

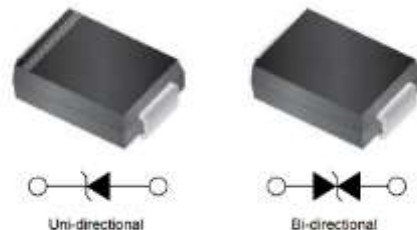
# 瞬态电压抑制二极管: 5.0SMDJ 系列

## 5000W 表面贴装型



### ■ 特性

1. 玻璃钝化芯片
2. 响应时间快速
3. 钳位电压低
4. 漏电流小
5. 满足MSL1
6. JESD22-A114-B HBM: 15KV
7. JEDEC EIA/JESD22-C101F CDM: 500V
8. JEDEC EIA/JESD22-A115 MM: 400V
9. 符合IEC 61000-4-2  $\pm 30kV$  (接触)、 $\pm 30kV$  (空气)
10. 符合RoHS与无卤要求



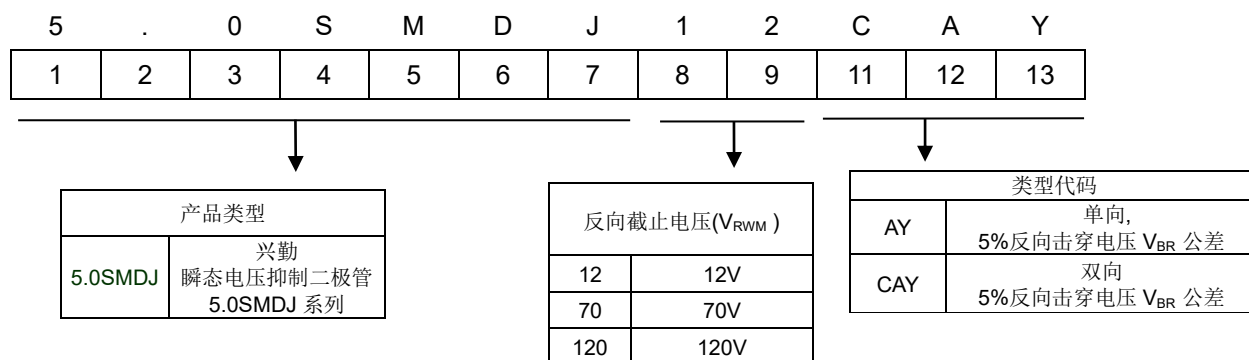
### ■ 用途

1. 通信设备
2. 计算机
3. 工业设备
4. 消费电子设备

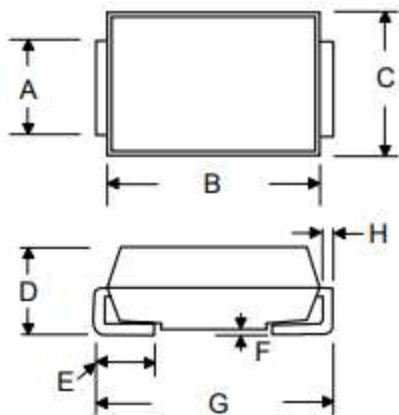
### ■ 机械数据

1. 封装型式: DO-214AB (SMC), 封装塑料符合防火等级UL94-V0
2. 镀锡引脚可焊性符合 MIL-STD-750, Method 2026.
3. 极性:有带状标示为阴极 (注:没有极性符号为双极性产品)

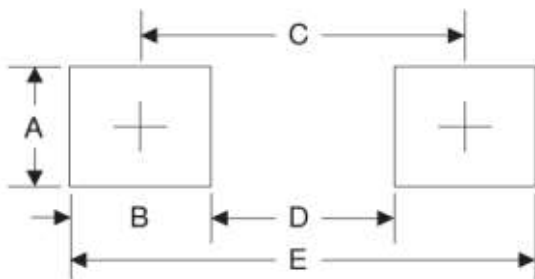
### ■ 编码规则



## ■ 结构与尺寸



| Symbol | Dimensions in millimeters |      |
|--------|---------------------------|------|
|        | Min                       | Max  |
| A      | 2.90                      | 3.20 |
| B      | 6.60                      | 7.11 |
| C      | 5.59                      | 6.22 |
| D      | 2.06                      | 2.62 |
| E      | 0.76                      | 1.52 |
| F      | -                         | 0.20 |
| G      | 7.75                      | 8.13 |
| H      | 0.15                      | 0.31 |



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 3.30      | 0.130       |
| B      | 2.50      | 0.098       |
| C      | 6.80      | 0.268       |
| D      | 4.40      | 0.173       |
| E      | 9.40      | 0.370       |

## ■ 最大标称资料 (TA=25°C)

| 参数                                 | 代号                                | 数值             | 单位   |
|------------------------------------|-----------------------------------|----------------|------|
| 10/1000 $\mu$ s 波型峰值脉冲功耗(Note1, 2) | P <sub>PPM</sub>                  | 5000           | W    |
| 10/1000 $\mu$ s 波型峰值脉冲电流.(Note1)   | I <sub>PPM</sub>                  | See next table | A    |
| 峰值正向浪涌电流 (Note 3)                  | I <sub>FSM</sub>                  | 300            | A    |
| 稳态功耗 (T <sub>L</sub> =75°C)        | P <sub>D</sub>                    | 6.5            | W    |
| 热阻                                 | R <sub>θJA</sub>                  | 75             | °C/W |
| 热阻                                 | R <sub>θJL</sub>                  | 15             | °C/W |
| 工作结温和存储温度范围                        | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150    | °C   |

注: 1. 非重复性电流脉冲如图3, 及25°C以上减额曲线如图2。

2. 安装在8.0 x 8.0mm的铜板上。

3. 8.3ms 单半正弦波, 占空比最大为每分钟4个脉冲。

# 瞬态电压抑制二极管: 5.0SMDJ 系列

## 5000W 表面贴装型



### ■ 电气特性 (T<sub>A</sub>=25°C)

| 型号.<br>(单向) | 型号.<br>(双向)  | 反向截止<br>电压 | 反向击穿电压<br>V <sub>BR</sub> @ I <sub>T</sub> |        | 测试<br>电流<br>I <sub>T</sub> (mA) | 最大限制<br>电压<br>V <sub>C</sub> @ I <sub>pp</sub> | 最大脉冲<br>峰值电流<br>I <sub>pp</sub> (A) | 最大反向<br>漏电流<br>I <sub>R</sub> @V <sub>RWM</sub> | 印字     |      |
|-------------|--------------|------------|--|--------|---------------------------------|--|-------------------------------------|---|--------|------|
|             |              |            | V <sub>RWM</sub> (V)                       | Min(V) |                                 |  |                                     |   | Max(V) | 单向   |
| 5.0SMDJ11AY | 5.0SMDJ11CAY | 11         | 12.2                                       | 13.5   | 10                              | 18.2   | 274.7                               | 800   | 5PEN   | 5BEN |
| 5.0SMDJ12AY | 5.0SMDJ12CAY | 12         | 13.3                                       | 14.7   | 10                              | 19.9   | 251.3                               | 800   | 5PEP   | 5BEP |
| 5.0SMDJ13AY | 5.0SMDJ13CAY | 13         | 14.4                                       | 15.9   | 10                              | 21.5   | 232.6                               | 500   | 5PEQ   | 5BEQ |
| 5.0SMDJ14AY | 5.0SMDJ14CAY | 14         | 15.6                                       | 17.2   | 10                              | 23.2   | 215.5                               | 200   | 5PER   | 5BER |
| 5.0SMDJ15AY | 5.0SMDJ15CAY | 15         | 16.7                                       | 18.5   | 1                               | 24.4   | 204.9                               | 100   | 5PES   | 5BES |
| 5.0SMDJ16AY | 5.0SMDJ16CAY | 16         | 17.8                                       | 19.7   | 1                               | 26   | 192.3                               | 50  | 5PET   | 5BET |
| 5.0SMDJ17AY | 5.0SMDJ17CAY | 17         | 18.9                                       | 20.9   | 1                               | 27.6   | 181.2                               | 20  | 5PEU   | 5BEU |
| 5.0SMDJ18AY | 5.0SMDJ18CAY | 18         | 20   | 22.1   | 1                               | 29.2   | 171.2                               | 10  | 5PEV   | 5BEV |
| 5.0SMDJ20AY | 5.0SMDJ20CAY | 20         | 22.2                                       | 24.5   | 1                               | 32.4   | 154.3                               | 5   | 5PEW   | 5BEW |
| 5.0SMDJ22AY | 5.0SMDJ22CAY | 22         | 24.4                                       | 26.9   | 1                               | 35.5   | 140.8                               | 5   | 5PEX   | 5BEX |
| 5.0SMDJ24AY | 5.0SMDJ24CAY | 24         | 26.7                                       | 29.5   | 1                               | 38.9   | 128.5                               | 5   | 5PEZ   | 5BEZ |
| 5.0SMDJ26AY | 5.0SMDJ26CAY | 26         | 28.9                                       | 31.9   | 1                               | 42.1   | 118.8                               | 5   | 5PFE   | 5BFE |
| 5.0SMDJ28AY | 5.0SMDJ28CAY | 28         | 31.1                                       | 34.4   | 1                               | 45.4   | 110.1                               | 5   | 5PFG   | 5BFG |
| 5.0SMDJ30AY | 5.0SMDJ30CAY | 30         | 33.3                                       | 36.8   | 1                               | 48.4   | 103.3                               | 5   | 5PFK   | 5BFK |
| 5.0SMDJ33AY | 5.0SMDJ33CAY | 33         | 36.7                                       | 40.6   | 1                               | 53.3   | 93.8                                | 5   | 5PFM   | 5BFM |
| 5.0SMDJ36AY | 5.0SMDJ36CAY | 36         | 40   | 44.2   | 1                               | 58.1   | 86.1                                | 5   | 5PFP   | 5BFP |
| 5.0SMDJ40AY | 5.0SMDJ40CAY | 40         | 44.4                                       | 49.1   | 1                               | 64.5   | 77.5                                | 5   | 5PFR   | 5BFR |
| 5.0SMDJ43AY | 5.0SMDJ43CAY | 43         | 47.8                                       | 52.8   | 1                               | 69.4   | 72                                  | 5   | 5PFT   | 5BFT |
| 5.0SMDJ45AY | 5.0SMDJ45CAY | 45         | 50   | 55.3   | 1                               | 72.7   | 68.8                                | 5   | 5PFV   | 5BFV |
| 5.0SMDJ48AY | 5.0SMDJ48CAY | 48         | 53.3                                       | 58.9   | 1                               | 77.4   | 64.6                                | 5   | 5PFX   | 5BFX |
| 5.0SMDJ51AY | 5.0SMDJ51CAY | 51         | 56.7                                       | 62.7   | 1                               | 82.4   | 60.7                                | 5   | 5PFZ   | 5BFZ |
| 5.0SMDJ54AY | 5.0SMDJ54CAY | 54         | 60   | 66.3   | 1                               | 87.1   | 57.4                                | 5   | 5PGE   | 5BGE |
| 5.0SMDJ58AY | 5.0SMDJ58CAY | 58         | 64.4                                       | 71.2   | 1                               | 93.6   | 53.4                                | 5   | 5PGG   | 5BGG |
| 5.0SMDJ60AY | 5.0SMDJ60CAY | 60         | 66.7                                       | 73.7   | 1                               | 96.8   | 51.7                                | 5   | 5PGK   | 5BGK |
| 5.0SMDJ64AY | 5.0SMDJ64CAY | 64         | 71.1                                       | 78.6   | 1                               | 103  | 48.5                                | 5   | 5PGM   | 5BGM |
| 5.0SMDJ70AY | 5.0SMDJ70CAY | 70         | 77.8                                       | 86     | 1                               | 113  | 44.2                                | 5   | 5PGP   | 5BGP |
| 5.0SMDJ75AY | 5.0SMDJ75CAY | 75         | 83.3                                       | 92.1   | 1                               | 121  | 41.3                                | 5   | 5PGR   | 5BGR |
| 5.0SMDJ78AY | 5.0SMDJ78CAY | 78         | 86.7                                       | 95.8   | 1                               | 126  | 39.7                                | 5   | 5PGT   | 5BGT |
| 5.0SMDJ85AY | 5.0SMDJ85CAY | 85         | 94.4                                       | 104    | 1                               | 137  | 36.5                                | 5   | 5PGV   | 5BGV |
| 5.0SMDJ90AY | 5.0SMDJ90CAY | 90         | 100  | 111    | 1                               | 146  | 34.2                                | 5   | 5PGX   | 5BGX |

# 瞬态电压抑制二极管: 5.0SMDJ 系列

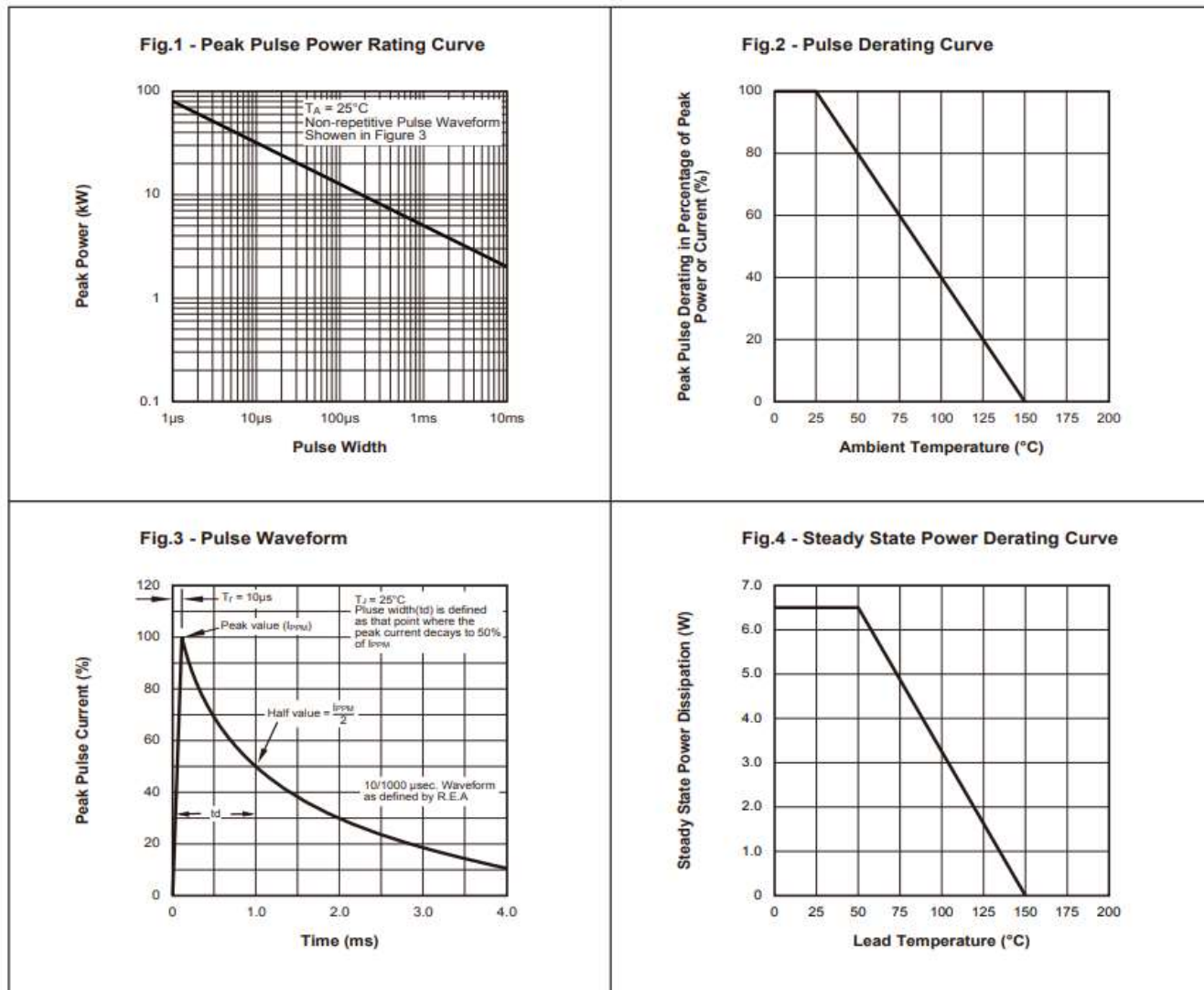
## 5000W 表面贴装型



### 电气特性 (T<sub>A</sub>=25°C)

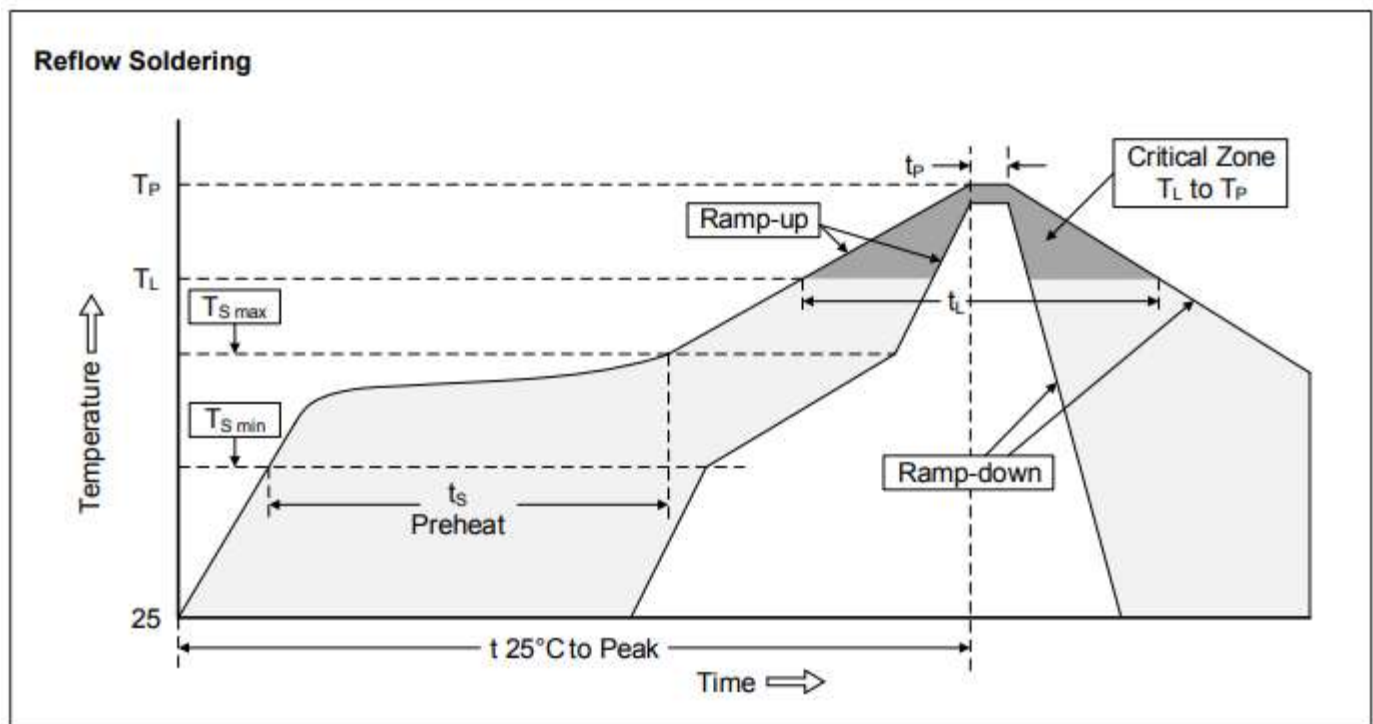
| 型号.<br>(单向)  | 型号.<br>(双向)   | 反向截止<br>电压 | 反向击穿电压<br>V <sub>BR</sub> @ I <sub>T</sub> |         | 测试<br>电流 | 最大限制<br>电压<br>V <sub>C</sub> @ I <sub>pp</sub> | 最大脉冲<br>峰值电流 | 最大反向<br>漏电流<br>I <sub>R</sub> @V <sub>RWM</sub> | 印字      |                     |
|--------------|---------------|------------|--|---------|----------|--|--------------|---|---------|---------------------|
|              |               |            | V <sub>RWM</sub> (V)                       | Min (V) |          |  |              |   | Max (V) | I <sub>T</sub> (mA) |
| 5.0SMDJ100AY | 5.0SMDJ100CAY | 100        | 111  | 123     | 1        | 162  | 30.9         | 5   | 5PGZ    | 5BGZ                |
| 5.0SMDJ110AY | 5.0SMDJ110CAY | 110        | 122  | 135     | 1        | 177  | 28.2         | 5   | 5PHE    | 5BHE                |
| 5.0SMDJ120AY | 5.0SMDJ120CAY | 120        | 133  | 147     | 1        | 193  | 25.9         | 5   | 5PHG    | 5BHG                |
| 5.0SMDJ130AY | 5.0SMDJ130CA  | 130        | 144  | 159     | 1        | 209  | 23.9         | 5   | 5PHK    | 5BHK                |
| 5.0SMDJ140AY | 5.0SMDJ140CAY | 140        | 155  | 171     | 1        | 226.8  | 22           | 5   | 5PHL    | 5BHL                |
| 5.0SMDJ150AY | 5.0SMDJ150CAY | 150        | 167  | 185     | 1        | 243  | 20.6         | 5   | 5PHM    | 5BHM                |
| 5.0SMDJ160AY | 5.0SMDJ160CAY | 160        | 178  | 197     | 1        | 259  | 19.3         | 5   | 5PHP    | 5BHB                |
| 5.0SMDJ170AY | 5.0SMDJ170CAY | 170        | 189  | 209     | 1        | 275  | 18.2         | 5   | 5PHR    | 5BHR                |

### ■ 特性曲线图 (TA=25°C)



## 5000W 表面贴装型

## ■ 推荐焊接条件

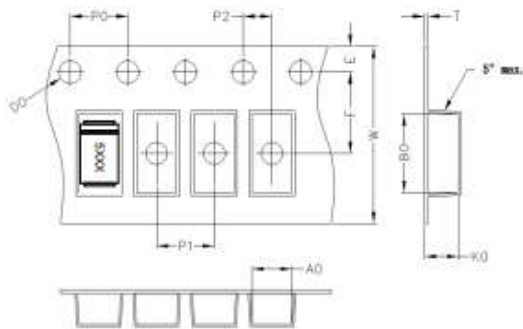


## Recommended Conditions

| Profile Feature                                      | Pb-Free Assembly |
|--|------------------|
| Average ramp-up rate ( $T_L$ to $T_P$ )              | 3°C/second max.  |
| Preheat  |                  |
| -Temperature Min ( $T_{S\ min}$ )                    | 150°C            |
| -Temperature Max ( $T_{S\ max}$ )                    | 200°C            |
| -Time (min to max) ( $t_s$ )                         | 60-180 seconds   |
| $T_{S\ max}$ to $T_L$                                |                  |
| -Ramp-up Rate  | 3°C/second max.  |
| Time maintained above:                               |                  |
| -Temperature ( $T_L$ )                               | 217°C            |
| -Time ( $t_L$ )                                      | 60-150 seconds   |
| Peak Temperature ( $T_P$ )                           | 260°C            |
| Time within 5°C of actual Peak Temperature ( $t_p$ ) | 20-40 seconds    |
| Ramp-down Rate                                       | 6°C/second max.  |
| Time 25°C to Peak Temperature                        | 8 minutes max.   |

## 5000W 表面贴装型

### ■ 包装



| A0   | B0   | K0   | D0   | E    | F         |
|------|------|------|------|------|-----------|
| 6.05 | 8.31 | 2.54 | 1.55 | 1.75 | 7.50      |
| P0   | P1   | P2   | T    | W    | Tolerance |
| 4.0  | 8.0  | 2.0  | 0.25 | 16   | 0.1       |

### ■ 数量

| 系列      | 包装            | 数量             | 包装规范           |
|---------|---------------|----------------|----------------|
| 5.0SMDJ | Tape and reel | 3000pcs / reel | EIA STD RS-481 |

### ■ 仓库存储条件

- 存储条件:
  1. 储存温度:  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
  2. 相对湿度:  $\leq 75\% \text{RH}$
  3. 不要将本产品存放在有腐蚀性气体或是阳光直接照射的环境中保管
- 存储期限: 1 年