13                           | 450                      | 0.12                  | 80                         | 2100                              |
| 125(144)              | 18                 | 10×10                          | 450                      | 0.12                  | 80                         | 2050                              |
| 125(144)              | 22                 | 8×15                           | 550                      | 0.12                  | 60                         | 2550                              |
| 125(144)              | 22                 | 10×12                          | 550                      | 0.12                  | 80                         | 2100                              |
| 125(144)              | 27                 | 8×16                           | 675                      | 0.12                  | 60                         | 2600                              |
| 125(144)              | 27                 | 10×13                          | 675                      | 0.12                  | 80                         | 2200                              |
| 125(144)              | 33                 | 10×16                          | 825                      | 0.12                  | 60                         | 2700                              |
| 125(144)              | 39                 | 10×17                          | 975                      | 0.12                  | 60                         | 2700                              |
| 125(144)              | 39                 | 12.5×12.5                      | 975                      | 0.12                  | 80                         | 2350                              |
| 125(144)              | 47                 | 10×18                          | 1175                     | 0.12                  | 60                         | 2800                              |
| 125(144)              | 47                 | 12.5×14                        | 1175                     | 0.12                  | 80                         | 2450                              |
| 125(144)              | 56                 | 10×21                          | 1400                     | 0.12                  | 60                         | 3000                              |
| 125(144)              | 56                 | 12.5×16                        | 1400                     | 0.12                  | 60                         | 2600                              |
| 125(144)              | 68                 | 12.5×18                        | 1700                     | 0.12                  | 60                         | 3200                              |
| 125(144)              | 82                 | 12.5×20                        | 2050                     | 0.12                  | 60                         | 3350                              |
| 160(184)              | 1.0                | 5×5                            | 300                      | 0.12                  | 500                        | 1200                              |
| 160(184)              | 1.2                | 5×5                            | 300                      | 0.12                  | 500                        | 1200                              |
| 160(184)              | 1.5                | 6.3×5.7                        | 300                      | 0.12                  | 400                        | 1200                              |
| 160(184)              | 2.2                | 6.3×7                          | 300                      | 0.12                  | 350                        | 1400                              |
| 160(184)              | 3.3                | 6.3×9                          | 300                      | 0.12                  | 250                        | 1700                              |
| 160(184)              | 3.3                | 8×7                            | 300                      | 0.12                  | 200                        | 1450                              |
| 160(184)              | 4.7                | 6.3×11                         | 300                      | 0.12                  | 200                        | 1850                              |
| 160(184)              | 4.7                | 8×8                            | 300                      | 0.12                  | 200                        | 1450                              |
| 160(184)              | 5.6                | 6.3×11                         | 300                      | 0.12                  | 200                        | 1850                              |
| 160(184)              | 5.6                | 8×7                            | 300                      | 0.12                  | 200                        | 1450                              |
| 160(184)              | 6.8                | 6.3×11                         | 300                      | 0.12                  | 200                        | 1850                              |
| 160(184)              | 6.8                | 8×9                            | 300                      | 0.12                  | 80                         | 1800                              |
| 160(184)              | 8.2                | 8×9                            | 300                      | 0.12                  | 80                         | 1800                              |



# NPH

## ■ 标准品一览表

| 额定电压<br>(浪涌电压)<br>(V) | 标称容量<br>(μF) | 产品尺寸<br>ΦD×L(mm) | L.C.<br>(μA,2min) | Tan δ<br>120Hz | ESR<br>(mΩ100kHz) | 额定纹波电流<br>(mA r.m.s/105°C100kHz) |
|-----------------------|--------------|------------------|-------------------|----------------|-------------------|----------------------------------|
| 160(184)              | 8.2          | 10×7             | 300               | 0.12           | 100               | 1500                             |
| 160(184)              | 10           | 5×15             | 320               | 0.12           | 80                | 2050                             |
| 160(184)              | 10           | 8×11.5           | 320               | 0.12           | 80                | 1980                             |
| 160(184)              | 10           | 10×9             | 320               | 0.12           | 80                | 1950                             |
| 160(184)              | 12           | 8×11.5           | 384               | 0.12           | 80                | 1980                             |
| 160(184)              | 12           | 10×9             | 384               | 0.12           | 80                | 1950                             |
| 160(184)              | 15           | 8×13             | 480               | 0.12           | 80                | 2100                             |
| 160(184)              | 15           | 10×10            | 480               | 0.12           | 80                | 2050                             |
| 160(184)              | 18           | 8×15             | 576               | 0.12           | 60                | 2550                             |
| 160(184)              | 18           | 10×11            | 576               | 0.12           | 80                | 2100                             |
| 160(184)              | 18           | 10×12            | 576               | 0.12           | 80                | 2100                             |
| 160(184)              | 22           | 8×17             | 704               | 0.12           | 60                | 2650                             |
| 160(184)              | 22           | 10×13            | 704               | 0.12           | 80                | 2200                             |
| 160(184)              | 27           | 8×17             | 864               | 0.12           | 60                | 2650                             |
| 160(184)              | 27           | 10×15            | 864               | 0.12           | 60                | 2700                             |
| 160(184)              | 33           | 10×17            | 1056              | 0.12           | 60                | 2700                             |
| 160(184)              | 39           | 10×18            | 1248              | 0.12           | 60                | 2800                             |
| 160(184)              | 39           | 12.5×14          | 1248              | 0.12           | 80                | 2450                             |
| 160(184)              | 47           | 12.5×16          | 1504              | 0.12           | 80                | 2600                             |
| 160(184)              | 56           | 12.5×16          | 1792              | 0.12           | 80                | 2600                             |
| 160(184)              | 56           | 12.5×18          | 1792              | 0.12           | 60                | 3200                             |
| 160(184)              | 68           | 12.5×20          | 2176              | 0.12           | 60                | 3350                             |
| 200(230)              | 1.0          | 6.3×5.7          | 300               | 0.12           | 400               | 1200                             |
| 200(230)              | 1.5          | 6.3×7            | 300               | 0.12           | 350               | 1400                             |
| 200(230)              | 2.2          | 6.3×9            | 300               | 0.12           | 250               | 1700                             |
| 200(230)              | 3.3          | 8×7              | 300               | 0.12           | 200               | 1450                             |
| 200(230)              | 3.9          | 8×9              | 300               | 0.12           | 80                | 1800                             |
| 200(230)              | 4.7          | 8×9              | 300               | 0.12           | 80                | 1800                             |
| 200(230)              | 4.7          | 10×7             | 300               | 0.12           | 100               | 1500                             |
| 200(230)              | 5.6          | 8×11.5           | 300               | 0.12           | 80                | 1980                             |
| 200(230)              | 6.8          | 8×11.5           | 300               | 0.12           | 80                | 1980                             |
| 200(230)              | 6.8          | 10×9             | 300               | 0.12           | 80                | 1950                             |
| 200(230)              | 8.2          | 8×14             | 328               | 0.12           | 80                | 2150                             |
| 200(230)              | 8.2          | 10×9             | 328               | 0.12           | 80                | 1950                             |
| 200(230)              | 10           | 8×16             | 400               | 0.12           | 60                | 2600                             |
| 200(230)              | 10           | 10×12            | 400               | 0.12           | 80                | 2100                             |
| 200(230)              | 15           | 10×13            | 600               | 0.12           | 80                | 2200                             |
| 200(230)              | 18           | 10×16            | 720               | 0.12           | 60                | 2700                             |
| 200(230)              | 18           | 12.5×12.5        | 720               | 0.12           | 60                | 2350                             |
| 200(230)              | 22           | 10×16            | 880               | 0.12           | 60                | 2700                             |
| 200(230)              | 22           | 12.5×14          | 880               | 0.12           | 80                | 2450                             |
| 200(230)              | 47           | 12.5×20          | 1880              | 0.12           | 60                | 2900                             |
| 250(288)              | 4.7          | 8×11.5           | 300               | 0.12           | 80                | 1980                             |

# NPH

■ 标准品一览表

| 额定电压<br>(浪涌电压)<br>(V) | 标称容量<br>(μF) | 产品尺寸<br>ΦD×L(mm) | L.C.<br>(μA,2min) | Tan δ<br>120Hz | ESR<br>(mΩ100kHz) | 额定纹波电流<br>(mA r.m.s/105℃100kHz) |
|-----------------------|--------------|------------------|-------------------|----------------|-------------------|---------------------------------|
| 250(288)              | 6.8          | 8×14             | 340               | 0.12           | 80                | 2150                            |
| 250(288)              | 6.8          | 10×12            | 340               | 0.12           | 80                | 2100                            |
| 250(288)              | 8.2          | 8×16             | 410               | 0.12           | 60                | 2600                            |
| 250(288)              | 8.2          | 10×12            | 410               | 0.12           | 80                | 2100                            |
| 250(288)              | 10           | 10×12            | 500               | 0.12           | 80                | 2100                            |
| 250(288)              | 22           | 12.5×16          | 1100              | 0.12           | 80                | 2600                            |