



SC40J120A

主要参数 MAIN CHARACTERISTICS

V_{RRM}	1200V
$I_F, T_C \leq 150^\circ\text{C}$	40A**
$Q_C \text{ Typ}$	190nC**

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

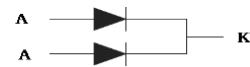
产品特性

- 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



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TO-247

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		
SC40J120A-GE-BR	SC40J120A	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 $T_c=150^{\circ}\text{C}$	20*	A
正向重复浪涌电流 Repetitive Peak Forward Surge Current	I_{FRM}	100*	A
正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	I_{FSM}	140*	A
非重复正向峰值电流 Non-Repetitive Peak Forward Current	$I_{F,Max}$	1200*	A
耗散功率 Power Dissipation	$P_{tot} T_c=25^{\circ}\text{C}$ $T_c=110^{\circ}\text{C}$	283* 123*	W
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	$I_F = 20A$ $T_J = 25^{\circ}C$ $I_F = 20A$ $T_J = 175^{\circ}C$	-	1.50 2.2	1.8 3.0	V
反向电流 Reverse Current	I_R	$V_R = 1200V$ $T_J = 25^{\circ}C$ $V_R = 1200V$ $T_J = 175^{\circ}C$		2 20	20 200	μA
总储存电荷 Total Capacitive Charge	Q_C	$V_R = 600V$, $T_J = 25^{\circ}C$, $I_F = 20A$ $Q_C = \int_0^{V_R} C(V) dV$		95		nC
总电容 Total Capacitance	C	$V_R = 0V$, $T_J = 25^{\circ}C$, $f = 1MHz$ $V_R = 400V$, $T_J = 25^{\circ}C$, $f = 1MHz$ $V_R = 600V$, $T_J = 25^{\circ}C$, $f = 1MHz$		2010 120 197		pF
电容储存能量 Capacitance Stored Energy	E_C	$V_R = 600V$		28.6		μJ

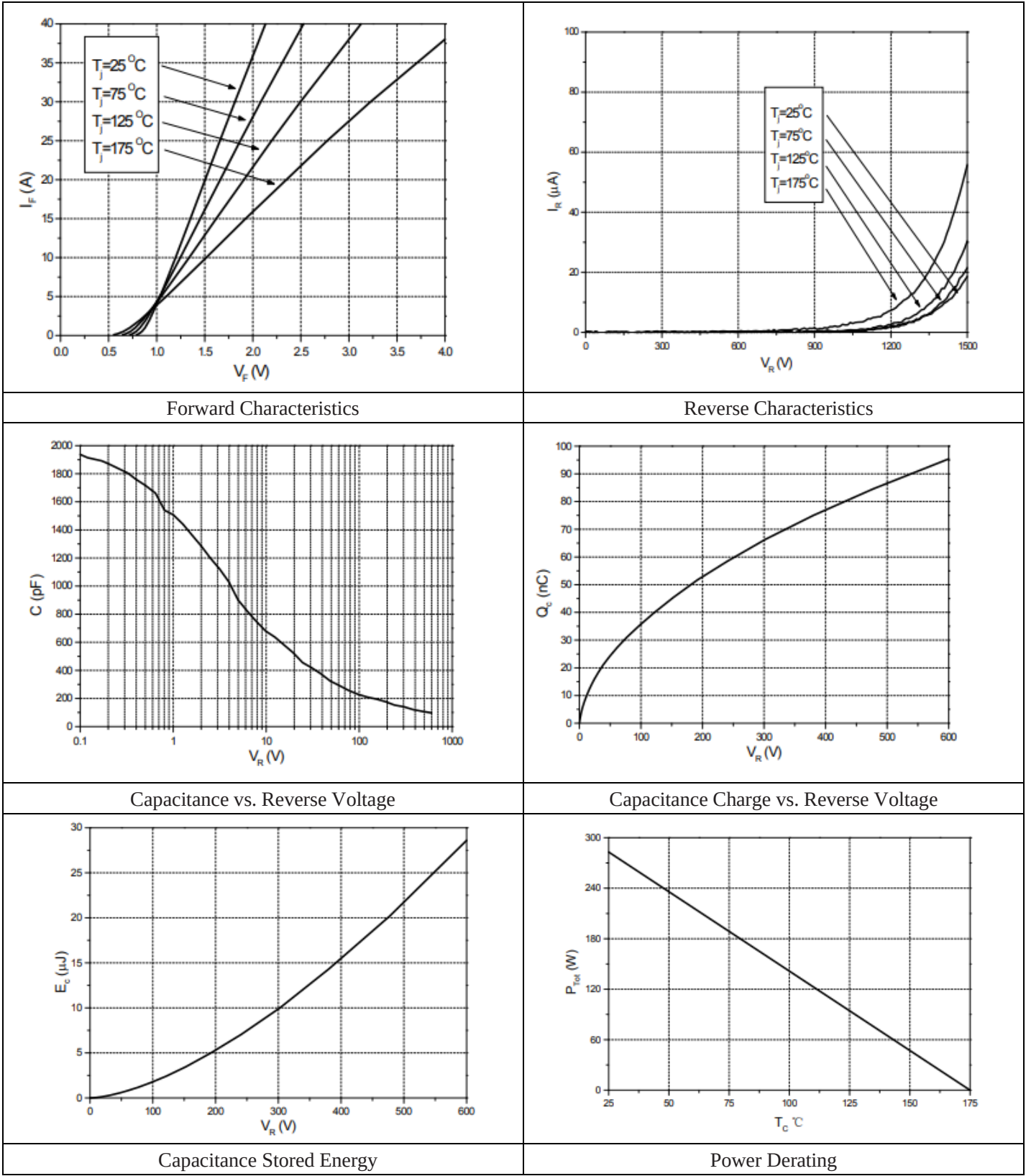
热特性 THERMAL CHARACTERISTICS

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	$R_{th(j-c)}$	0.53	$^{\circ}C/W$



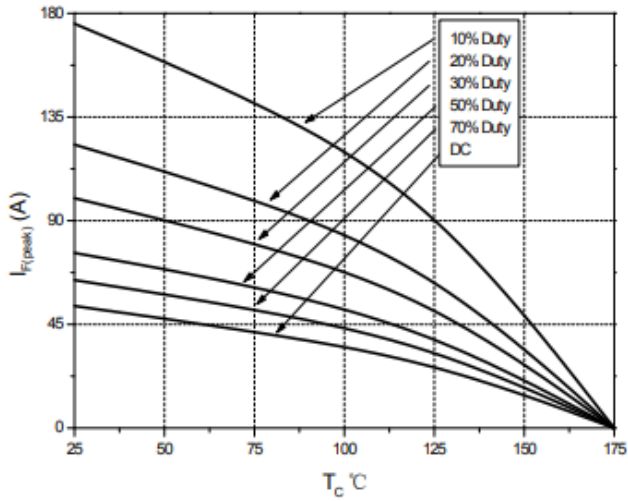


典型性能 Typical Performance

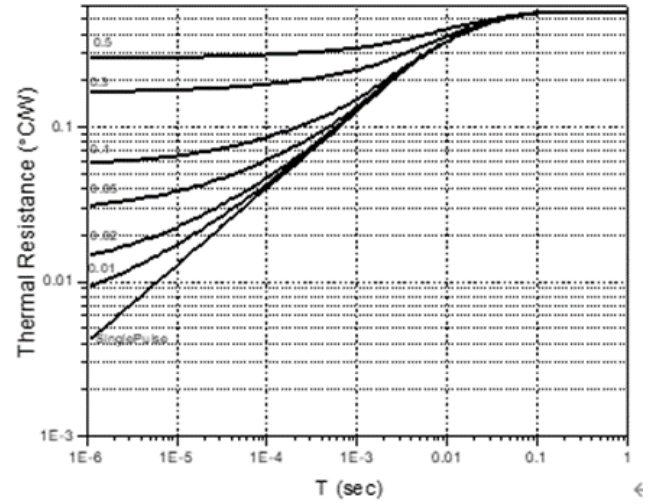




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Current Derating



Transient Thermal Impedance

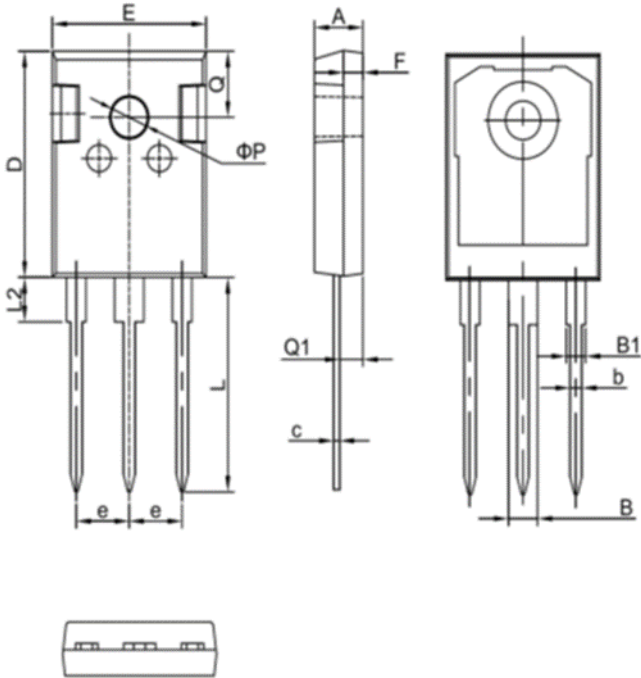




外形尺寸 PACKAGE MECHANICAL DATA

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

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