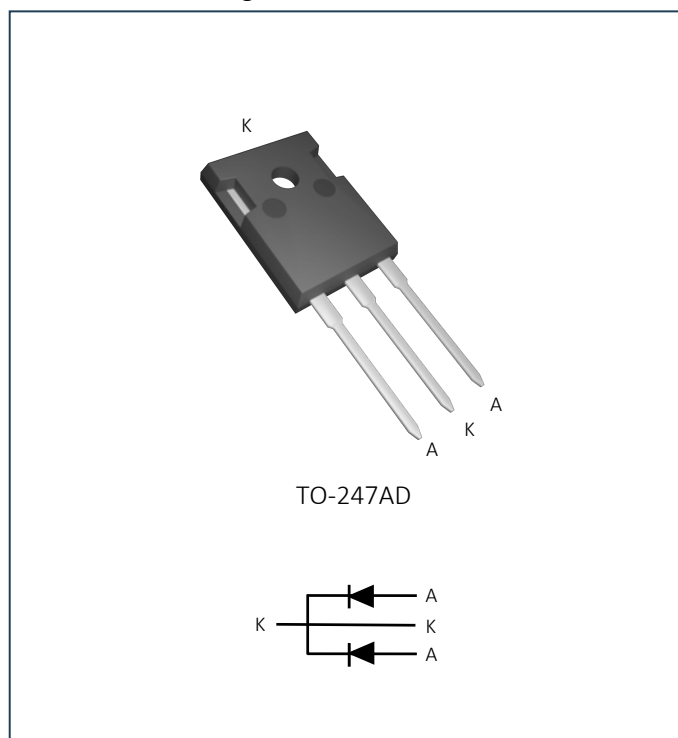


# DSCK40120P

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               |
|--------------|---------------------|
| $I_{F(AV)}$  | 40A                 |
| $V_{RRM}$    | 1200V               |
| $V_{F(typ)}$ | 1.98V@20A 175°C     |
| $I_{R(typ)}$ | 0.009mA@1200V 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℃<br>64*/128** | A          |
|                                                          |              | Tc=155℃<br>20*/40** |            |
| 浪涌电流<br>Non-repetitive single pulse surge current t=10ms | IFSM         | 185*                | A          |
| 功率耗散<br>Power Dissipation                                | Tc=110℃      | 141*                | W          |
| 结温<br>Junction temperature                               | Tj           | -55~+175            | ℃          |
| 存储温度<br>Storage temperature                              | TSTG         | -55~+175            | ℃          |

## 电特性 Electrical characteristics(Tc=25℃)

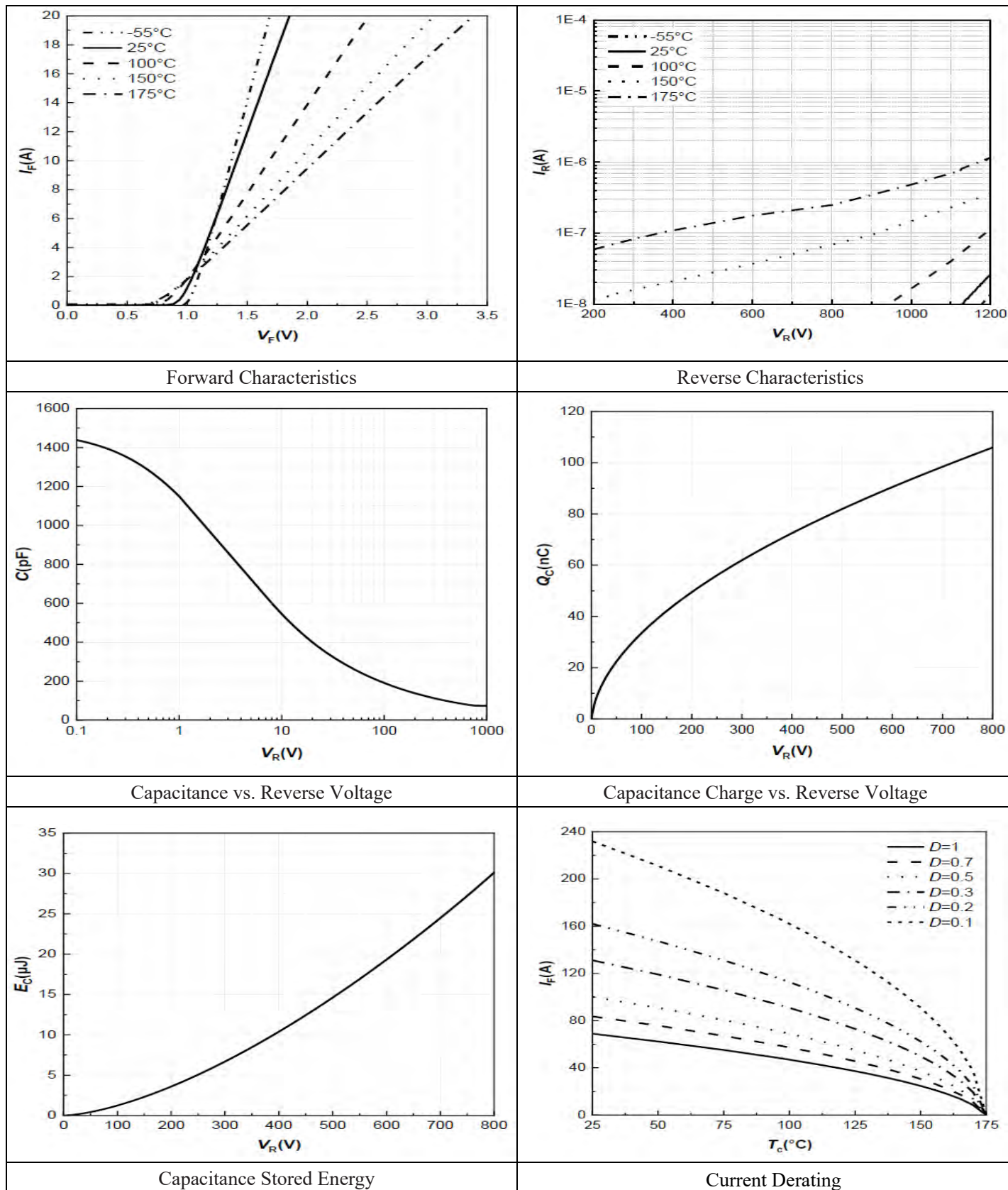
| 项目<br>Parameter | 测试条件<br>Tests conditions |                             | 数值 Value |          |          | 单位<br>Unit |
|-----------------|--------------------------|-----------------------------|----------|----------|----------|------------|
|                 |                          |                             | 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℃                   | VR=650V                     | -        | 0.0005   | 0.2      | mA         |
|                 | Tj=175℃                  |                             | -        | 0.009    | 0.4      |            |
| 正向电压<br>VF      | Tj=25℃                   | IF=20A                      | -        | 1.39     | 1.65     | V          |
|                 | Tj=175℃                  |                             | -        | 1.98     | 2.45     |            |
| 总电容电荷量<br>QC    | Tj=25℃                   | VR=800V<br>QC= ∫ 0VRC(V)dVp | -        | 106      | -        | nC         |
| 总电容量<br>C       | Tj=25℃                   | VR=1V, f=1MHZ               | -        | 1150     | -        | pF         |
|                 |                          | VR=400V, f=1MHZ             | -        | 100      | -        |            |
|                 |                          | VR=800V, f=1MHZ             | -        | 75       | -        |            |
| 电容储存能量<br>EC    |                          | VR=800V                     | -        | 30       | -        | nJ         |

## 热特性 Thermal characteristics(Tc=25℃)

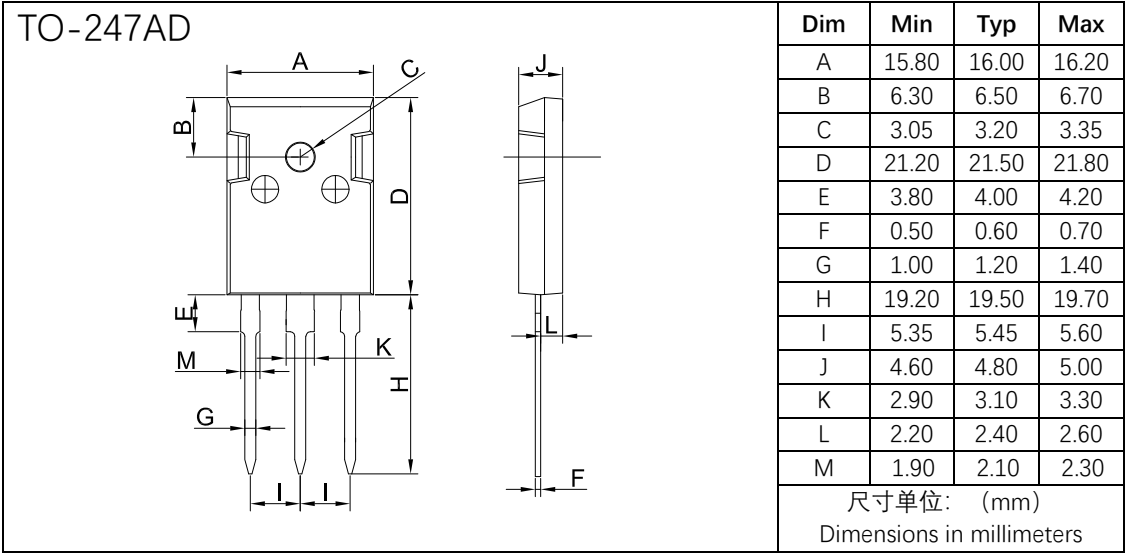
| 项目<br>Parameter                                | 符合<br>Symbol | 数值<br>Value     | 单位<br>Unit |
|------------------------------------------------|--------------|-----------------|------------|
| 热阻<br>Thermal resistance from junction to case | Rth(j-c)     | 0.46*<br>0.23** | ℃/W        |

\*per diode, \*\*per device

## 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



## 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) |
|--------------------|---------------|---------------|---------------------|-----------------|---------------------------|-------------------|----------------------|
| WDSCK40120P000P    | DSCK40120P    | TO-247AD      | 5.82                | 管装 Tube         | 30                        | 600               | 2400                 |

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