



# STS10100S

## 主要参数 MAIN CHARACTERISTICS

|              |                   |
|--------------|-------------------|
| $I_{F(AV)}$  | 10A               |
| $V_{RRM}$    | 100V              |
| $T_{Jmax}$   | 150 °C            |
| IFSM         | 150A              |
| $V_{F(max)}$ | 0.62V (@Tj=125°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

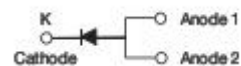
### 产品特性

- 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

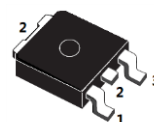
### FEATURES

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

## 封装 Package



SMP-1



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 |                |                |
| STS10100S-XG-AR       | STS10100S-XG-A             | STS10100S      | SMP-1          |
| STS10100S-RM-AR       | STS10100S-RM-A             | STS10100S      | 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 | $I_{FSM}$          | 150          | 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                                                            | $T_{Jmax}/T_{STG}$ | -40~+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℃     | $V_R=V_{RRM}$ | 3.0               | 20                |            |
| $V_F$            | T <sub>j</sub> =25℃      | $I_F=5A$      | 0.54              | 0.60              | V          |
|                  | T <sub>j</sub> =25℃      | $I_F=10A$     | 0.65              | 0.7               |            |
|                  | T <sub>j</sub> =125℃     | $I_F=5A$      | 0.51              | 0.55              |            |
|                  | T <sub>j</sub> =125℃     | $I_F=10A$     | 0.62              | 0.65              |            |

## 热特性 THERMAL CHARACTERISTICS

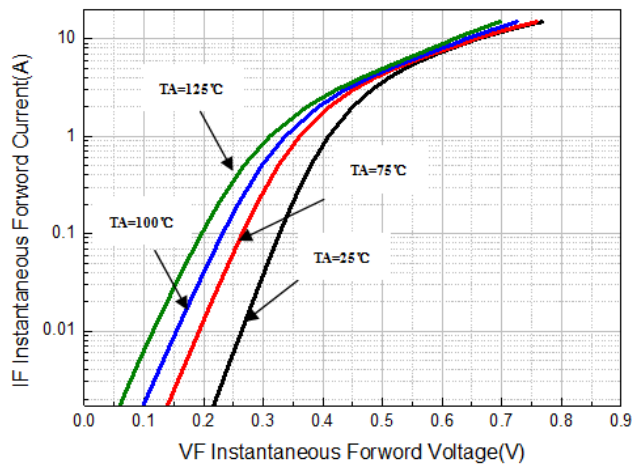
| 项 目<br>Parameter                                          | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit |
|-----------------------------------------------------------|---------------|-------------------|-------------------|-------------|
| 结到管壳的热阻<br>Thermal resistance from<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         |             |



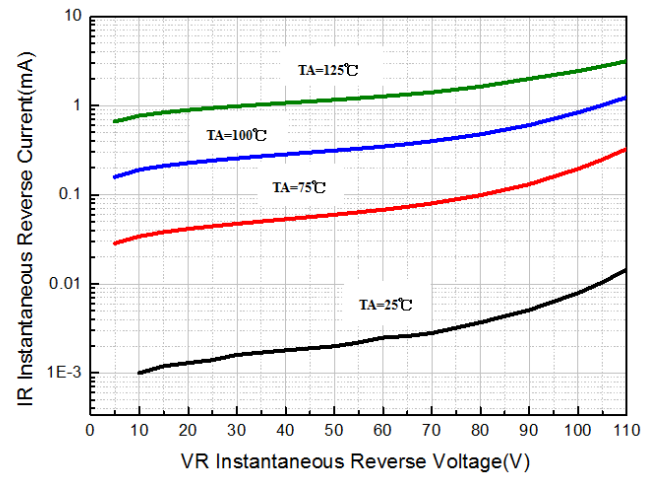


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

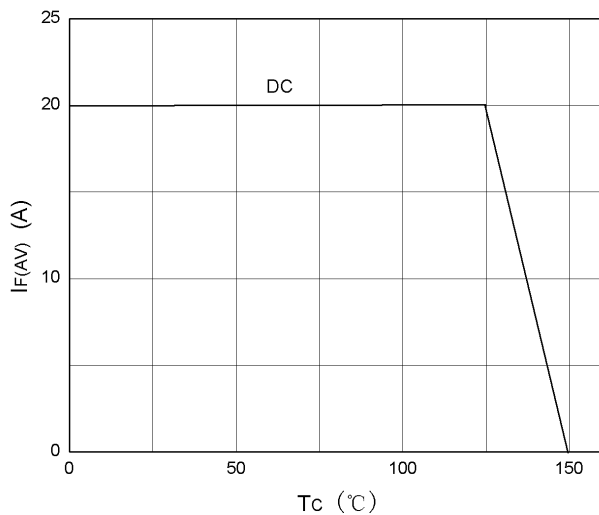
$I_F$  vs  $V_F$



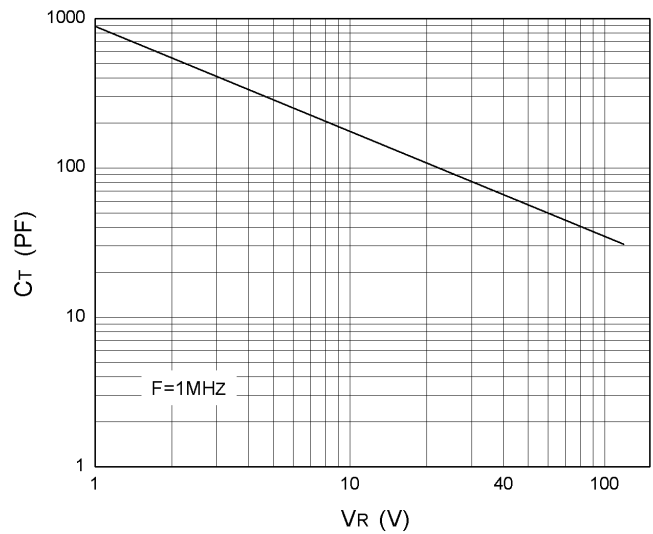
$I_R$  vs  $V_R$

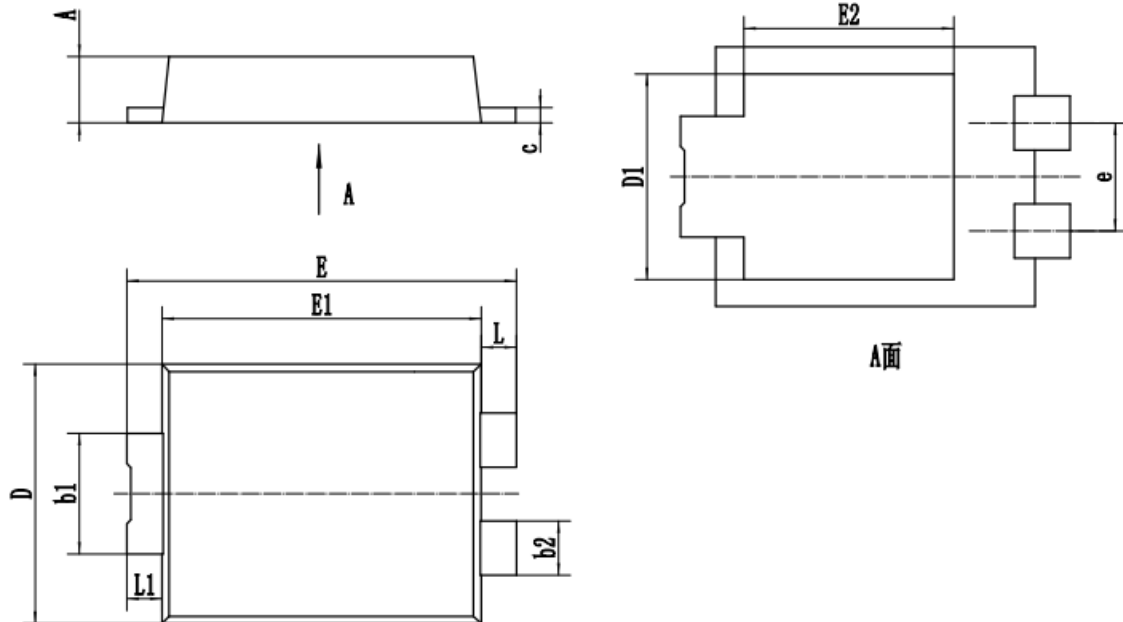


$I_{F(AV)}$  vs  $T_c$



$C_T$  vs  $V_R$





| 符号<br>Symbol | Min  | Max  |
|--------------|------|------|
| A            | 0.90 | 1.30 |
| b1           | 1.60 | 2.00 |
| b2           | 0.70 | 1.10 |
| c            | 0.28 | 0.47 |
| D            | 3.70 | 4.30 |
| D1           | 2.80 | 3.30 |
| E            | 6.30 | 6.70 |
| E1           | 5.20 | 5.60 |
| E2           | 3.05 | 4.05 |
| e            | 1.60 | 2.00 |
| L            | 0.30 | 0.80 |
| L1           | 0.30 | 0.80 |

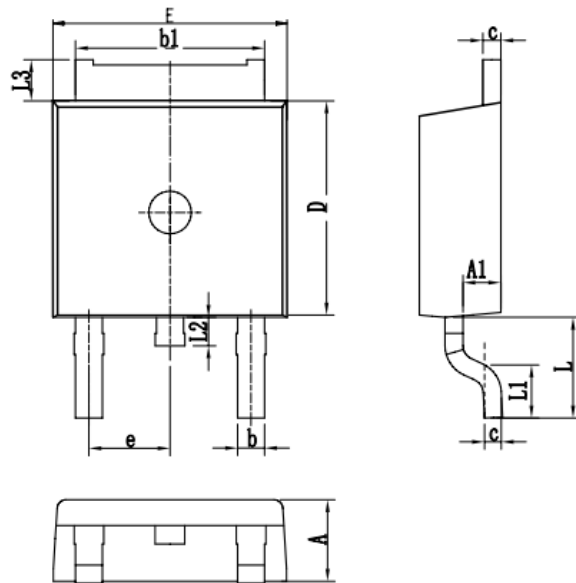




外形尺寸 PACKAGE MECHANICAL DATA  
DPAKM

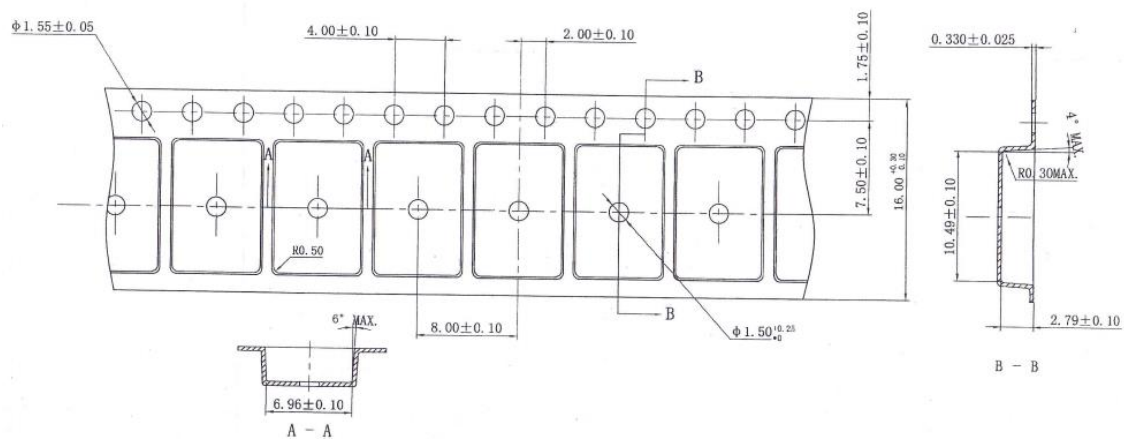
沟槽肖特基势垒二极管  
TRENCH SCHOTTKY BARRIER DIODE

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



吉林华微电子股份有限公司  
JILIN SINO-MICROELECTRONICS CO., LTD



## 沟槽肖特基势垒二极管

## TRENCH SCHOTTKY BARRIER DIODE

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3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知

### NOTE

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2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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