

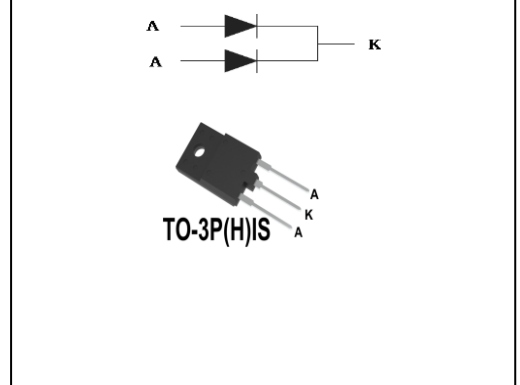


# SC20J065AD

## 主要参数 MAIN CHARACTERISTICS

$V_{RRM}$	650V
$I_F, T_C \leq 150^\circ\text{C}$	20A**
$Q_C \text{ Typ}$	28nC*

## 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
有卤-条管 Halogen-Free-Tube		
SC20J065AD-GA-B	SC20J065AD	TO-3P (H) IS



## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25°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 <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=120°C	10*	A
正向重复浪涌电流 Repetitive Peak Forward Surge Current	I <sub>FRM</sub>	70*	A
正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	90*	A
非重复正向峰值电流 Non-Repetitive Peak Forward Current	I <sub>F,Max</sub>	800*	A
耗散功率 Power Dissipation	P <sub>tot</sub> Tc=25°C Tc=110°C	55.6* 24.1*	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	°C
引线最高焊接温度 Maximum Lead Temperature for Soldering Purposes	T <sub>L</sub>	300	°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 2.0	1.8 2.5	V
反向电流 Reverse Current	$I_R$	$V_R = 650V$ $T_J = 25^\circ C$ $V_R = 650V$ $T_J = 175^\circ C$		1 10	5 30	$\mu A$
总储存电荷 Total Capacitive Charge	$Q_C$	$V_R = 400V, T_J = 25^\circ C, I_F = 10A$ $Q_C = \int_0^{V_R} C(V) dV$		28		nC
总电容 Total Capacitance	C	$V_R = 0V, T_J = 25^\circ C, f = 1MHz$ $V_R = 200V, T_J = 25^\circ C, f = 1MHz$ $V_R = 400V, T_J = 25^\circ C, f = 1MHz$		550 53 48		pF
电容储存能量 Capacitance Stored Energy	$E_C$	$V_R = 400V$		7.0		$\mu J$

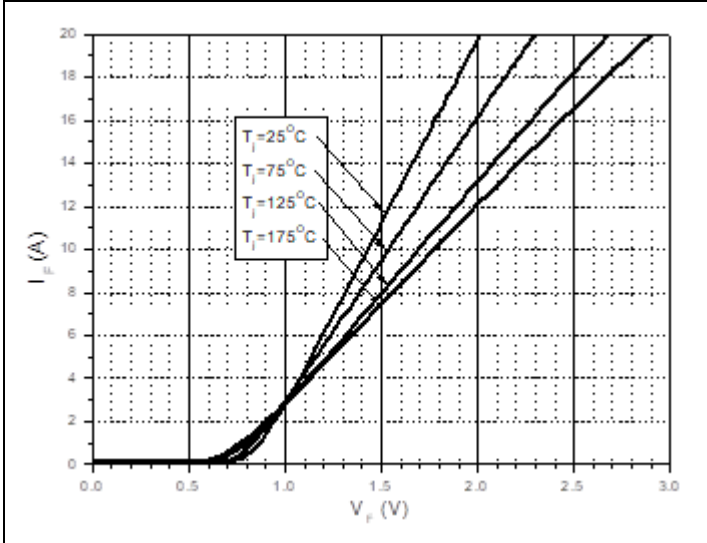
**热特性 THERMAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	典型值 Typ	单 位 Unit
结到管壳的热阻 Thermal Resistance Junction to Case	$R_{th(j-c)}$	2.70	$^\circ C/W$

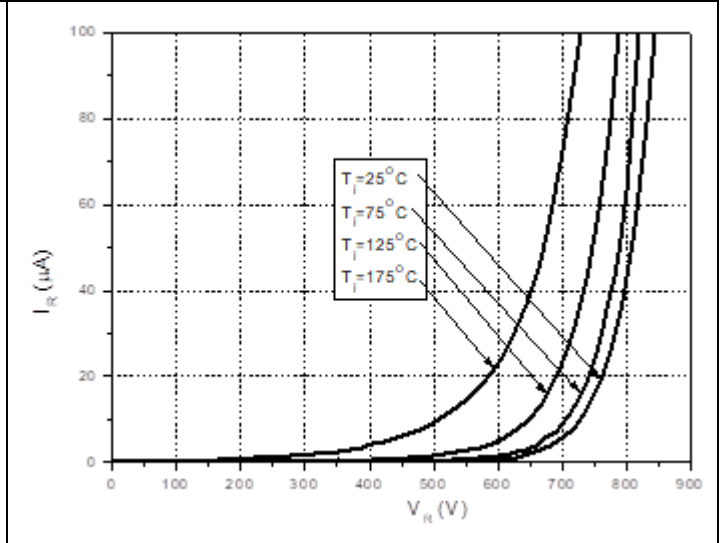




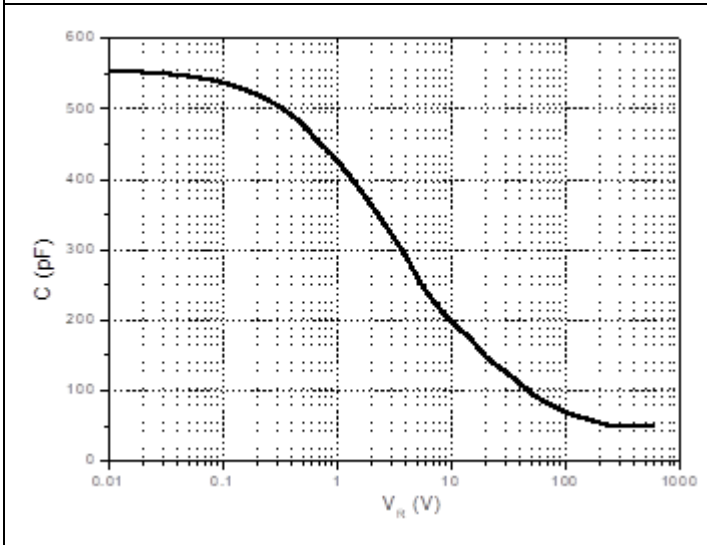
典型性能 Typical Performance



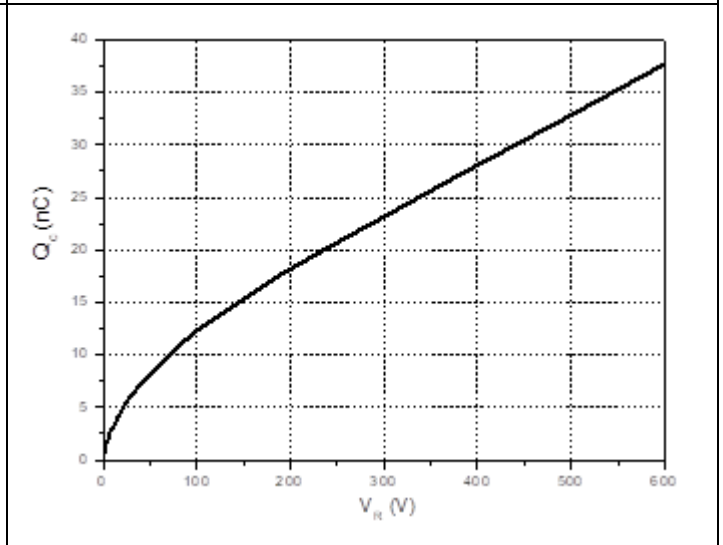
Forward Characteristics



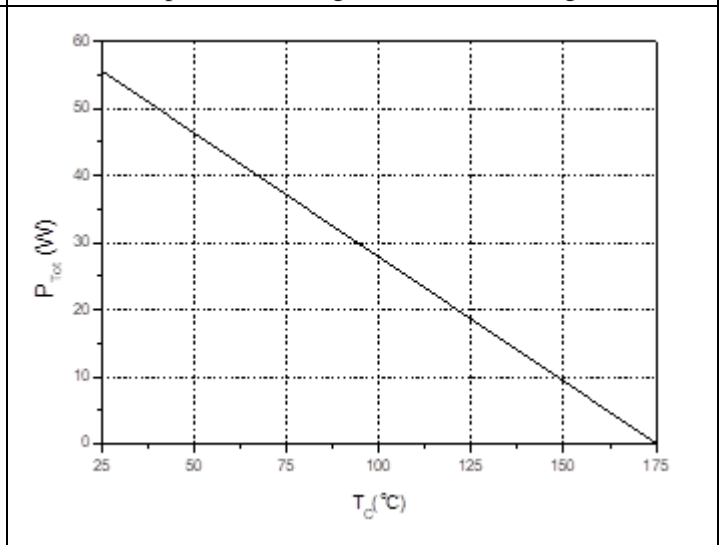
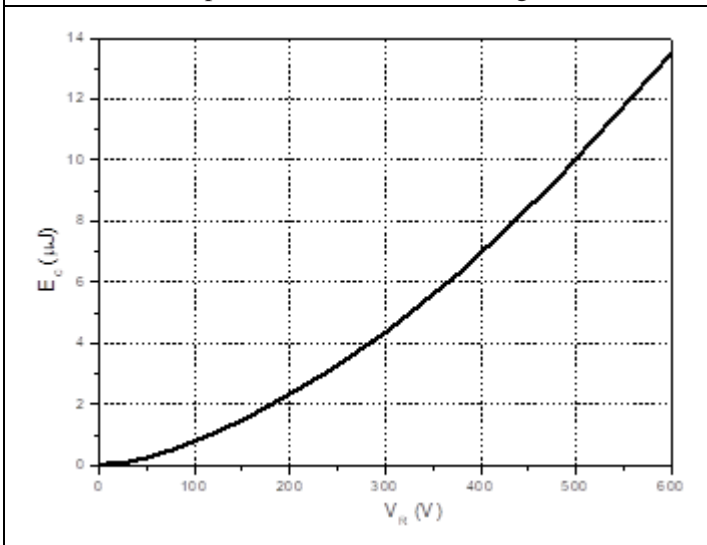
Reverse Characteristics



Capacitance vs. Reverse Voltage

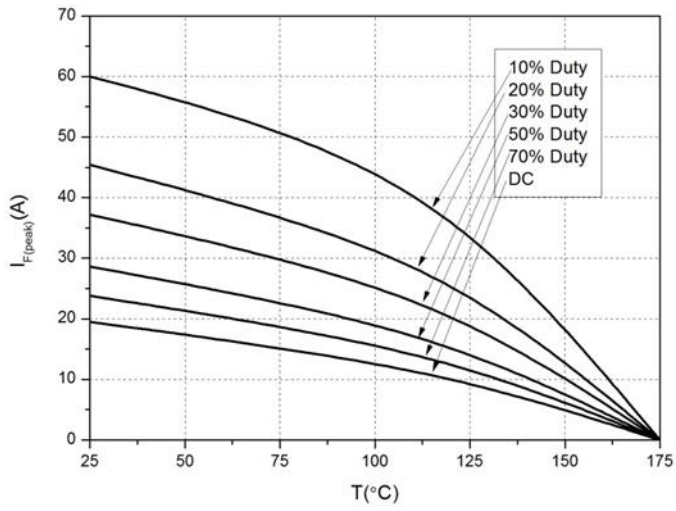


Capacitance Charge vs. Reverse Voltage

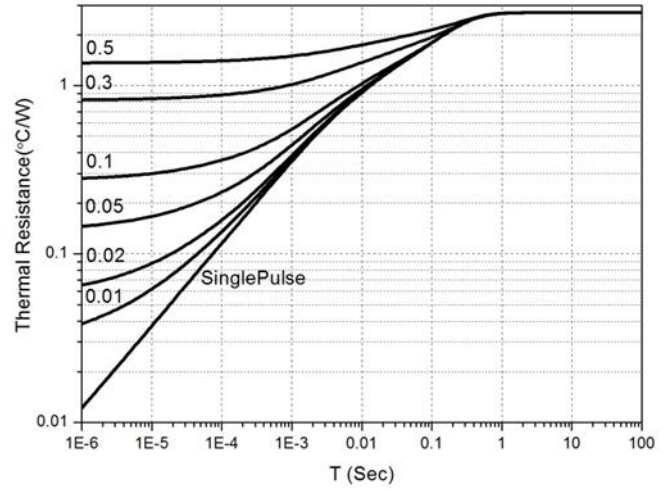




Capacitance Stored Energy



Power Derating



Current Derating

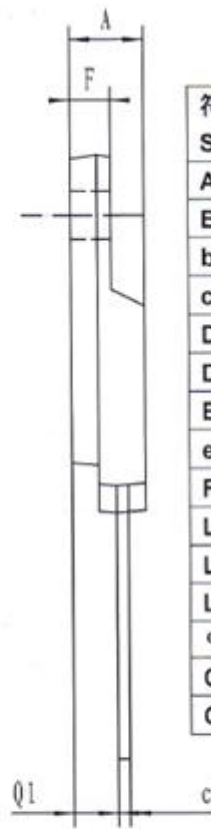
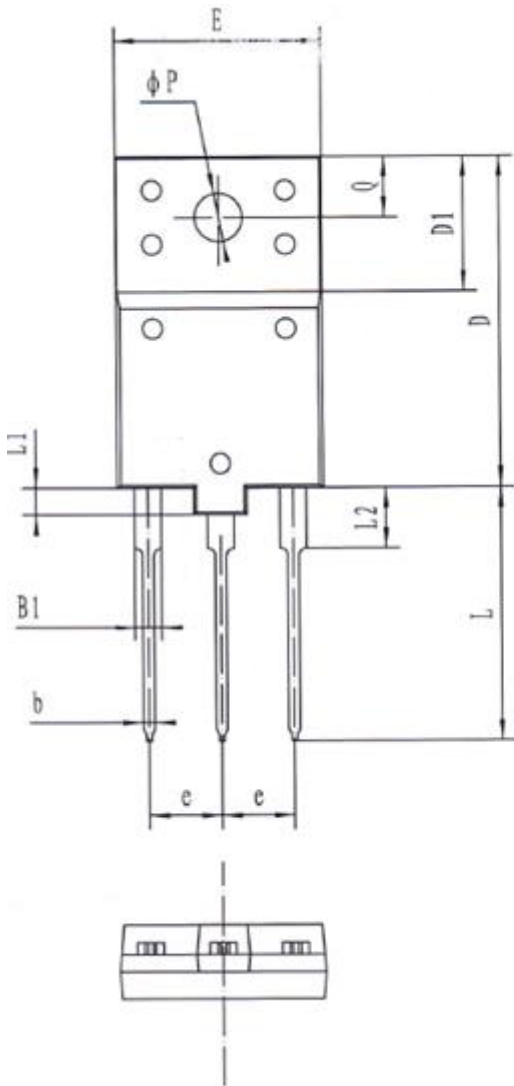
Transient Thermal Impedance



## 外形尺寸 PACKAGE MECHANICAL DATA

TO-3P(H)IS

单位 Unit: mm



符号 Symbol	Min	Max
A	5.2	5.8
B1	1.8	2.2
b	0.75	1.05
c	0.8	1.1
D	24.0	25.0
D1	9.8	10.2
E	15.0	16.0
e	5.45 (typ)	
F	2.7	3.3
L	18.5	19.5
L1	1.8	2.2
L2	4.3	4.7
$\Phi P$	3.4	3.8
Q	4.3	4.7
Q1	3.1	3.5





### 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。

### NOTE

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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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