



# STS10100

## 主要参数 MAIN CHARACTERISTICS

|              |                               |
|--------------|-------------------------------|
| $I_{F(AV)}$  | 10A                           |
| $V_{RRM}$    | 100V                          |
| $T_{Jmax}$   | 150 °C                        |
| IFSM         | 220 A                         |
| $V_{F(max)}$ | 0.58V (@ $T_j=125^{\circ}C$ ) |

### 用途

- 低压、高频整流
- 低压续流电路和保护电路

### APPLICATIONS

- Low voltage, high frequency rectifier
- Free wheeling diodes, polarity protection applications

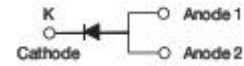
### 产品特性

- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保（RoHS）产品

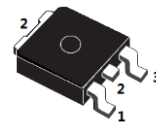
### FEATURES

- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

## 封装 Package



SMP



DPAKM

## 订货信息 ORDER MESSAGE

| 订 货 型 号 Order codes   |                            | 印 记<br>Marking | 封 装<br>Package |
|-----------------------|----------------------------|----------------|----------------|
| 有卤-编带<br>Halogen-Reel | 无卤-编带<br>Halogen Free-Reel |                |                |
| STS10100-XF-A         | STS10100-XF-AR             | STS10100       | SMP            |
| STS10100-RM-AR        | STS10100-RM-A              | STS10100       | DPAKM          |



## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)

| 项 目<br>Parameter                                                                                    | 符 号<br>Symbol      | 数 值<br>Value | 单 位<br>Unit |
|-----------------------------------------------------------------------------------------------------|--------------------|--------------|-------------|
| 最大反向重复峰值电压<br>Repetitive peak reverse voltage                                                       | $V_{RRM}$          | 100          | V           |
| 最大直流阻断电压<br>Maximum DC blocking voltage                                                             | $V_{DC}$           | 100          | V           |
| 正向平均整流电流T <sub>c</sub> =100℃<br>Average Rectified Forward Current                                   | $I_{F(AV)}$        | 10           | A           |
| 正向峰值浪涌电流<br>Surge non repetitive forward current<br>(额定负载 10ms 半正弦波)<br>10 ms single half-sine-wave | $I_{FSM}$          | 220          | A           |
| 最高结温<br>Maximum junction temperature                                                                | $T_j$              | 150          | ℃           |
| 工作结温和储存温度范围<br>Storage temperature range                                                            | $T_{Jmax}/T_{STG}$ | -55~+150     | ℃           |

## 电特性 ELECTRICAL CHARACTERISTICS

| 项 目<br>Parameter | 测试条件<br>Tests conditions |               | 典型值<br>Value(typ) | 最大值<br>Value(max) | 单位<br>Unit |
|------------------|--------------------------|---------------|-------------------|-------------------|------------|
| $I_R$            | T <sub>j</sub> =25℃      | $V_R=V_{RRM}$ | 0.02              | 0.05              | mA         |
|                  | T <sub>j</sub> =125℃     | $V_R=V_{RRM}$ | 3.5               | 20                |            |
| $V_F$            | T <sub>j</sub> =25℃      | $I_F=5A$      | 0.47              | ——                | V          |
|                  | T <sub>j</sub> =25℃      | $I_F=10A$     | 0.6               | 0.65              |            |
|                  | T <sub>j</sub> =125℃     | $I_F=5A$      | 0.43              | ——                |            |
|                  | T <sub>j</sub> =125℃     | $I_F=10A$     | 0.58              | 0.62              |            |

## 热特性 THERMAL CHARACTERISTICS

| 项 目<br>Parameter                                          | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit |
|-----------------------------------------------------------|---------------|-------------------|-------------------|-------------|
| 结到管壳的热阻<br>Thermal resistance from<br>junction to case    | $R_{th(j-c)}$ | ——                | 5<br>35           | ℃/W         |
| 结到环境的热阻<br>Thermal resistance from<br>junction to ambient | $R_{th(j-a)}$ | ——                | 80<br>200         |             |

## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

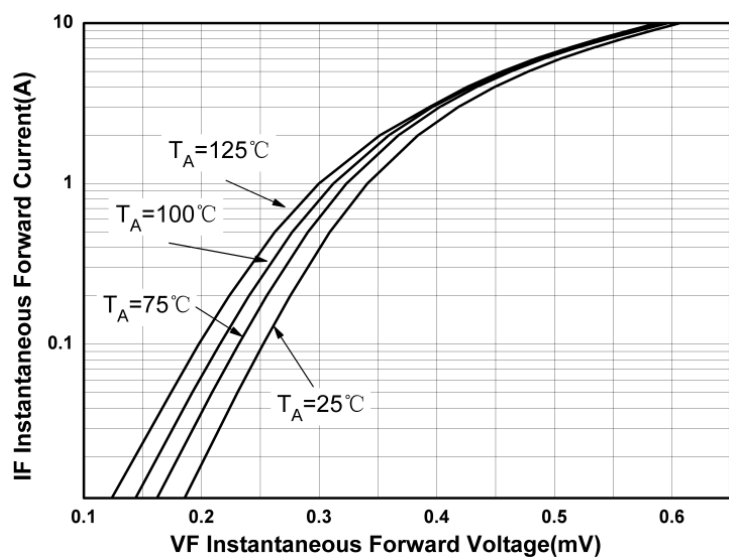




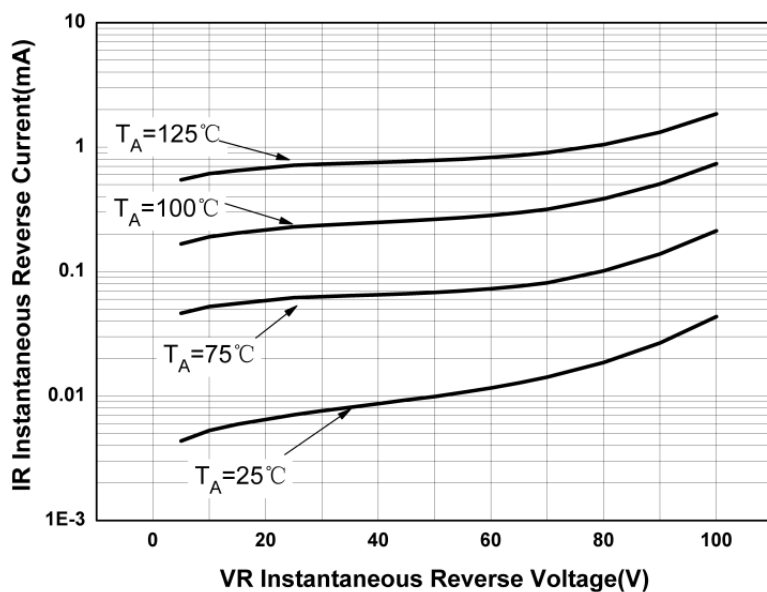
# 沟槽肖特基势垒二极管

## TRENCH SCHOTTKY BARRIER DIODE

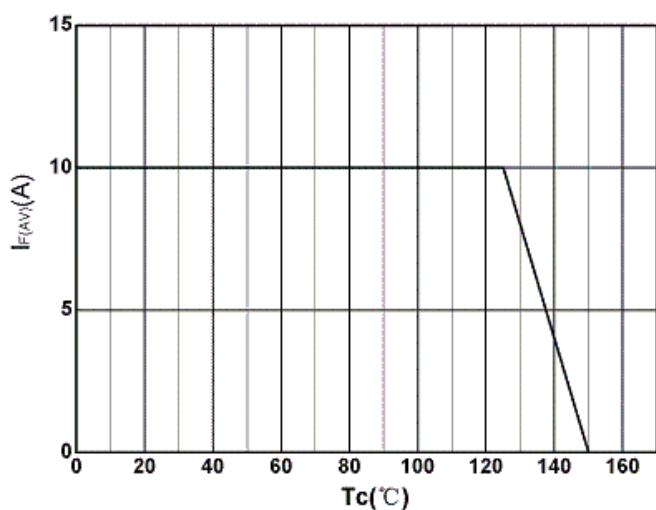
$I_F$  vs  $V_F$



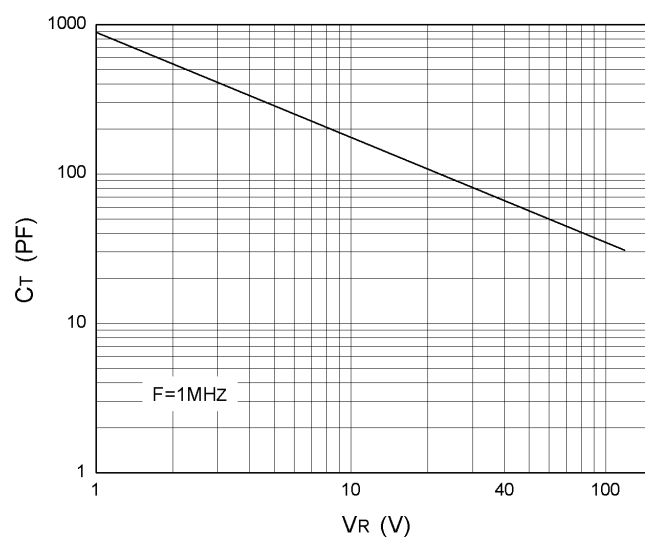
$I_R$  vs  $V_R$



$I_F$  vs  $T_M$



$C_J$  vs  $V_R$



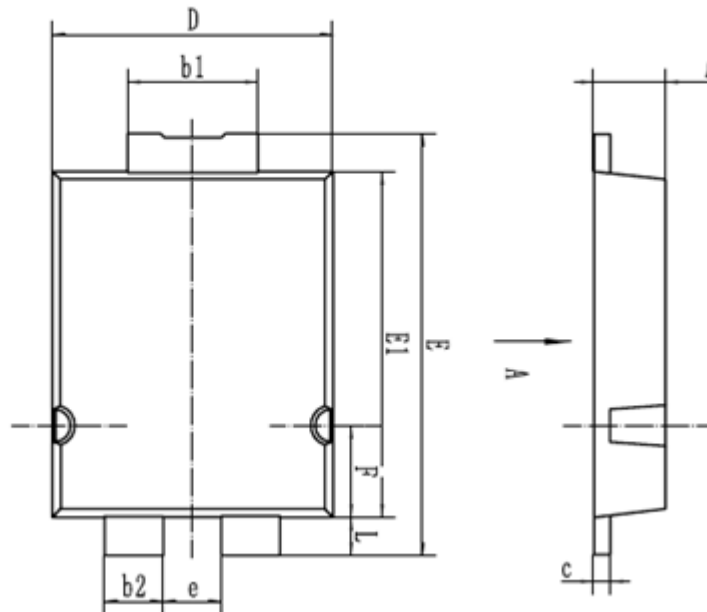


# 外形尺寸 PACKAGE MECHANICAL DATA

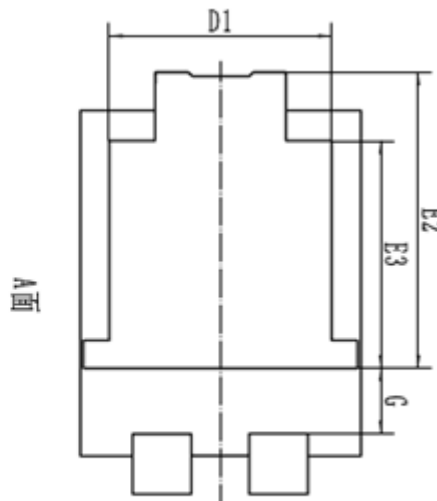
SMP

## 沟槽肖特基势垒二极管 TRENCH SCHOTTKY BARRIER DIODE

单位 Unit : mm



| 符号<br>Symbol | Min  | Max  |
|--------------|------|------|
| A            | 1.00 | 1.40 |
| b1           | 1.70 | 2.30 |
| b2           | 0.60 | 1.20 |
| c            | 0.10 | 0.40 |
| D            | 4.00 | 4.60 |
| D1           | 3.10 | 3.70 |
| E            | 6.20 | 6.80 |
| E1           | 5.00 | 5.60 |
| E2           | 4.25 | 4.85 |
| E3           | 3.20 | 3.80 |
| e            | 0.70 | 1.10 |
| F            | 1.35 | 1.95 |
| G            | 0.90 |      |
| L            | 0.40 | 0.80 |

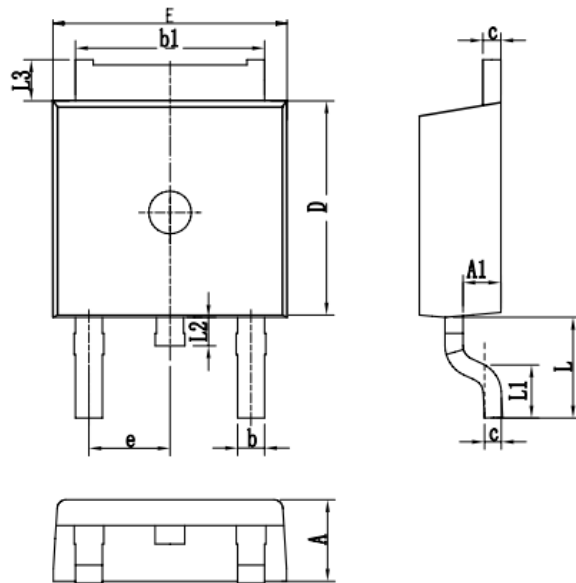




外形尺寸 PACKAGE MECHANICAL DATA  
DPAKM

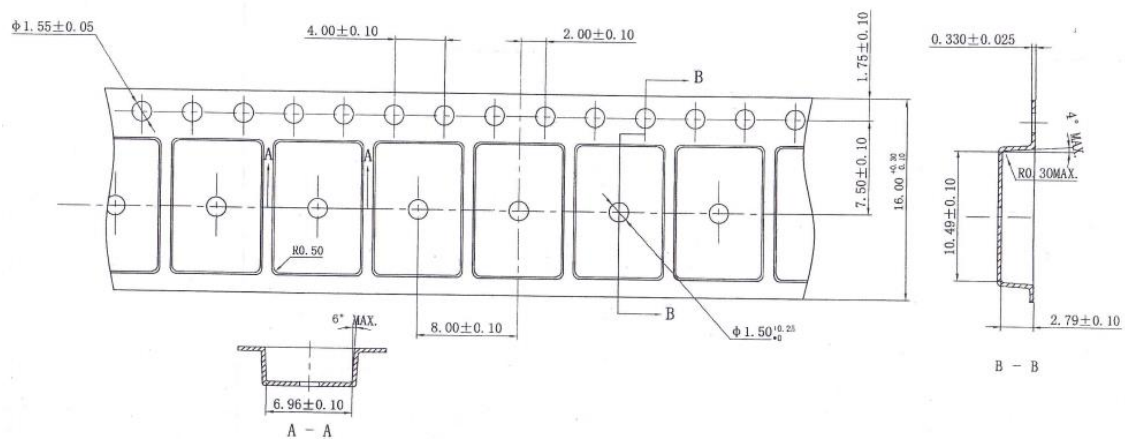
沟槽肖特基势垒二极管  
TRENCH SCHOTTKY BARRIER DIODE

单位 Unit : mm



| SYMBOL | mm       |      |
|--------|----------|------|
|        | MIN      | MAX  |
| A      | 2.10     | 2.50 |
| A1     | 0.80     | 1.20 |
| b      | 0.66     | 0.96 |
| b1     | 5.10     | 5.50 |
| c      | 0.40     | 0.62 |
| D      | 5.85     | 6.45 |
| E      | 6.30     | 6.90 |
| e      | 2.286BSC |      |
| L      | 2.40     | 3.00 |
| L1     | 0.85     | 1.45 |
| L2     | 0.60     | 1.10 |
| L3     | 0.67     | 1.07 |

编带 REEL





### 注意事项

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4. 本说明书如有版本变更不另外告知。

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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