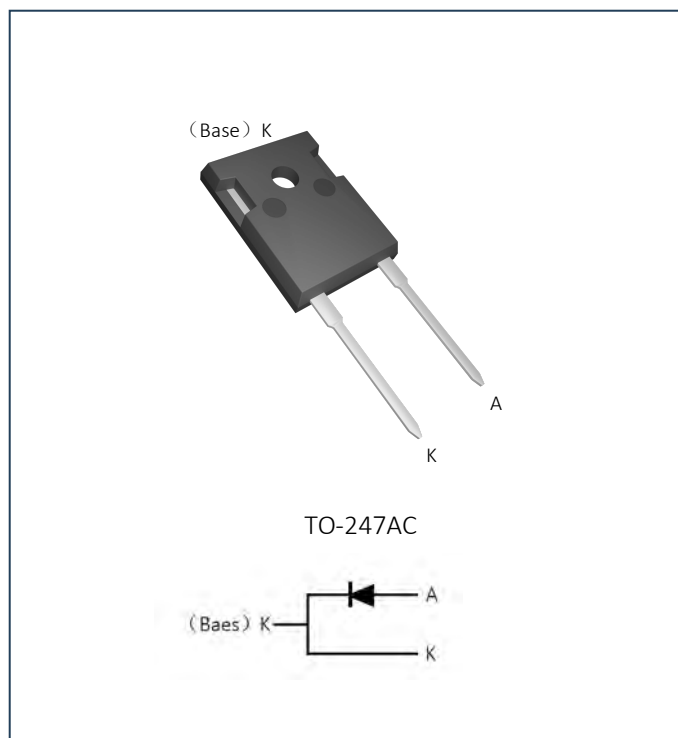


# DSC30120P

碳化硅肖特基二极管

Silicon Carbide Schottky Diode

## 封装外形 Package



## 主要参数 Device summary

| Symbol     | Value           |
|------------|-----------------|
| $I_F(AV)$  | 30A             |
| $V_{RRM}$  | 1200V           |
| $V_F(typ)$ | 2.11V/30A@175°C |
| $I_R(typ)$ | 0.014mA@175°C   |
| $T_J(max)$ | 175°C           |

## 机械数据 Mechanical Data

- 模塑料符合 UL 94 V-0 易燃等级, 符合 RoHS 标准  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- 端子: 镀锡引线, 可焊接 J-STD-002 和 JESD22-B102  
Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- 极性: 本体标记  
Polarity: As marked on body

## 产品特点 Features

- 高耐压能力 High reverse voltage
- 超快开关速度 Ultra fast switching speed
- 零反向恢复电流 Zero reverse recovery current
- 高结温 High Junction temperature
- 低漏电 Low leakage current
- 高可靠性 High reliability
- 环保产品 RoHS product

## 最大额定值 Maximum ratings

| 项目<br>Parameter                                           | 符合<br>Symbol | 数值<br>Value     | 单位<br>Unit |
|-----------------------------------------------------------|--------------|-----------------|------------|
| 反向电压<br>Peak repetitive reverse voltage                   | VRRM         | 1200            | V          |
| 正向电流<br>forward current                                   | IF(AV)       | Tc=25 °C<br>82  | A          |
|                                                           |              | Tc=140 °C<br>30 |            |
| 浪涌电流<br>Non-repetitive single pulse surge current t=8.3ms | IFSM         | 260             | A          |
| 功率耗散<br>Power Dissipation                                 | Tc=110 °C    | 180             | W          |
| 结温<br>Junction temperature                                | Tj           | -55~+175        | °C         |
| 存储温度<br>Storage temperature                               | TSTG         | -55~+175        | °C         |

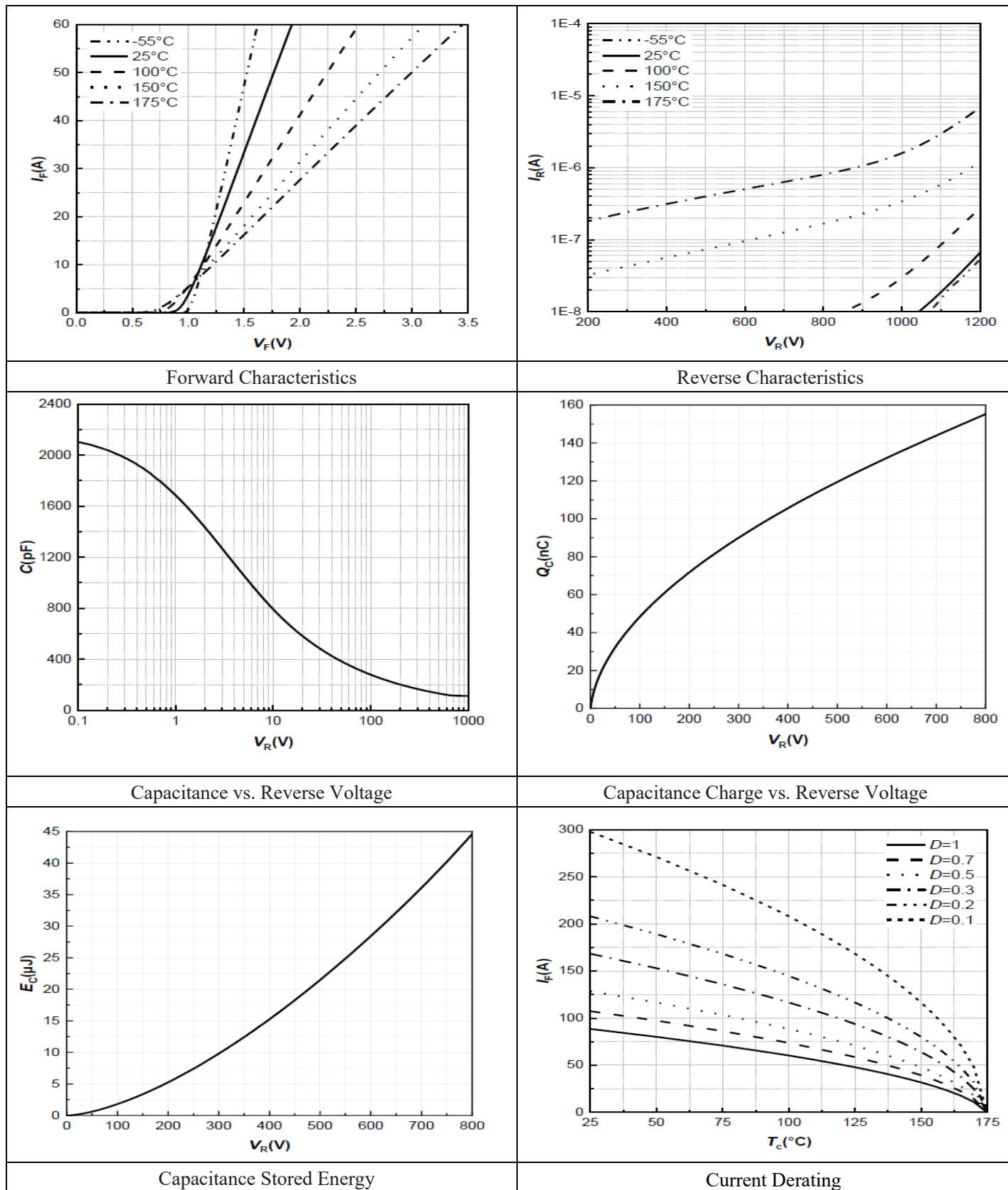
## 电特性 Electrical characteristics(Tc=25°C)

| 项目<br>Parameter | 测试条件<br>Tests conditions |                             | 数值 Value |          |          | 单位<br>Unit |
|-----------------|--------------------------|-----------------------------|----------|----------|----------|------------|
|                 |                          |                             | 最小值(min) | 典型值(typ) | 最大值(max) |            |
| 反向电压<br>VRRM    | IR=0.05mA                |                             | 1200     | -        | -        | V          |
| 反向漏电流<br>IR     | Tj=25°C                  | VR=1200V                    | -        | 0.001    | 0.02     | mA         |
|                 | Tj=175°C                 |                             | -        | 0.014    | 0.4      |            |
| 正向电压<br>VF      | Tj=25°C                  | IF=30A                      | -        | 1.45     | 1.59     | V          |
|                 | Tj=175°C                 |                             | -        | 2.11     | 2.51     |            |
| 总电容电荷量<br>QC    | Tj=25°C                  | VR=800V<br>QC= ∫ 0VRC(V)dVp | -        | 155      | -        | nC         |
| 总电容量<br>C       | Tj=25°C                  | VR=1V, f=1MHZ               |          | 1690     |          | pF         |
|                 |                          | VR=400V, f=1MHZ             |          | 146      |          |            |
|                 |                          | VR=800V, f=1MHZ             |          | 113      |          |            |
| 电容储存能量<br>EC    |                          | VR=800V                     |          | 45       |          | nJ         |

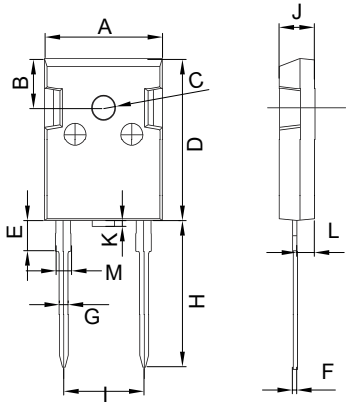
## 热特性 Thermal characteristics(Tc=25°C)

| 项目<br>Parameter                                | 符合<br>Symbol | 数值<br>Value | 单位<br>Unit |
|------------------------------------------------|--------------|-------------|------------|
| 热阻<br>Thermal resistance from junction to case | Rth(j-c)     | 0.36        | °C/W       |

## 典型特征曲线图 Typical Characteristic Curve



## 外形尺寸图及焊盘布局参考 Outline Dimensions and Pad Layout Reference

| TO-247AC                                                                          |  | Dim                                     | Min   | Typ   | Max   |
|-----------------------------------------------------------------------------------|--|-----------------------------------------|-------|-------|-------|
|  |  | A                                       | 15.80 | 16.00 | 16.20 |
|                                                                                   |  | B                                       | 6.30  | 6.50  | 6.70  |
|                                                                                   |  | C                                       | 3.05  | 3.20  | 3.35  |
|                                                                                   |  | D                                       | 21.20 | 21.50 | 21.80 |
|                                                                                   |  | E                                       | 3.80  | 4.00  | 4.20  |
|                                                                                   |  | F                                       | 0.50  | 0.60  | 0.70  |
|                                                                                   |  | G                                       | 1.00  | 1.20  | 1.40  |
|                                                                                   |  | H                                       | 19.20 | 19.50 | 19.70 |
|                                                                                   |  | I                                       | 10.70 | 10.90 | 11.10 |
|                                                                                   |  | J                                       | 4.60  | 4.80  | 5.00  |
|                                                                                   |  | K                                       | 0.60  | 0.80  | 1.00  |
|                                                                                   |  | L                                       | 2.20  | 2.40  | 2.60  |
|                                                                                   |  | M                                       | 1.90  | 2.15  | 2.30  |
|                                                                                   |  | 尺寸单位: (mm)<br>Dimensions in millimeters |       |       |       |

## 订购信息 Ordering Information

| 订单型号<br>Order code | 印记<br>Marking | 封装<br>Package | 重量<br>Weight<br>(g) | 包装形式<br>Packing | 基本包装<br>Base qty<br>(Pcs) | 盒<br>Box<br>(Pcs) | 箱<br>Carton<br>(Pcs) |
|--------------------|---------------|---------------|---------------------|-----------------|---------------------------|-------------------|----------------------|
| WDSC30120P000P     | DSC30120P     | TO-247AC      | 5.82                | 管装 Tube         | 30                        | 600               | 2400                 |

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