

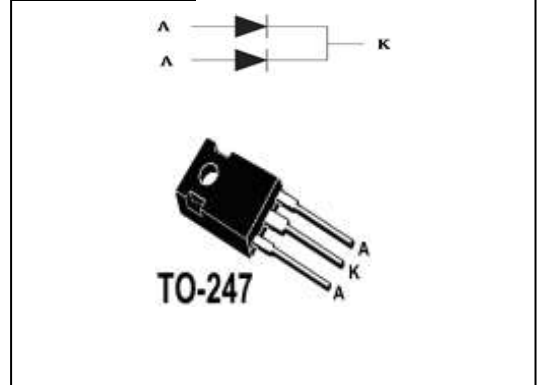


# SC20J120B

## 主要参数 MAIN CHARACTERISTICS

$V_{RRM}$	1200V
$I_F, T_C \leq 150^\circ\text{C}$	20A**
$Q_C \text{ Typ}$	61nC**

## 封装 Package



### 用途

- 光伏逆变器
- 开关模式电源
- 高压 DC/DC 转换器
- 电池充电器
- 电动驱动
- 不间断电源

### APPLICATIONS

- Solar Inverters
- Switch Mode Power Supplies
- High Voltage DC/DC Converters
- Battery Chargers
- Motor Drives
- Uninterruptable power supplies

### 产品特性

- 高阻断电压
- 零反向恢复电流
- 零正向恢复电压
- 高频率应用
- 不受温度影响的开关特性
- 快速开关
- 正温度系数
- RoHS 产品

### FEATURES

- High Blocking Voltage
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on  $V_F$

## 订货信息 ORDER MESSAGE

订货型号 Order codes	印 记	封 装
无卤-条管 Halogen-Free-Tube	Marking	Package
SC20J120B-GE-BR	SC20J120B	TO-247

绝对最大额定值 ABSOLUTE RATINGS ( $T_C=25^{\circ}\text{C}$ )

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
反向重复峰值电压 Repetitive Peak Reverse Voltage	$V_{RRM}$	1200	V
反向浪涌峰值电压 Surge Peak Reverse Voltage	$V_{RSM}$	1200	V
反向直流电压 DC Blocking Voltage	$V_{DC}$	1200	V
正向平均电流 Continuous Forward Current	$I_F$ $T_C=150^{\circ}\text{C}$	10* 20**	A
正向重复浪涌电流 Repetitive Peak Forward Surge Current	$I_{FRM}$	80	A
正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	120	A
非重复正向峰值电流 Non-Repetitive Peak Forward Current	$I_{F,Max}$	800	A
最高结温及存储温度 Operating and Storage Temperature Range	$T_J, T_{STG}$	-55~+175	$^{\circ}\text{C}$
引线最高焊接温度 Maximum Lead Temperature for Soldering Purposes	$T_L$	300	$^{\circ}\text{C}$

\*Per Leg, \*\* Per Device

**电特性 ELECTRICAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	测试条件 Tests conditions	最小 Min	典型 Typ	最大 Max	单位 Units
正向电压 Forward Voltage	$V_F$	$I_F = 10A$ $T_J = 25^\circ C$ $I_F = 10A$ $T_J = 175^\circ C$	-	1.5 2.2	1.8 3.0	V
反向电流 Reverse Current	$I_R$	$V_R = 1200 V$ $T_J = 25^\circ C$ $V_R = 1200 V$ $T_J = 175^\circ C$		2 20	20 100	$\mu A$
总储存电荷 Total Capacitive Charge	$Q_C$	$V_R = 800V$ , $T_J = 25^\circ C$ $Q_C = \int_0^{V_R} C(V)dV$		61		nC
总电容 Total Capacitance	C	$V_R = 0 V$ , $T_J = 25^\circ C$ , $f = 1 MHz$ $V_R = 400V$ , $T_J = 25^\circ C$ , $f = 1 MHz$ $V_R = 800V$ , $T_J = 25^\circ C$ , $f = 1 MHz$		800 57 42		pF
电容储存能量 Capacitance Stored Energy	$E_C$	$V_R = 800 V$		15.6		$\mu J$

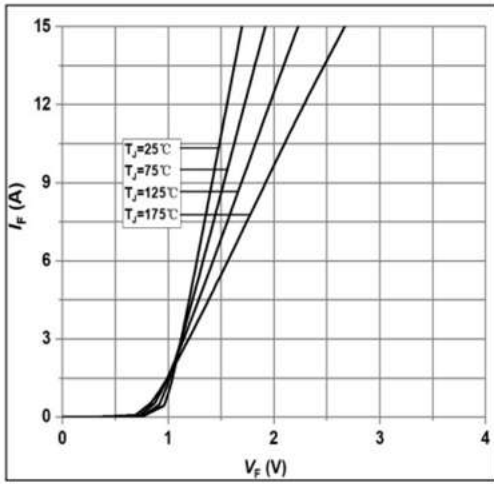
**热特性 THERMAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	典型值 Typ	单 位 Unit
		TO-247	
结到管壳的热阻 Thermal Resistance Junction to Case	$R_{th(j-c)}$	0.65	$^\circ C/W$

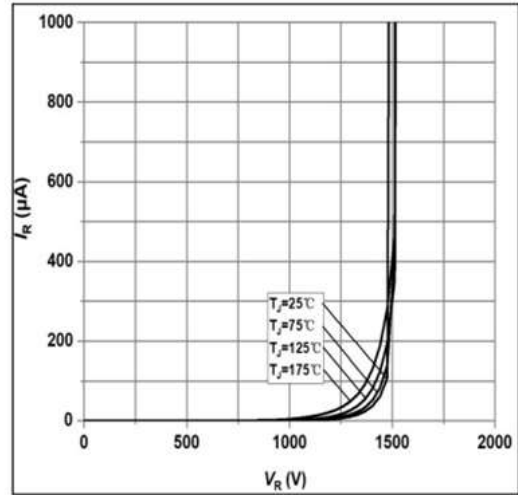




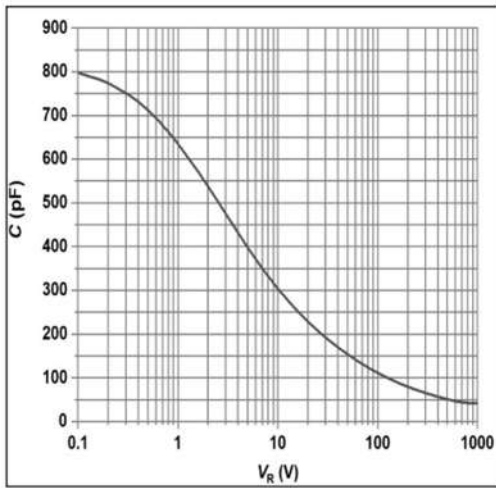
典型性能 Typical Performance



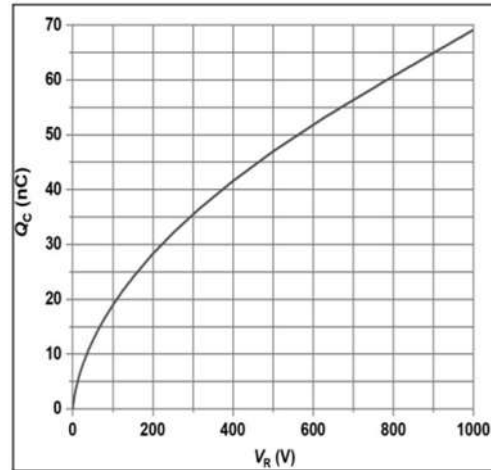
Forward Characteristics



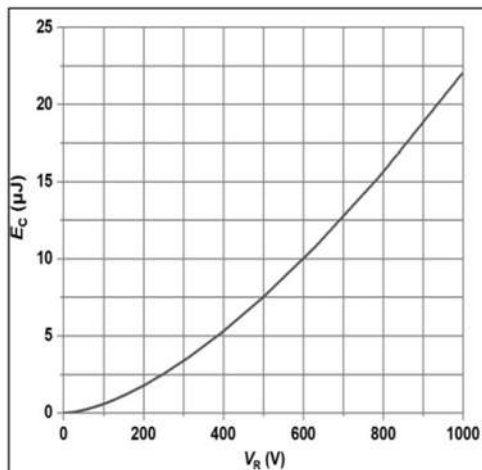
Reverse Characteristics



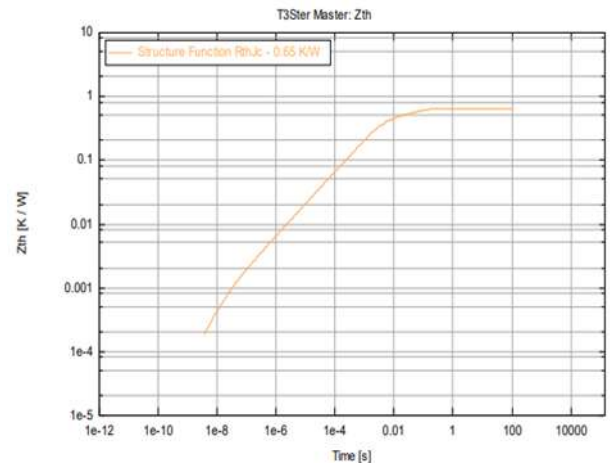
Capacitance vs. Reverse Voltage



Capacitance Charge vs. Reverse Voltage



Capacitance Stored EnergyFigure

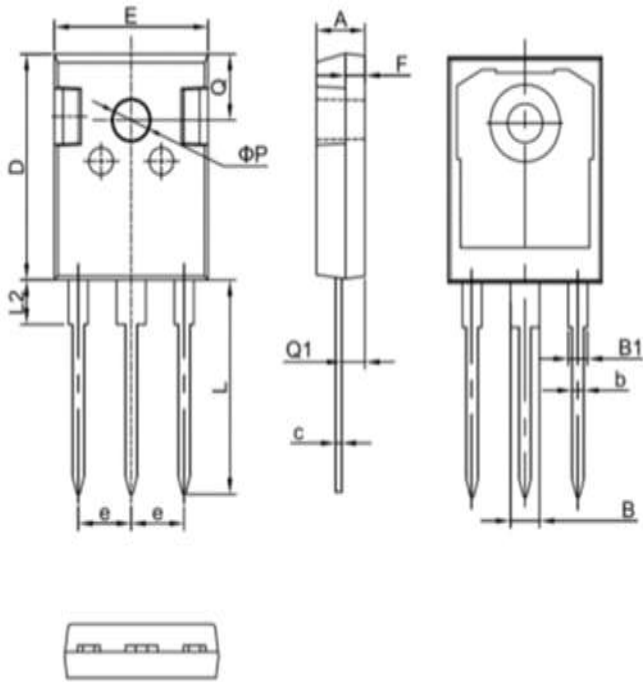


Transient Thermal Impedance



## TO-247

单位 Unit: mm



符号 symbol	MIN	MAX
A	4.90	5.10
B	2.95	3.35
B1	1.95	2.35
b	1.15	1.35
c	0.50	0.70
D	20.90	21.10
E	15.70	15.90
e	5.34	5.54
F	1.90	2.10
L	19.40	20.40
L2	4.03	4.23
Q	6.00	6.40
Q1	2.30	2.50
P	3.50	3.70

←





### 注意事项

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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。

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