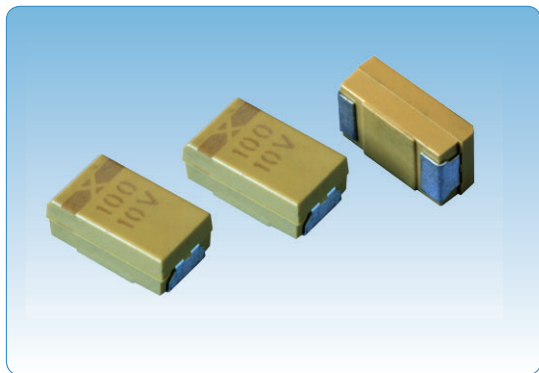


# CA45 型片式固体电解质钽电容器

执行标准: Q/MM82A-2010



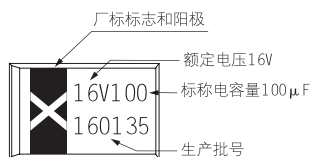
## 特征与用途

- 模压封装、密封性好、片式、体积小、重量轻、极性电容器;
- 电性能优良、稳定可靠、等效于VISHAY公司293D型;
- 可生产无铅环保型产品, 用户需要时在订货合同中注明需求;
- 适用于移动通讯、摄像机、程控交换机、计算机、汽车电子等各种电子设备的表面贴装直流或脉动电路。
- 订货书写格式: CA45-C-4V-150 $\mu$ F-K-2000只。

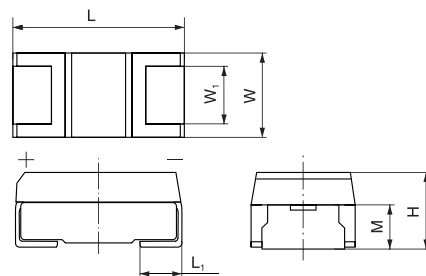
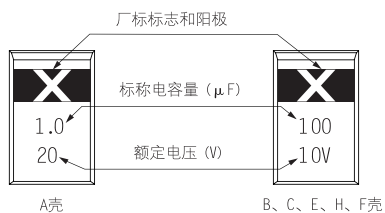
## 主要技术性能

- 温度范围:  $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$  ( $> 85^{\circ}\text{C}$ 时, 施加类别电压使用);
- 额定电压、类别电压、标称电容量: 见表2;
- 电容量允许偏差: K:  $\pm 10\%$ , M:  $\pm 20\%$ ;
- 高低温特性: 见表2;
- 外形尺寸及外壳代号: 见图1和表1。

含铅型(普军)产品标志示意:



无铅环保型产品标志示意:



(产品标志中厂标符号 所在端对应的贴片为正极)

图1

表1 电容器的外形尺寸

| 外壳代号        |         | 外形尺寸 mm       |               |               |                |                |                |
|-------------|---------|---------------|---------------|---------------|----------------|----------------|----------------|
| 新云          | EIA     | L             | W             | H             | L <sub>1</sub> | W <sub>1</sub> | M              |
| A           | 3216-18 | 3.2 $\pm$ 0.2 | 1.6 $\pm$ 0.2 | 1.6 $\pm$ 0.2 | 0.65 $\pm$ 0.2 | 1.2 $\pm$ 0.2  | 1.0 $\pm$ 0.2  |
| B           | 3528-21 | 3.5 $\pm$ 0.2 | 2.8 $\pm$ 0.2 | 1.9 $\pm$ 0.2 | 0.70 $\pm$ 0.2 | 2.0 $\pm$ 0.2  | 1.2 $\pm$ 0.2  |
| C           | 6032-28 | 5.8 $\pm$ 0.3 | 3.2 $\pm$ 0.3 | 2.5 $\pm$ 0.3 | 1.35 $\pm$ 0.2 | 2.2 $\pm$ 0.2  | 1.45 $\pm$ 0.2 |
| E (D) *     | 7343-31 | 7.3 $\pm$ 0.3 | 4.3 $\pm$ 0.3 | 2.8 $\pm$ 0.3 | 1.35 $\pm$ 0.2 | 3.0 $\pm$ 0.2  | 1.6 $\pm$ 0.2  |
| H (E, X) ** | 7343-43 | 7.3 $\pm$ 0.3 | 4.3 $\pm$ 0.3 | 4.1 $\pm$ 0.3 | 1.35 $\pm$ 0.2 | 3.0 $\pm$ 0.2  | 1.6 $\pm$ 0.2  |
| F           | 7360-38 | 7.3 $\pm$ 0.3 | 6.0 $\pm$ 0.3 | 3.5 $\pm$ 0.3 | 1.3 $\pm$ 0.2  | 4.0 $\pm$ 0.2  | 1.9 $\pm$ 0.2  |

注: 1) EIA指(美国)电子工业协会;

2) \*E壳等同于KEMET、VISHAY和AVX公司的D壳产品尺寸;

3) \*\*H壳等同于KEMET公司的x壳、VISHAY和AVX公司的E壳产品尺寸。



表2 电容器的额定电压、类别电压、标称电容量、外壳代号、等效串联电阻及高低温特性

| 标称电容量<br>μF                  | 外壳代号 | 等效串联电阻<br>max<br>100KHz<br>25°C<br>Ω | 直流漏电流max<br>μA |       |        | 电容量变化范围<br>%   |        | 损耗角正切max<br>% |       |                 |
|------------------------------|------|--------------------------------------|----------------|-------|--------|----------------|--------|---------------|-------|-----------------|
|                              |      |                                      | +25°C          | +85°C | +125°C | -55°C<br>+85°C | +125°C | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压4V (类别电压2.5V)</b>     |      |                                      |                |       |        |                |        |               |       |                 |
| 3.3                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | B    | 4                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | B    | 3.5                                  | 0.6            | 6     | 7.5    | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | A    | 6                                    | 0.6            | 6     | 7.5    | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | C    | 3.2                                  | 0.9            | 8.8   | 11     | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | B    | 5                                    | 0.9            | 8.8   | 11     | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | A    | 6                                    | 0.9            | 8.8   | 11     | ±10            | ±15    | 8             | 6     | 8               |
| 33                           | C    | 2.2                                  | 1.3            | 13.2  | 16.5   | ±10            | ±12    | 8             | 6     | 8               |
| 33                           | B    | 3.5                                  | 1.3            | 13.2  | 16.5   | ±10            | ±12    | 8             | 6     | 8               |
| 33                           | A    | 6                                    | 1.3            | 13.2  | 16.5   | ±10            | ±15    | 9             | 6     | 8               |
| 47                           | C    | 2                                    | 1.9            | 18.8  | 23.5   | ±10            | ±12    | 8             | 6     | 8               |
| 47                           | B    | 3                                    | 1.9            | 18.8  | 23.5   | ±10            | ±15    | 8             | 6     | 8               |
| 47                           | A    | 4                                    | 1.9            | 18.8  | 23.5   | ±10            | ±15    | 15            | 10    | 12              |
| 68                           | E    | 1.1                                  | 2.7            | 27.2  | 34     | ±10            | ±12    | 8             | 6     | 8               |
| 68                           | C    | 2                                    | 2.7            | 27.2  | 34     | ±10            | ±12    | 8             | 6     | 8               |
| 68                           | B    | 4.2                                  | 2.7            | 27.2  | 34     | ±10            | ±15    | 8             | 6     | 8               |
| 68                           | A    | 5                                    | 2.7            | 27.2  | 34     | ±10            | ±15    | 22            | 15    | 18              |
| 100                          | E    | 0.9                                  | 4              | 40    | 50     | ±10            | ±12    | 10            | 8     | 10              |
| 100                          | C    | 1.5                                  | 4              | 40    | 50     | ±10            | ±12    | 10            | 8     | 10              |
| 100                          | B    | 2                                    | 4              | 40    | 50     | ±10            | ±15    | 15            | 10    | 12              |
| 100                          | A    | 6                                    | 4              | 40    | 50     | ±10            | ±15    | 30            | 20    | 24              |
| 150                          | F    | 0.6                                  | 6              | 60    | 75     | ±10            | ±12    | 12            | 10    | 12              |
| 150                          | E    | 1                                    | 6              | 60    | 75     | ±10            | ±12    | 10            | 8     | 10              |
| 150                          | C    | 1.5                                  | 6              | 60    | 75     | ±10            | ±15    | 10            | 8     | 10              |
| 150                          | B    | 3                                    | 6              | 60    | 75     | ±10            | ±15    | 18            | 12    | 15              |
| 220                          | F    | 0.5                                  | 8.8            | 88    | 110    | ±10            | ±12    | 12            | 10    | 12              |
| 220                          | E    | 1                                    | 8.8            | 88    | 110    | ±10            | ±12    | 10            | 8     | 10              |
| 220                          | C    | 1.5                                  | 8.8            | 88    | 110    | ±10            | ±15    | 10            | 8     | 10              |
| 220                          | B    | 2                                    | 8.8            | 88    | 110    | ±10            | ±15    | 22            | 15    | 18              |
| 330                          | F    | 0.5                                  | 13.2           | 132   | 165    | ±12            | ±18    | 15            | 12    | 15              |
| 330                          | H    | 0.7                                  | 13.2           | 132   | 165    | ±10            | ±12    | 12            | 10    | 12              |
| 330                          | E    | 0.9                                  | 13.2           | 132   | 165    | ±10            | ±12    | 12            | 10    | 12              |
| 330                          | C    | 1.7                                  | 13.2           | 132   | 165    | ±10            | ±15    | 15            | 10    | 12              |
| 470                          | F    | 0.4                                  | 18.8           | 188   | 235    | ±12            | ±18    | 15            | 12    | 15              |
| 470                          | H    | 0.7                                  | 18.8           | 188   | 235    | ±10            | ±12    | 12            | 10    | 12              |
| 470                          | E    | 0.7                                  | 18.8           | 188   | 235    | ±10            | ±15    | 12            | 10    | 12              |
| 680                          | F    | 0.3                                  | 27.2           | 272   | 340    | ±15            | ±20    | 20            | 14    | 20              |
| 680                          | H    | 0.7                                  | 27.2           | 272   | 340    | ±10            | ±15    | 15            | 12    | 15              |
| 680                          | E    | 0.7                                  | 27.2           | 272   | 340    | ±10            | ±15    | 21            | 14    | 17              |
| 1000                         | F    | 0.2                                  | 40             | 400   | 500    | ±15            | ±20    | 20            | 14    | 20              |
| 1000                         | H    | 0.7                                  | 40             | 400   | 500    | ±10            | ±15    | 21            | 14    | 17              |
| <b>额定电压6.3 (6)V (类别电压4V)</b> |      |                                      |                |       |        |                |        |               |       |                 |
| 2.2                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 3.3                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                          | B    | 4.5                                  | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                          | A    | 8                                    | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | B    | 3.5                                  | 0.6            | 6.3   | 7.9    | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | A    | 8                                    | 0.6            | 6.3   | 7.9    | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | C    | 3                                    | 0.9            | 9.4   | 11.8   | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | B    | 5                                    | 0.9            | 9.4   | 11.8   | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | A    | 6                                    | 0.9            | 9.4   | 11.8   | ±10            | ±12    | 8             | 6     | 8               |



续表2

| 标称<br>电容量<br>$\mu F$         | 外壳<br>代号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>$\Omega$ | 直流漏电流max<br>$\mu A$ |       |        | 电容量变化范围<br>%   |        | 损耗角正切max<br>% |       |                 |
|------------------------------|----------|---|---------------------|-------|--------|----------------|--------|---------------|-------|-----------------|
|                              |          |   | +25°C               | +85°C | +125°C | -55°C<br>+85°C | +125°C | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压6.3 (6)V (类别电压4V)</b> |          |   |                     |       |        |                |        |               |       |                 |
| 22                           | C        | 2.2   | 1.4                 | 13.9  | 17.3   | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | B        | 5   | 1.4                 | 13.9  | 17.3   | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | A        | 6   | 1.4                 | 13.9  | 17.3   | ±10            | ±15    | 8             | 6     | 8               |
| 33                           | C        | 2.5   | 2.1                 | 20.8  | 26     | ±10            | ±12    | 8             | 6     | 8               |
| 33                           | B        | 3.5   | 2.1                 | 20.8  | 26     | ±10            | ±15    | 8             | 6     | 8               |
| 33                           | A        | 5   | 2.1                 | 20.8  | 26     | ±10            | ±15    | 15            | 10    | 12              |
| 47                           | E        | 1.1   | 3                   | 29.6  | 37     | ±10            | ±12    | 8             | 6     | 8               |
| 47                           | C        | 2   | 3                   | 29.6  | 37     | ±10            | ±12    | 8             | 6     | 8               |
| 47                           | B        | 3   | 3                   | 29.6  | 37     | ±10            | ±15    | 8             | 6     | 8               |
| 47                           | A        | 5   | 3                   | 29.6  | 37     | ±10            | ±15    | 18            | 12    | 15              |
| 68                           | E        | 0.9   | 4.3                 | 42.8  | 53.5   | ±10            | ±12    | 8             | 6     | 8               |
| 68                           | C        | 2   | 4.3                 | 42.8  | 53.5   | ±10            | ±12    | 8             | 6     | 8               |
| 68                           | B        | 1.5   | 4.3                 | 42.8  | 53.5   | ±10            | ±15    | 12            | 8     | 10              |
| 100                          | F        | 0.6   | 6.3                 | 63    | 78     | ±10            | ±12    | 12            | 10    | 12              |
| 100                          | E        | 1.2   | 6.3                 | 63    | 78.7   | ±10            | ±12    | 10            | 8     | 10              |
| 100                          | C        | 1.5   | 6.3                 | 63    | 78.7   | ±10            | ±15    | 10            | 8     | 10              |
| 100                          | B        | 5   | 6.3                 | 63    | 78.7   | ±10            | ±15    | 22            | 15    | 18              |
| 150                          | F        | 0.5   | 9.5                 | 95    | 118    | ±10            | ±12    | 12            | 10    | 12              |
| 150                          | E        | 1   | 9.5                 | 94.5  | 118    | ±10            | ±12    | 10            | 8     | 10              |
| 150                          | C        | 1.5   | 9.5                 | 94.5  | 118    | ±10            | ±15    | 10            | 8     | 10              |
| 150                          | B        | 2.8   | 9.5                 | 94.5  | 118    | ±10            | ±15    | 30            | 20    | 24              |
| 220                          | F        | 0.5   | 13.9                | 139   | 173    | ±10            | ±12    | 12            | 10    | 12              |
| 220                          | H        | 0.7   | 13.9                | 139   | 173    | ±10            | ±12    | 10            | 8     | 10              |
| 220                          | E        | 1   | 13.9                | 139   | 173    | ±10            | ±12    | 10            | 8     | 10              |
| 220                          | C        | 2.4   | 13.9                | 139   | 173    | ±10            | ±15    | 15            | 10    | 12              |
| 330                          | F        | 0.4   | 20.8                | 208   | 260    | ±12            | ±18    | 15            | 12    | 15              |
| 330                          | H        | 0.9   | 20.8                | 208   | 260    | ±10            | ±12    | 12            | 10    | 12              |
| 330                          | E        | 0.9   | 20.8                | 208   | 260    | ±10            | ±15    | 12            | 10    | 12              |
| 330                          | C        | 1.8   | 20.8                | 208   | 260    | ±10            | ±15    | 22            | 15    | 18              |
| 470                          | F        | 0.4   | 29.6                | 296   | 370    | ±12            | ±18    | 15            | 12    | 15              |
| 470                          | H        | 0.7   | 29.6                | 296   | 370    | ±10            | ±15    | 12            | 10    | 12              |
| 470                          | E        | 0.9   | 29.6                | 296   | 370    | ±10            | ±15    | 18            | 12    | 15              |
| 680                          | F        | 0.3   | 42.8                | 428   | 535    | ±15            | ±20    | 20            | 14    | 20              |
| 680                          | H        | 0.9   | 42.8                | 428   | 535    | ±10            | ±15    | 18            | 12    | 15              |
| <b>额定电压10V (类别电压6.3V)</b>    |          |   |                     |       |        |                |        |               |       |                 |
| 1.5                          | A        | 8   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                          | A        | 8   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 3.3                          | A        | 9   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                          | C        | 3.0   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                          | B        | 4.5   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                          | A        | 8   | 0.5                 | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                          | B        | 3.5   | 0.7                 | 6.8   | 8.5    | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                          | A        | 8   | 0.7                 | 6.8   | 8.5    | ±10            | ±15    | 8             | 6     | 8               |
| 10                           | C        | 3   | 1                   | 10    | 12.5   | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | B        | 6   | 1                   | 10    | 12.5   | ±10            | ±12    | 8             | 6     | 8               |
| 10                           | A        | 8   | 1                   | 10    | 12.5   | ±10            | ±15    | 8             | 6     | 8               |
| 15                           | C        | 2.5   | 1.5                 | 15    | 18.7   | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | B        | 5   | 1.5                 | 15    | 18.7   | ±10            | ±12    | 8             | 6     | 8               |
| 15                           | A        | 8   | 1.5                 | 15    | 18.7   | ±10            | ±15    | 12            | 8     | 10              |
| 22                           | C        | 1.6   | 2.2                 | 22    | 27.5   | ±10            | ±12    | 8             | 6     | 8               |
| 22                           | B        | 5   | 2.2                 | 22    | 27.5   | ±10            | ±15    | 8             | 6     | 8               |
| 22                           | A        | 10  | 2.2                 | 22    | 27.5   | ±10            | ±15    | 15            | 10    | 12              |
| 33                           | E        | 1.1   | 3.3                 | 33    | 41.2   | ±10            | ±12    | 8             | 6     | 8               |
| 33                           | C        | 2.5   | 3.3                 | 33    | 41.2   | ±10            | ±12    | 8             | 6     | 8               |
| 33                           | B        | 4   | 3.3                 | 33    | 41.2   | ±10            | ±15    | 8             | 6     | 8               |



续表2

| 标称<br>电容量<br>$\mu\text{F}$     | 外壳<br>代号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>$\Omega$ | 直流漏电流max<br>$\mu\text{A}$ |       |        | 电容量变化范围<br>%   |          | 损耗角正切max<br>% |       |                 |
|--------------------------------|----------|---|---------------------------|-------|--------|----------------|----------|---------------|-------|-----------------|
|                                |          |   | +25°C                     | +85°C | +125°C | -55°C<br>+85°C | +125°C   | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压10V (类别电压6.3V)</b>      |          |   |                           |       |        |                |          |               |       |                 |
| 47                             | E        | 0.9   | 4.7                       | 47    | 58.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 47                             | C        | 2   | 4.7                       | 47    | 58.7   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 47                             | B        | 2.4   | 4.7                       | 47    | 58.7   | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |
| 68                             | F        | 0.6   | 6.8                       | 68    | 85     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 68                             | E        | 1.5   | 6.8                       | 68    | 85     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 68                             | C        | 2   | 6.8                       | 68    | 85     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 68                             | B        | 5   | 6.8                       | 68    | 85     | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 100                            | F        | 0.5   | 10                        | 100   | 125    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 100                            | H        | 0.8   | 10                        | 100   | 125    | $\pm 10$       | $\pm 12$ | 10            | 8     | 10              |
| 100                            | E        | 1.2   | 10                        | 100   | 125    | $\pm 10$       | $\pm 12$ | 10            | 8     | 10              |
| 100                            | C        | 1.7   | 10                        | 100   | 125    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 100                            | B        | 4.0   | 10                        | 100   | 125    | $\pm 10$       | $\pm 15$ | 22            | 15    | 18              |
| 150                            | F        | 0.5   | 15                        | 150   | 187    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 150                            | H        | 0.8   | 15                        | 150   | 187    | $\pm 10$       | $\pm 12$ | 10            | 8     | 10              |
| 150                            | E        | 1   | 15                        | 150   | 187    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 150                            | C        | 2   | 15                        | 150   | 187    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 220                            | F        | 0.4   | 22                        | 220   | 275    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 220                            | H        | 1   | 22                        | 220   | 275    | $\pm 10$       | $\pm 12$ | 10            | 8     | 10              |
| 220                            | E        | 1   | 22                        | 220   | 275    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 330                            | F        | 0.4   | 33                        | 330   | 412    | $\pm 12$       | $\pm 18$ | 15            | 12    | 15              |
| 330                            | H        | 0.9   | 33                        | 330   | 412    | $\pm 10$       | $\pm 15$ | 12            | 10    | 12              |
| 330                            | E        | 1.2   | 33                        | 330   | 412    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 470                            | F        | 0.3   | 47                        | 470   | 588    | $\pm 15$       | $\pm 20$ | 20            | 14    | 20              |
| 470                            | H        | 0.5   | 47                        | 470   | 587    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| <b>额定电压16 (15) V (类别电压10V)</b> |          |   |                           |       |        |                |          |               |       |                 |
| 1.0                            | A        | 10  | 0.5                       | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 1.5                            | A        | 8   | 0.5                       | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                            | A        | 12  | 0.5                       | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                            | B        | 5.5   | 0.5                       | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                            | A        | 9   | 0.5                       | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | B        | 4   | 0.8                       | 7.5   | 9.4    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | A        | 8   | 0.8                       | 7.5   | 9.4    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 6.8                            | C        | 3.6   | 1.1                       | 10.9  | 13.6   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                            | B        | 6   | 1.1                       | 10.9  | 13.6   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                            | A        | 9   | 1.1                       | 10.9  | 13.6   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 10                             | C        | 2.5   | 1.6                       | 16    | 20     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                             | B        | 6   | 1.6                       | 16    | 20     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 10                             | A        | 10  | 1.6                       | 16    | 20     | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |
| 15                             | C        | 1.8   | 2.4                       | 24    | 30     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 15                             | B        | 5   | 2.4                       | 24    | 30     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 15                             | A        | 10  | 2.4                       | 24    | 30     | $\pm 12$       | $\pm 18$ | 18            | 12    | 15              |
| 22                             | E        | 1.1   | 3.5                       | 35.2  | 44     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 22                             | C        | 3   | 3.5                       | 35.2  | 44     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 22                             | B        | 5   | 3.5                       | 35.2  | 44     | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 22                             | A        | 10  | 3.5                       | 35    | 44     | $\pm 12$       | $\pm 18$ | 18            | 12    | 18              |
| 33                             | E        | 0.9   | 5.3                       | 52.8  | 66     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 33                             | C        | 2.5   | 5.3                       | 52.8  | 66     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 33                             | B        | 5   | 5.3                       | 52.8  | 66     | $\pm 12$       | $\pm 18$ | 18            | 12    | 15              |
| 47                             | F        | 0.6   | 7.5                       | 75    | 93     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 47                             | E        | 1.5   | 7.5                       | 75.2  | 94     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 47                             | C        | 2   | 7.5                       | 75.2  | 94     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 47                             | B        | 4   | 7.5                       | 75.2  | 94     | $\pm 15$       | $\pm 18$ | 18            | 12    | 15              |
| 68                             | F        | 0.5   | 10.9                      | 109   | 136    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 68                             | E        | 1.5   | 10.9                      | 109   | 136    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 68                             | C        | 3   | 10.9                      | 109   | 136    | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |



续表2

| 标称<br>电容量<br>$\mu F$          | 外<br>壳<br>代<br>号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>$\Omega$ | 直流漏电流max<br>$\mu A$ |       |        | 电容量变化范围<br>%   |          | 损耗角正切max<br>% |       |                 |
|-------------------------------|------------------|---|---------------------|-------|--------|----------------|----------|---------------|-------|-----------------|
|                               |                  |   | +25°C               | +85°C | +125°C | -55°C<br>+85°C | +125°C   | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压16 (15) V (类别电压10)</b> |                  |   |                     |       |        |                |          |               |       |                 |
| 100                           | F                | 0.5   | 16                  | 160   | 200    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 100                           | H                | 0.8   | 16                  | 160   | 200    | $\pm 10$       | $\pm 12$ | 10            | 8     | 10              |
| 100                           | E                | 1.2   | 16                  | 160   | 200    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 100                           | C                | 3   | 16                  | 160   | 200    | $\pm 15$       | $\pm 18$ | 15            | 10    | 12              |
| 150                           | F                | 0.4   | 24                  | 240   | 300    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 150                           | H                | 1   | 24                  | 240   | 300    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 150                           | E                | 1.8   | 24                  | 240   | 300    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 220                           | F                | 0.4   | 35.2                | 352   | 440    | $\pm 10$       | $\pm 15$ | 16            | 10    | 16              |
| 220                           | H                | 1   | 35.2                | 352   | 440    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 330                           | F                | 0.3   | 52.8                | 530   | 663    | $\pm 15$       | $\pm 20$ | 20            | 12    | 20              |
| 330                           | H                | 0.8   | 53                  | 528   | 660    | $\pm 15$       | $\pm 20$ | 15            | 12    | 15              |
| <b>额定电压20V (类别电压13V)</b>      |                  |   |                     |       |        |                |          |               |       |                 |
| 0.68                          | A                | 12  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 1.0                           | A                | 10  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 1.5                           | A                | 16  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                           | B                | 5   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                           | A                | 12  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                           | B                | 4   | 0.7                 | 6.6   | 8.2    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                           | A                | 9   | 0.7                 | 6.6   | 8.2    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 4.7                           | C                | 3   | 0.9                 | 9.4   | 11.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                           | B                | 6   | 0.9                 | 9.4   | 11.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                           | A                | 10  | 0.9                 | 9.4   | 11.7   | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 6.8                           | C                | 2.4   | 1.4                 | 13.6  | 17     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                           | B                | 6   | 1.4                 | 13.6  | 17     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 6.8                           | A                | 12  | 1.4                 | 13.6  | 17     | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |
| 10                            | C                | 4   | 2                   | 20    | 25     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                            | B                | 6   | 2                   | 20    | 25     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 15                            | E                | 1.1   | 3                   | 30    | 37.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 15                            | C                | 4   | 3                   | 30    | 37.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 15                            | B                | 6   | 3                   | 30    | 37.5   | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 22                            | E                | 0.9   | 4.4                 | 44    | 55     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 22                            | C                | 3   | 4.4                 | 44    | 55     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 22                            | B                | 2.0   | 4.4                 | 44    | 55     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 33                            | F                | 0.6   | 6.6                 | 66    | 82.5   | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 33                            | E                | 1.5   | 6.6                 | 66    | 82.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 33                            | C                | 3   | 6.6                 | 66    | 82.5   | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 47                            | F                | 0.5   | 9.4                 | 94    | 117    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 47                            | H                | 0.8   | 9.4                 | 94    | 117    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 47                            | E                | 1.5   | 9.4                 | 94    | 117    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 47                            | C                | 2   | 9.4                 | 94    | 117    | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |
| 68                            | F                | 0.5   | 13.6                | 136   | 170    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 68                            | H                | 0.8   | 13.6                | 136   | 170    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 68                            | E                | 1.5   | 13.6                | 136   | 170    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 100                           | F                | 0.5   | 20                  | 200   | 250    | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 100                           | H                | 1   | 20                  | 200   | 250    | $\pm 10$       | $\pm 15$ | 10            | 8     | 10              |
| 100                           | E                | 2   | 20                  | 200   | 250    | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |
| 150                           | F                | 0.5   | 30                  | 300   | 375    | $\pm 15$       | $\pm 20$ | 20            | 10    | 20              |
| 150                           | H                | 1.5   | 30                  | 300   | 375    | $\pm 10$       | $\pm 15$ | 15            | 10    | 12              |
| 220                           | F                | 0.5   | 44                  | 440   | 550    | $\pm 15$       | $\pm 20$ | 20            | 12    | 20              |
| <b>额定电压25V (类别电压16V)</b>      |                  |   |                     |       |        |                |          |               |       |                 |
| 0.15                          | A                | 21  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.33                          | A                | 15  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.47                          | A                | 14  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |

续表2

| 标称<br>电容量<br>μF                | 外壳<br>代号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>Ω | 直流漏电流max<br>μA |       |        | 电容量变化范围<br>%   |        | 损耗角正切max<br>% |       |                 |
|--------------------------------|----------|--|----------------|-------|--------|----------------|--------|---------------|-------|-----------------|
|                                |          |  | +25°C          | +85°C | +125°C | -55°C<br>+85°C | +125°C | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压25V (类别电压16V)</b>       |          |  |                |       |        |                |        |               |       |                 |
| 0.68                           | A        | 17                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.0                            | B        | 6.5                                      | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.0                            | A        | 16                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.5                            | B        | 6.5                                      | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 1.5                            | A        | 16                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                            | C        | 5  | 0.6            | 5.5   | 6.9    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                            | B        | 8  | 0.6            | 5.5   | 6.9    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                            | A        | 16                                       | 0.6            | 5.5   | 6.9    | ±10            | ±15    | 9             | 6     | 8               |
| 3.3                            | C        | 4  | 0.8            | 8.2   | 10.3   | ±10            | ±12    | 8             | 6     | 8               |
| 3.3                            | B        | 7  | 0.8            | 8.2   | 10.3   | ±10            | ±12    | 8             | 6     | 8               |
| 3.3                            | A        | 9  | 0.8            | 8.2   | 10.3   | ±12            | ±20    | 9             | 6     | 8               |
| 4.7                            | C        | 2.5                                      | 1.2            | 11.7  | 14.7   | ±10            | ±12    | 8             | 6     | 8               |
| 4.7                            | B        | 6  | 1.2            | 11.7  | 14.7   | ±10            | ±15    | 8             | 6     | 8               |
| 6.8                            | C        | 3  | 1.7            | 17    | 21.2   | ±10            | ±12    | 8             | 6     | 8               |
| 6.8                            | B        | 6  | 1.7            | 17    | 21.2   | ±10            | ±15    | 8             | 6     | 8               |
| 10                             | E        | 1.2                                      | 2.5            | 25    | 31.2   | ±10            | ±12    | 8             | 6     | 8               |
| 10                             | C        | 4  | 2.5            | 25    | 31.2   | ±10            | ±12    | 8             | 6     | 8               |
| 10                             | B        | 6  | 2.5            | 25    | 31.2   | ±12            | ±20    | 8             | 6     | 8               |
| 15                             | E        | 1.5                                      | 3.8            | 37.5  | 46.9   | ±10            | ±12    | 8             | 6     | 8               |
| 15                             | C        | 4  | 3.8            | 37.5  | 46.9   | ±10            | ±15    | 8             | 6     | 8               |
| 22                             | F        | 0.7                                      | 5.5            | 55    | 68.7   | ±10            | ±12    | 12            | 10    | 12              |
| 22                             | E        | 1.8                                      | 5.5            | 55    | 68.7   | ±10            | ±12    | 8             | 6     | 8               |
| 22                             | C        | 3.5                                      | 5.5            | 55    | 68.7   | ±12            | ±20    | 9             | 6     | 8               |
| 33                             | F        | 0.6                                      | 8.3            | 83    | 103    | ±10            | ±12    | 12            | 10    | 12              |
| 33                             | H        | 0.9                                      | 8.3            | 82.5  | 103    | ±10            | ±12    | 8             | 6     | 8               |
| 33                             | E        | 1.5                                      | 8.3            | 82.5  | 103    | ±10            | ±15    | 8             | 6     | 8               |
| 47                             | F        | 0.6                                      | 11.8           | 118   | 147    | ±10            | ±12    | 12            | 10    | 12              |
| 47                             | H        | 1.2                                      | 11.7           | 117   | 147    | ±10            | ±15    | 8             | 6     | 8               |
| 47                             | E        | 1.5                                      | 11.7           | 117   | 147    | ±12            | ±20    | 8             | 6     | 8               |
| 68                             | F        | 0.5                                      | 17             | 170   | 213    | ±15            | ±20    | 16            | 10    | 16              |
| 68                             | H        | 1.2                                      | 17             | 170   | 213    | ±12            | ±20    | 8             | 6     | 8               |
| 68                             | E        | 2  | 17             | 170   | 213    | ±15            | ±20    | 8             | 6     | 8               |
| 100                            | F        | 0.5                                      | 25             | 250   | 313    | ±15            | ±20    | 20            | 12    | 20              |
| 100                            | H        | 0.9                                      | 25             | 250   | 313    | ±12            | ±20    | 12            | 8     | 10              |
| <b>额定电压35 (32) V (类别电压20V)</b> |          |  |                |       |        |                |        |               |       |                 |
| 0.10                           | A        | 34                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.15                           | A        | 21                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.22                           | A        | 18                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.33                           | A        | 15                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.47                           | B        | 10                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.47                           | A        | 18                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.68                           | B        | 8  | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 0.68                           | A        | 17                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.0                            | B        | 6.5                                      | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.0                            | A        | 16                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 6             | 4     | 6               |
| 1.5                            | C        | 4.5                                      | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 1.5                            | B        | 12                                       | 0.5            | 5     | 6.3    | ±10            | ±12    | 8             | 6     | 8               |
| 1.5                            | A        | 16                                       | 0.5            | 5     | 6.3    | ±12            | ±20    | 9             | 6     | 8               |
| 2.2                            | C        | 3.5                                      | 0.8            | 7.7   | 9.6    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                            | B        | 8  | 0.8            | 7.7   | 9.6    | ±10            | ±12    | 8             | 6     | 8               |
| 2.2                            | A        | 16                                       | 0.8            | 7.7   | 9.6    | ±10            | ±12    | 6             | 4     | 6               |
| 3.3                            | C        | 2.5                                      | 1.2            | 11.5  | 14.4   | ±10            | ±12    | 8             | 6     | 8               |
| 3.3                            | B        | 7  | 1.2            | 11.5  | 14.4   | ±12            | ±20    | 8             | 6     | 8               |





续表2

| 标称<br>电容量<br>$\mu F$           | 外壳<br>代号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>$\Omega$ | 直流漏电流max<br>$\mu A$ |       |        | 电容量变化范围<br>%   |          | 损耗角正切max<br>% |       |                 |
|--------------------------------|----------|---|---------------------|-------|--------|----------------|----------|---------------|-------|-----------------|
|                                |          |   | +25°C               | +85°C | +125°C | -55°C<br>+85°C | +125°C   | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压35 (32) V (类别电压20V)</b> |          |   |                     |       |        |                |          |               |       |                 |
| 4.7                            | E        | 1.5   | 1.6                 | 16.4  | 20.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | C        | 5   | 1.6                 | 16.4  | 20.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | B        | 8   | 1.6                 | 16.4  | 20.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                            | E        | 1.3   | 2.4                 | 23.8  | 29.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                            | C        | 3   | 2.4                 | 23.8  | 29.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                             | H        | 1   | 3.5                 | 35    | 43.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                             | E        | 1.1   | 3.5                 | 35    | 43.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                             | C        | 3.5   | 3.5                 | 35    | 43.7   | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 15                             | F        | 0.7   | 5.3                 | 52.5  | 65.6   | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 15                             | H        | 1.1   | 5.3                 | 52.5  | 65.6   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 15                             | E        | 2   | 5.3                 | 52.5  | 65.6   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 22                             | F        | 0.6   | 7.7                 | 77    | 96.2   | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 22                             | H        | 1   | 7.7                 | 77    | 96.2   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 22                             | E        | 1.8   | 7.7                 | 77    | 96.2   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 33                             | F        | 0.6   | 11.6                | 116   | 145    | $\pm 15$       | $\pm 20$ | 16            | 10    | 16              |
| 33                             | H        | 1.2   | 11.6                | 116   | 145    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 33                             | E        | 2   | 11.6                | 116   | 145    | $\pm 12$       | $\pm 20$ | 9             | 6     | 8               |
| 47                             | F        | 0.6   | 16.5                | 165   | 206    | $\pm 15$       | $\pm 20$ | 20            | 12    | 20              |
| 47                             | H        | 1.2   | 16.5                | 165   | 206    | $\pm 12$       | $\pm 20$ | 8             | 6     | 8               |
| <b>额定电压 40V (类别电压 25V)</b>     |          |   |                     |       |        |                |          |               |       |                 |
| 0.10                           | A        | 24  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.15                           | A        | 21  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.22                           | A        | 18  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.33                           | B        | 15  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.33                           | A        | 20  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.47                           | B        | 10  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.47                           | A        | 18  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 0.68                           | C        | 8   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.68                           | B        | 15  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.68                           | A        | 18  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 1.0                            | C        | 6.5   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 1.0                            | B        | 10  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 1.0                            | A        | 12  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 1.5                            | C        | 4.5   | 0.6                 | 6     | 7.5    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 1.5                            | B        | 10  | 0.6                 | 6     | 7.5    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 2.2                            | E        | 3.5   | 0.9                 | 8.8   | 11     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                            | C        | 7   | 0.9                 | 8.8   | 11     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                            | E        | 2.5   | 1.3                 | 13.2  | 16.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                            | C        | 5   | 1.3                 | 13.2  | 16.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | E        | 1.5   | 1.9                 | 18.8  | 23.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                            | C        | 6   | 1.9                 | 18.8  | 23.5   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 6.8                            | E        | 1.3   | 2.7                 | 27.2  | 34     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                            | C        | 2   | 2.7                 | 27.2  | 34     | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 10                             | F        | 0.9   | 4                   | 40    | 50     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 10                             | H        | 1.3   | 4                   | 40    | 50     | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 10                             | E        | 2   | 4                   | 40    | 50     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 15                             | F        | 0.7   | 6                   | 60    | 75     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 15                             | H        | 1.8   | 6                   | 60    | 75     | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 15                             | E        | 2.5   | 6                   | 60    | 75     | $\pm 10$       | $\pm 15$ | 9             | 6     | 8               |
| 22                             | F        | 0.7   | 8.8                 | 88    | 110    | $\pm 15$       | $\pm 20$ | 12            | 10    | 12              |
| 22                             | H        | 1.5   | 8.8                 | 88    | 110    | $\pm 10$       | $\pm 15$ | 12            | 8     | 10              |



续表2

| 标称<br>电容量<br>$\mu F$       | 外壳<br>代号 | 等效<br>串联电阻<br>max<br>100KHz<br>25°C<br>$\Omega$ | 直流漏电流max<br>$\mu A$ |       |        | 电容量变化范围<br>%   |          | 损耗角正切max<br>% |       |                 |
|----------------------------|----------|---|---------------------|-------|--------|----------------|----------|---------------|-------|-----------------|
|                            |          |   | +25°C               | +85°C | +125°C | -55°C<br>+85°C | +125°C   | -55°C         | +25°C | +85°C<br>+125°C |
| <b>额定电压 50V (类别电压 32V)</b> |          |   |                     |       |        |                |          |               |       |                 |
| 0.10                       | A        | 22  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.15                       | B        | 17  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.15                       | A        | 28  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.22                       | B        | 14  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.22                       | A        | 18  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 0.33                       | B        | 12  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.33                       | A        | 20  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 0.47                       | C        | 8   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.47                       | B        | 16  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.47                       | A        | 20  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 0.68                       | C        | 7   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 0.68                       | B        | 15  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 0.68                       | A        | 20  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 1.0                        | C        | 6   | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 12$ | 6             | 4     | 6               |
| 1.0                        | B        | 10  | 0.5                 | 5     | 6.3    | $\pm 10$       | $\pm 15$ | 6             | 4     | 6               |
| 1.5                        | E        | 4   | 0.8                 | 7.5   | 9.4    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 1.5                        | C        | 8   | 0.8                 | 7.5   | 9.4    | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                        | E        | 2.5   | 1.1                 | 11    | 13.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 2.2                        | C        | 7   | 1.1                 | 11    | 13.7   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                        | E        | 2   | 1.7                 | 16.5  | 20.6   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 3.3                        | C        | 5   | 1.7                 | 16.5  | 20.6   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 4.7                        | H        | 1.2   | 2.4                 | 23.5  | 29.4   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                        | E        | 1.5   | 2.4                 | 23.5  | 29.4   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 4.7                        | C        | 2   | 2.4                 | 23.5  | 29.4   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 6.8                        | F        | 1.0   | 3.4                 | 34    | 42     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 6.8                        | H        | 1.5   | 3.4                 | 34    | 42.5   | $\pm 10$       | $\pm 12$ | 8             | 6     | 8               |
| 6.8                        | E        | 2   | 3.4                 | 34    | 42.5   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 10                         | F        | 0.9   | 5                   | 50    | 62     | $\pm 10$       | $\pm 12$ | 12            | 10    | 12              |
| 10                         | H        | 1.8   | 5                   | 50    | 62.5   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 10                         | E        | 2   | 5                   | 50    | 62.5   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 15                         | F        | 0.7   | 7.5                 | 75    | 94     | $\pm 10$       | $\pm 15$ | 12            | 10    | 12              |
| 15                         | H        | 1.8   | 7.5                 | 75    | 93.7   | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |
| 22                         | F        | 0.7   | 11                  | 110   | 137    | $\pm 10$       | $\pm 15$ | 12            | 10    | 12              |
| 22                         | H        | 1.5   | 11                  | 130   | 137    | $\pm 10$       | $\pm 15$ | 8             | 6     | 8               |

注: 1.电容量、损耗角正切测量条件: 测量电压:  $U_L=2.2_{-1.0}^0 V$ ,  $U_L=1.0_{-0.5}^0 V$  (有效值); 测量频率: 100Hz。

2.漏电流测量条件: 施加额定电压测量, 充电时间不超过5min (测量125°C漏电流时, 施加类别电压测量)。

3.等效串联电阻 (ESR) 测量条件: 测量频率:  $(100 \pm 5) KHz$ ;  $U_L=2.2_{-1.0}^0 V$ ,  $U_L=1.0_{-0.5}^0 V$  (有效值)。