



# SC04J065A

## 主要参数 MAIN CHARACTERISTICS

$V_{RRM}$	650V
$I_F, T_C \leq 150^\circ\text{C}$	4A
$Q_C \text{ Typ}$	9.5nC

### 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

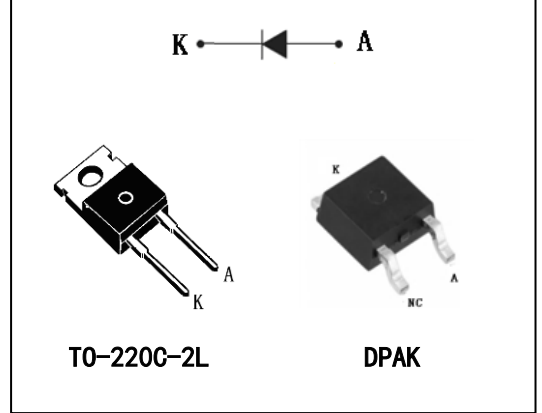
### 产品特性

- 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

## 封装 Package



## 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		
SC04J065A-CL-BR	SC04J065A	TO-220C-2L
SC04J065A-R-BR	SC04J065A	DPAK



## 绝对最大额定值 ABSOLUTE RATINGS (Tc=25°C)

项 目 Parameter	符 号 Symbol	数 值 Value		单 位 Unit
		TO220C-2L	DPAK	
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°C	4		A
正向重复浪涌电流 Repetitive Peak Forward Surge Current	I <sub>FRM</sub>	20		A
正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	38		A
非重复正向峰值电流 Non-Repetitive Peak Forward Current	I <sub>F,Max</sub>	200		A
耗散功率 Power Dissipation	P <sub>tot</sub> Tc=25°C Tc=110°C	111.1 48.1	76.5 33.2	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



**电特性 ELECTRICAL CHARACTERISTICS**

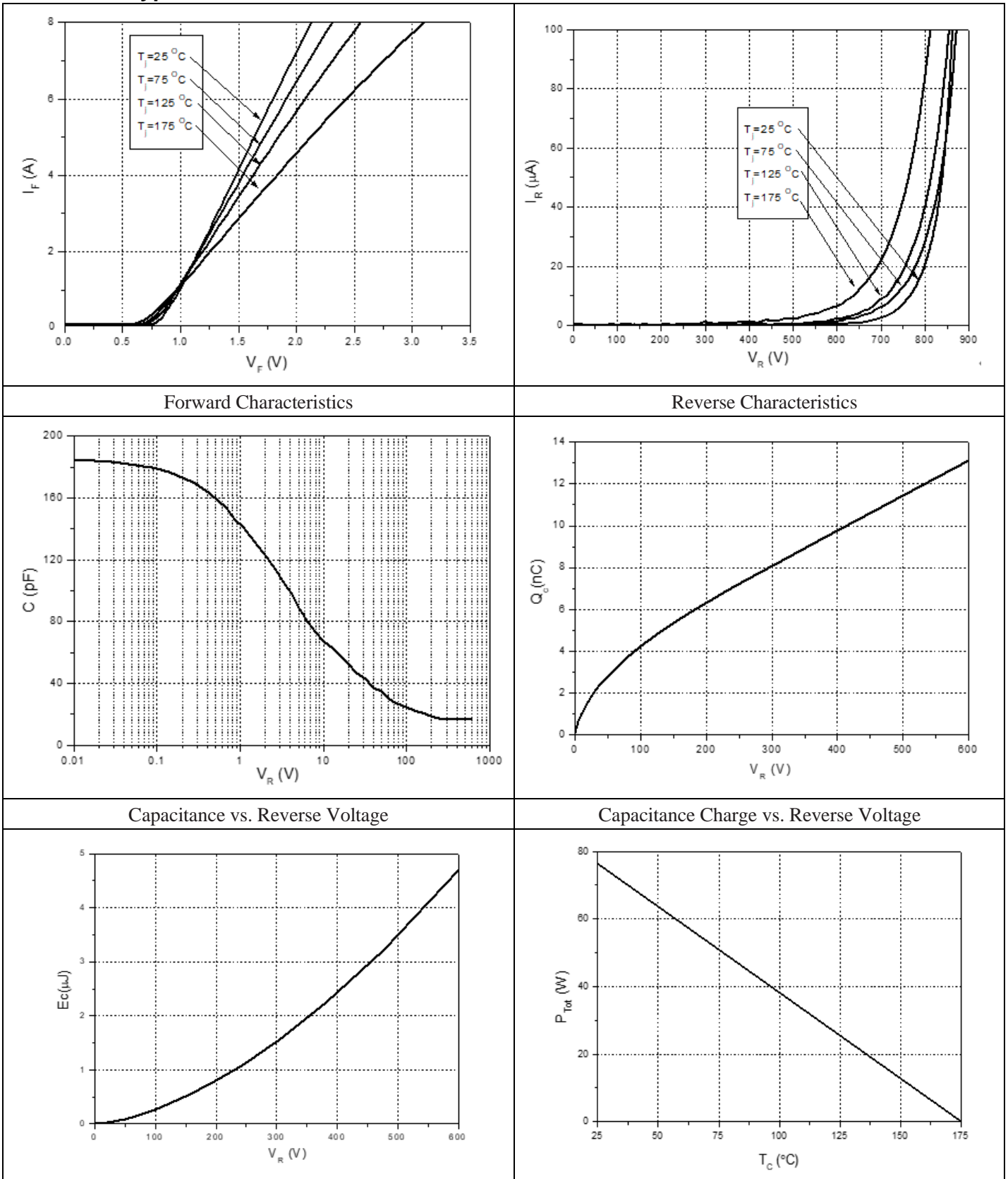
项 目 Parameter	符 号 Symbol	测试条件 Tests conditions	最小 Min	典型 Typ	最大 Max	单位 Units
正向电压 Forward Voltage	$V_F$	$I_F = 4A$ $T_J = 25^\circ C$ $I_F = 4A$ $T_J = 175^\circ C$	-	1.5 1.83	1.8 2.0	V
反向电流 Reverse Current	$I_R$	$V_R = 650V$ $T_J = 25^\circ C$ $V_R = 650V$ $T_J = 175^\circ C$		1.5 30	20 200	$\mu A$
总储存电荷 Total Capacitive Charge	$Q_C$	$V_R = 400V$ , $T_J = 25^\circ C$ , $I_F = 4A$ $Q_C = \int_0^{V_R} C(V) dV$		9.5		nC
总电容 Total Capacitance	C	$V_R = 0V$ , $T_J = 25^\circ C$ , $f = 1MHz$ $V_R = 200V$ , $T_J = 25^\circ C$ , $f = 1MHz$ $V_R = 400V$ , $T_J = 25^\circ C$ , $f = 1MHz$		185 19 16.7		pF
电容储存能量 Capacitance Stored Energy	$E_C$	$V_R = 400V$		2.4		$\mu J$

**热特性 THERMAL CHARACTERISTICS**

项 目 Parameter	符 号 Symbol	典型值 Typ		单 位 Unit
		TO-220C-2L	DPAK	
结到管壳的热阻 Thermal Resistance Junction to Case	$R_{th(j-c)}$	1.35	1.96	$^\circ C/W$

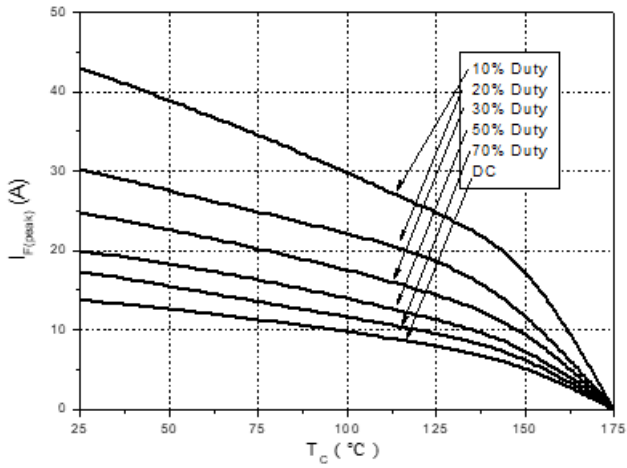


典型性能 Typical Performance

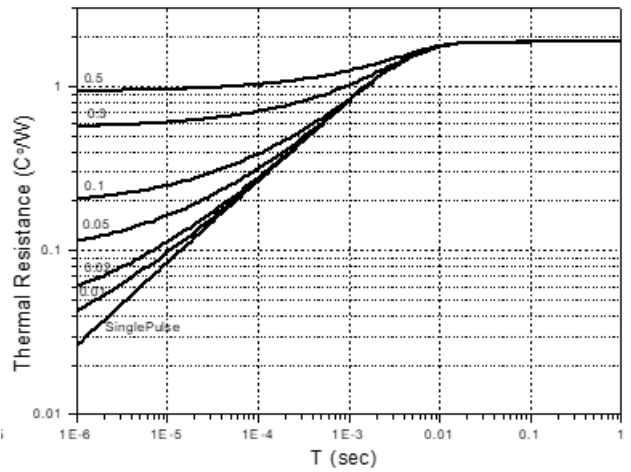




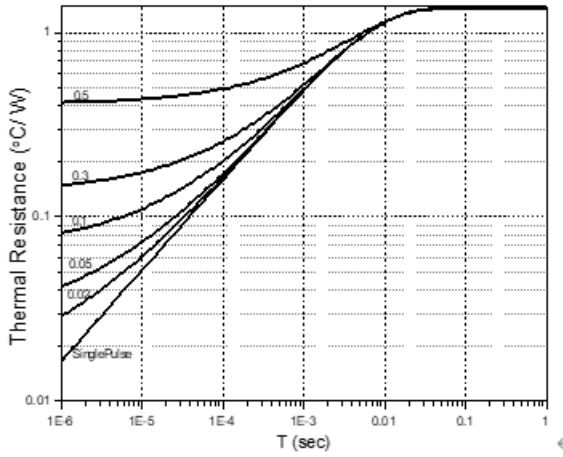
Capacitance Stored Energy



Power Derating ( DPAK )



Current Derating ( DPAK )



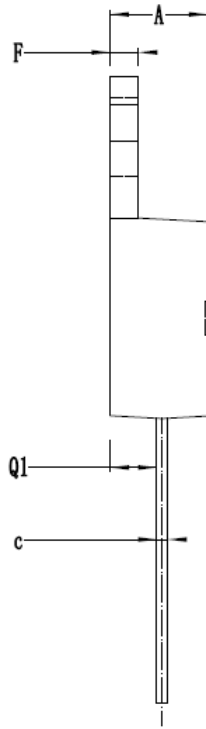
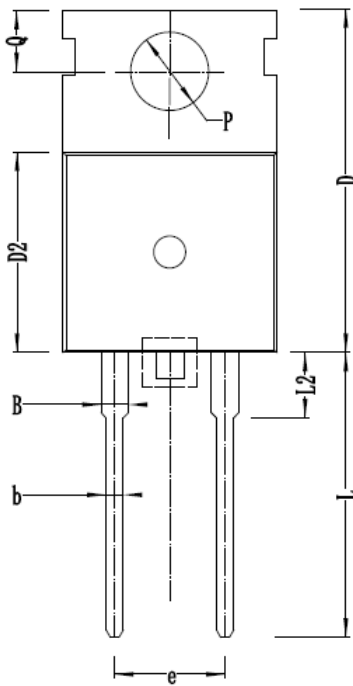
Transient Thermal Impedance ( DPAK )

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

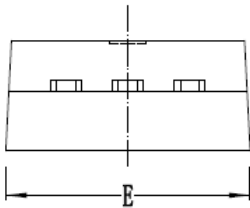


## TO-220C-2L

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;

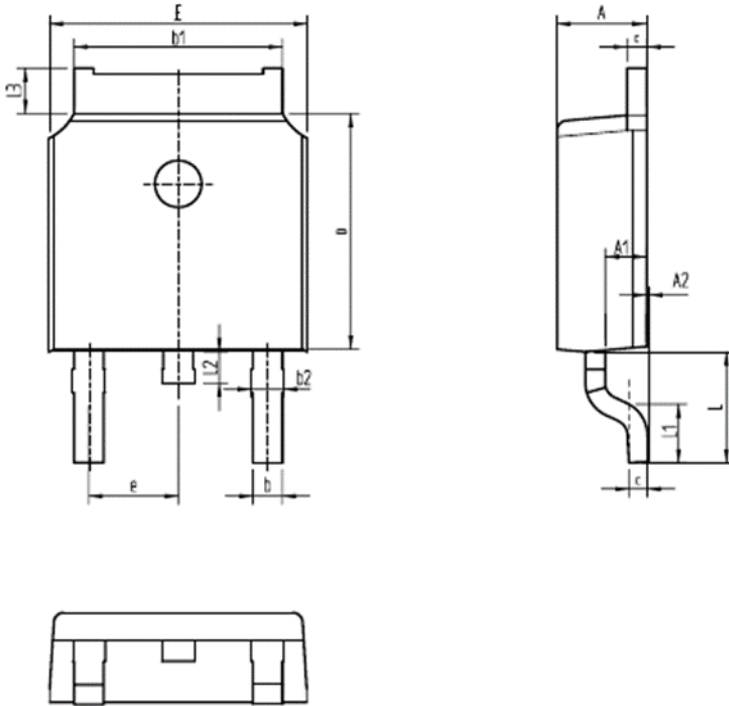




## 外形尺寸 PACKAGE MECHANICAL DATA

## DPAK

单位 Unit: mm



SYMBOL	mm	
	MIN	MAX
A	2.16	2.41
A1	0.97	1.17
A2	0.00	0.15
b	0.63	0.93
b1	5.13	5.53
b2	0.66	0.96
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
e	2.286BSC	
L	2.50	3.30
L1	1.20	1.80
L2	0.60	1.00
L3	0.85	1.30





### 注意事项

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