

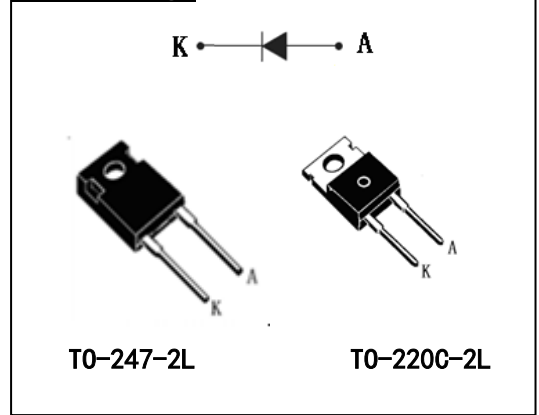


# SC20J065A

## 主要参数 MAIN CHARACTERISTICS

$V_{RRM}$	650V
$I_F, T_C \leq 150^\circ\text{C}$	20A
$Q_C \text{ Typ}$	65nC

## 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  $V_F$
- RoHS product

## 订货信息 ORDER MESSAGE

订货型号 Order codes	印记 Marking	封装 Package
无卤-条管 Halogen-Free-Tube		
SC20J065A-CL-BR	SC20J065A	TO-220C-2L
SC20J065A-GL-BR	SC20J065A	TO-247-2L



## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)

项 目 Parameter	符 号 Symbol	数 值 Value		单 位 Unit
		TO-220C-2L	TO-247-2L	
反向重复峰值电压 Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	650		V
反向浪涌峰值电压 Surge Peak Reverse Voltage	V <sub>RSM</sub>	650		V
反向直流电压 DC Blocking Voltage	V <sub>DC</sub>	650		V
正向平均电流 Continuous Forward Current	I <sub>F</sub> Tc=150℃	20		A
正向重复浪涌电流 Repetitive Peak Forward Surge Current	I <sub>FRM</sub>	140		A
正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	160		A
非重复正向峰值电流 Non-Repetitive Peak Forward Current	I <sub>F,Max</sub>	1360		A
耗散功率 Power Dissipation	P <sub>tot</sub> Tc=25℃ Tc=110℃	283 123	300 130	W
最高结温及存储温度 Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~+175		℃
引线最高焊接温度 Maximum Lead Temperature for Soldering Purposes	T <sub>L</sub>	300		℃



**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	$V_F$	$I_F = 20A$ $T_J = 25^\circ C$ $I_F = 20A$ $T_J = 175^\circ C$	-	1.40 1.70	1.8 2.0	V
反向电流 Reverse Current	$I_R$	$V_R = 650V$ $T_J = 25^\circ C$ $V_R = 650V$ $T_J = 175^\circ C$		2 20	20 200	$\mu A$
总储存电荷 Total Capacitive Charge	$Q_C$	$V_R = 400V$ , $T_J = 25^\circ C$ , $I_F = 20A$ $Q_C = \int_0^{V_R} C(V)dV$		65		nC
总电容 Total Capacitance	C	$V_R = 0V$ , $T_J = 25^\circ C$ , $f = 1MHz$ $V_R = 200V$ , $T_J = 25^\circ C$ , $f = 1MHz$ $V_R = 400V$ , $T_J = 25^\circ C$ , $f = 1MHz$		1340 120 109		pF
电容储存能量 Capacitance Stored Energy	$E_C$	$V_R = 400V$		16		$\mu J$

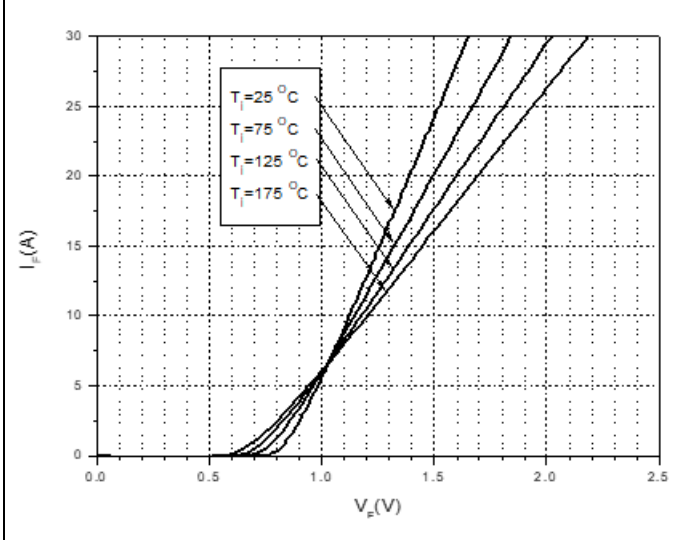
**热特性 THERMAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	典型值 Typ		单 位 Unit
		TO-220C-2L	TO-247-2L	
结到管壳的热阻 Thermal Resistance Junction to Case	$R_{th(j-c)}$	0.53	0.50	$^\circ C/W$

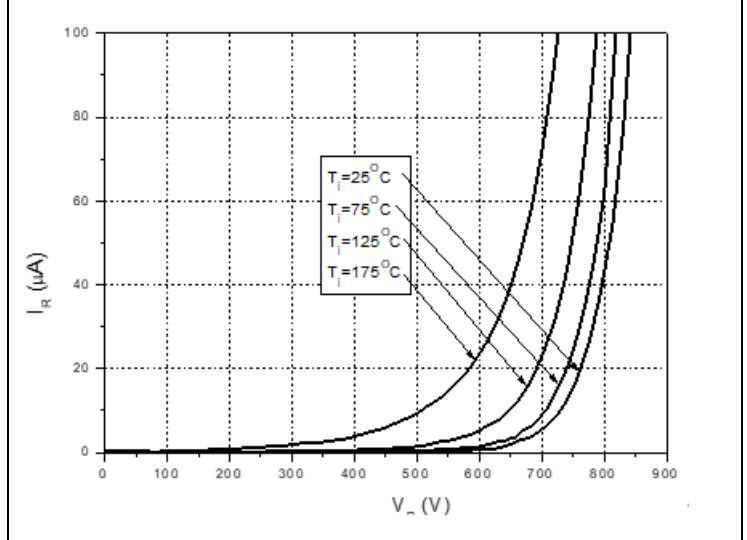




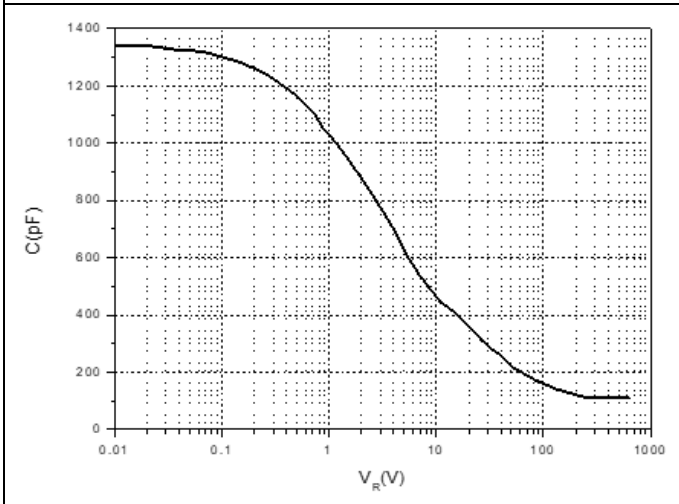
典型性能 Typical Performance



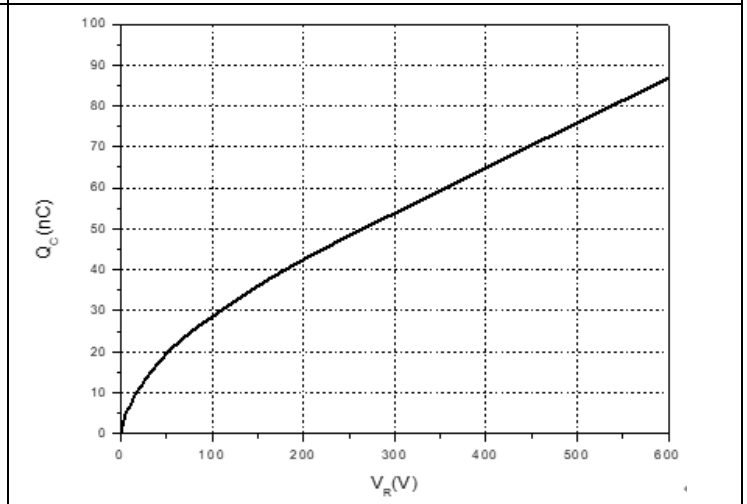
Forward Characteristics



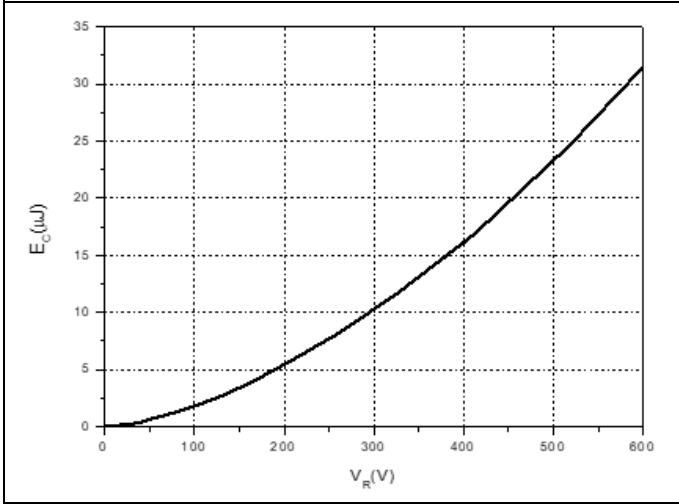
Reverse Characteristics



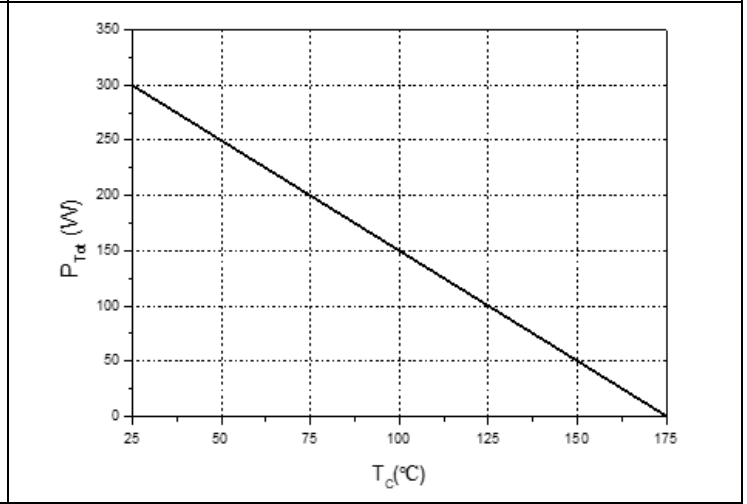
Capacitance vs. Reverse Voltage



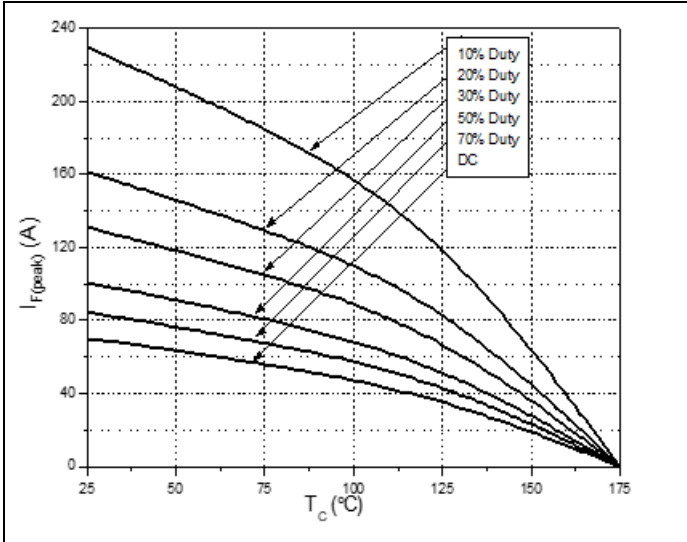
Capacitance Charge vs. Reverse Voltage



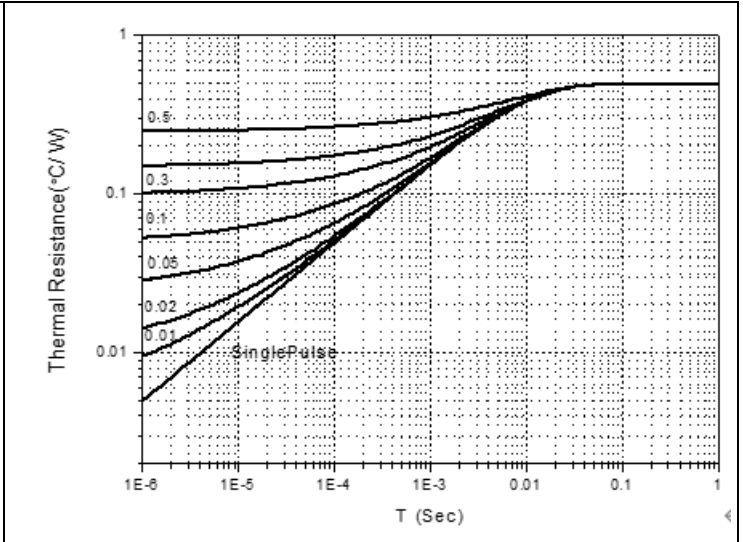
Capacitance Stored Energy



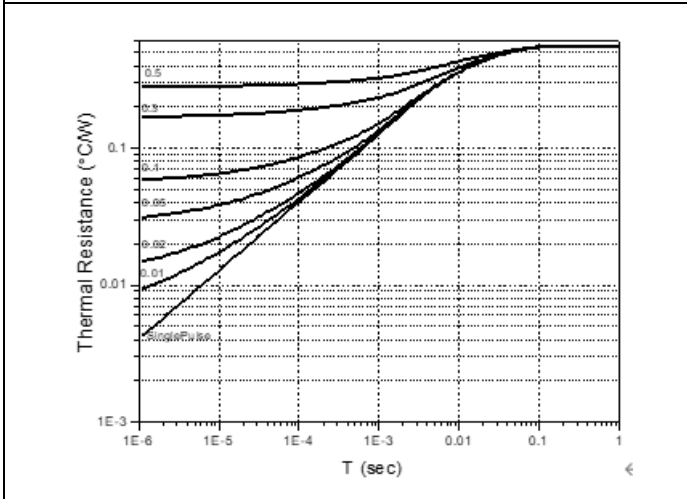
Power Derating (TO-220C-2L)



Current Derating (TO-220C-2L)



Transient Thermal Impedance (TO-247-2L)

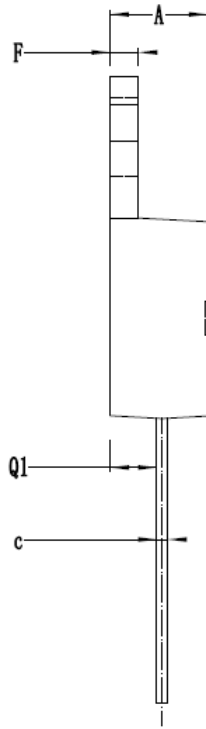
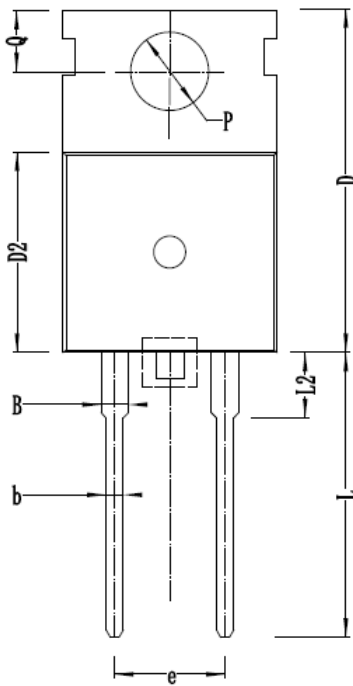


Transient Thermal Impedance (TO-220C-2L)

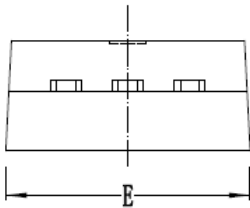


## TO-220C-2L

单位 Unit: mm



符号 symbol	单位: mm	
	MIN	MAX
A	4.30	4.70
B	1.22	1.40
b	0.70	0.95
c	0.40	0.65
D	15.20	16.20
D2	9.00	9.40
E	9.70	10.10
e	4.78	5.38
F	1.25	1.40
L	12.60	13.60
L2	2.80	3.20
ΦP	3.50	3.80
Q	2.60	3.00
Q1	2.20	2.60



注:

1. 虚线区域代表, 此位置有、无余留, 均为我司受控外形;

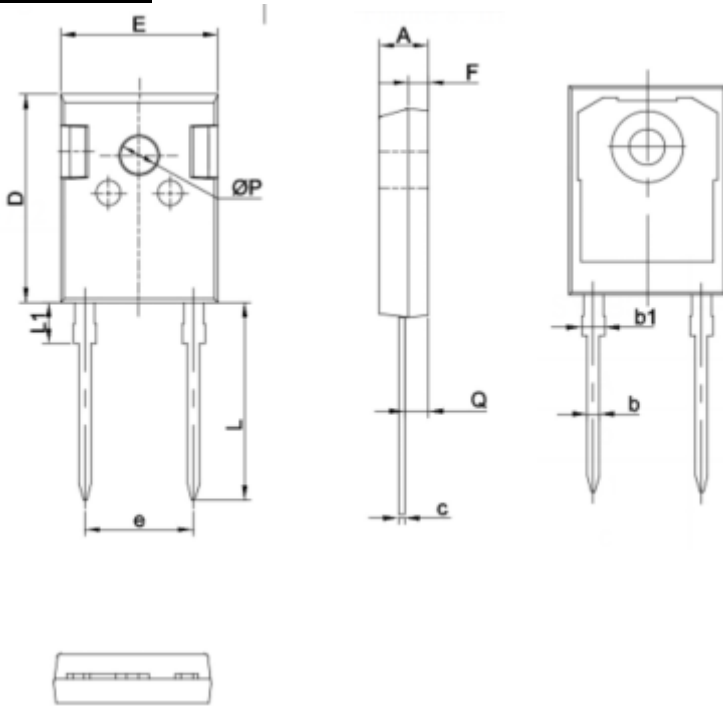




## 外形尺寸 PACKAGE MECHANICAL DATA

## TO-247-2L

单位 Unit: mm



SYMBOL	MM	
	MIN	MAX
A	4.80	5.20
b	1.10	1.30
b1	1.95	2.25
c	0.50	0.70
D	20.80	21.20
E	15.60	16.00
F	1.85	2.15
e	10.73	11.03
L	19.62	20.22
L1	3.93	4.33
ØP	3.40	3.80
Q	2.26	2.56





### 注意事项

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