



SC20J120BS

产品特性 (Feature)

- 零反向恢复电流

No reverse recovery current

- 正温度系数

Positive temperature coefficient

- 不受温度影响的开关特性

Temperature independent switching behavior

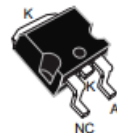
- 低压降、高工作温度

Low forward voltage and high operating temperature

- 优异的浪涌电流能力

Excellent surge current capability

V_{RRM}	1200	V
$I_F, T_C \leq 137^\circ\text{C}$	20	A
$Q_C \text{ Typ}$	126	nC



产品优点 (Benefits)

- 降低电磁干扰

Reduce EMI

- 高功率密度，可用于更高的工作频率

High power density, enable higher frequency

- 降低散热要求，节约系统成本和尺寸

Reduce cooling requirements, save system cost and size

- 极大提升系统效率

Significantly improve system efficiency

应用领域 (Applications)

- 光伏逆变器

Solar inverters

- 功率因数校正

Power Factor Correction

- 不间断电源

Uninterruptable power supplies

- 电机驱动

Motor drives

订货型号 (Order Message)

订货型号 Order codes		印记 Marking	封装 Package
有卤-条管 Halogen-Tube	无卤-条管 Halogen Free-Tube		
SC20J120BS-GE-B	SC20J120BS -GE-BR	SC20J120BS	TO-263-2





额定值 Maximum ratings

Symbol	Parameter	Value	Unit	Test Conditions	Note
V_{RRM}	反向重复峰值电压 Repetitive Peak Reverse Voltage	1200	V		
V_{RSM}	反向浪涌峰值电压 Surge Peak Reverse Voltage	1200	V		
V_{DC}	反向直流电压 DC Blocking Voltage	1200	V		
I_F	正向平均电流 Continuous Forward Current	20	A	$T_C=150^{\circ}\text{C}$	
I_{FRM}	正向重复浪涌电流 Repetitive Peak Forward Surge Current	100	A	$T_C=25^{\circ}\text{C}$, $t_p=10\text{ ms}$, Half Sine Wave,	
I_{FSM}	正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	144	A	$T_C=25^{\circ}\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	
$I_{F,Max}$	正向非重复浪涌电流 Non-Repetitive Peak Forward Surge Current	1200	A	$T_C=25^{\circ}\text{C}$, $t_p=10\text{ }\mu\text{s}$, Pulse	
T_J, T_{stg}	工作温度和存储温度 Operating Junction and Storage Temperature	-55 to +175	$^{\circ}\text{C}$		

电学特性 (单管芯) Electrical Characteristics, (Per Leg)

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V_F	正向电压 Forward Voltage	1.5 2.2	1.8 3.0	V	$I_F = 20\text{ A}$ $T_J=25^{\circ}\text{C}$ $I_F = 20\text{ A}$ $T_J=175^{\circ}\text{C}$	Fig. 1
I_R	反向电流 Reverse Current	15 65	100 300	μA	$V_R = 1200\text{ V}$ $T_J=25^{\circ}\text{C}$ $V_R = 1200\text{ V}$ $T_J=175^{\circ}\text{C}$	Fig. 2
Q_C	总储存电荷 Total Capacitive Charge	126		nC	$V_R = 800\text{V}$, $T_J = 25^{\circ}\text{C}$ $Q_C = \int_0^{V_R} C(V) dV$	Fig. 4
C	总电容 Total Capacitance	1702 120 95		pF	$V_R = 0\text{ V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$ $V_R = 400\text{ V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$ $V_R = 800\text{ V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{ MHz}$	Fig. 3
E_C	电容储存能量 Capacitance Stored Energy	32.5		μJ	$V_R = 600\text{ V}$	Fig. 5

热性能(Thermal Characteristics)

Symbol	Parameter	Typ.	Unit	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	0.68	$^{\circ}\text{C/W}$	





性能曲线图 Performance curve

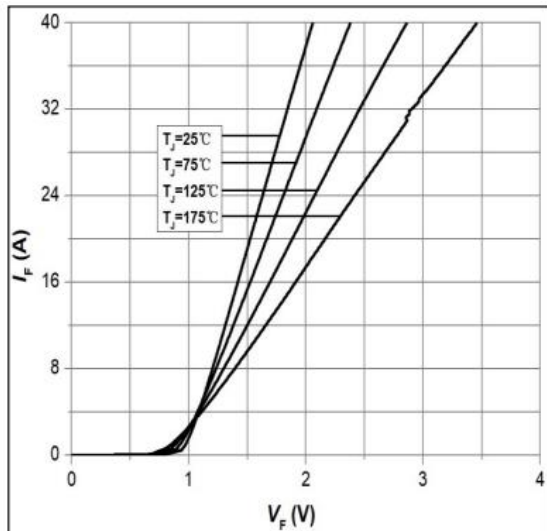


Figure 1. Forward Characteristics

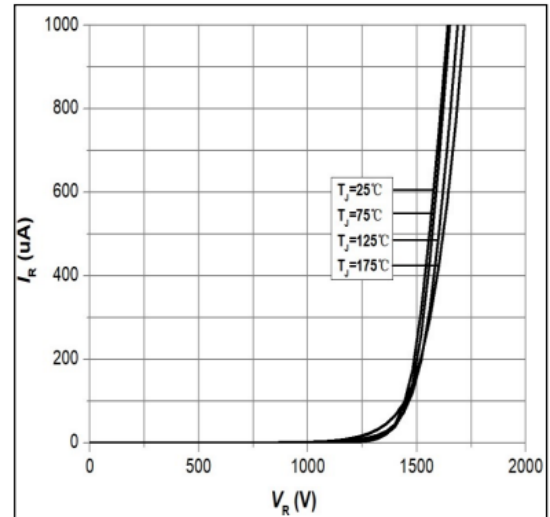


Figure 2. Reverse Characteristics

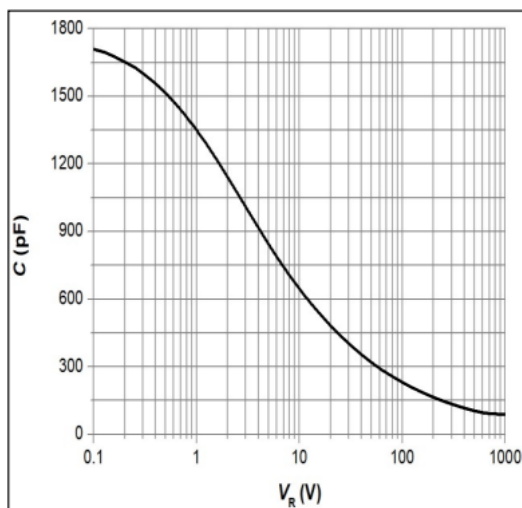


Figure 3. Capacitance vs. Reverse Voltage

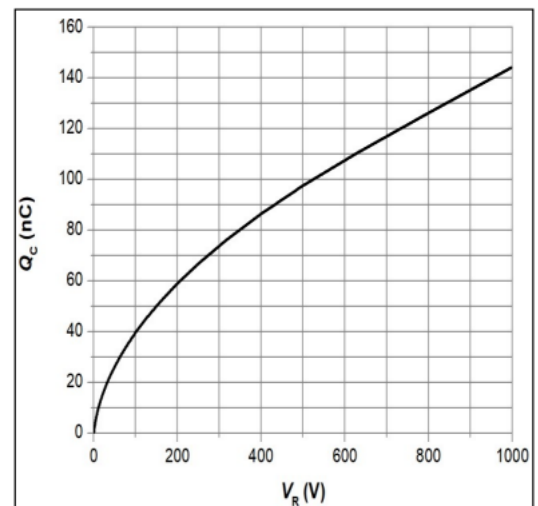


Figure 4. Capacitance Charge vs. Reverse Voltage

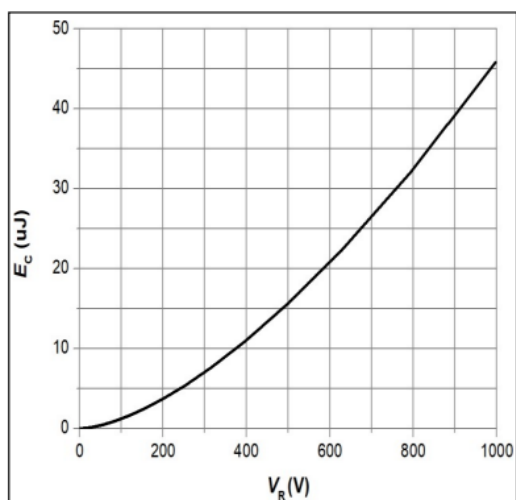
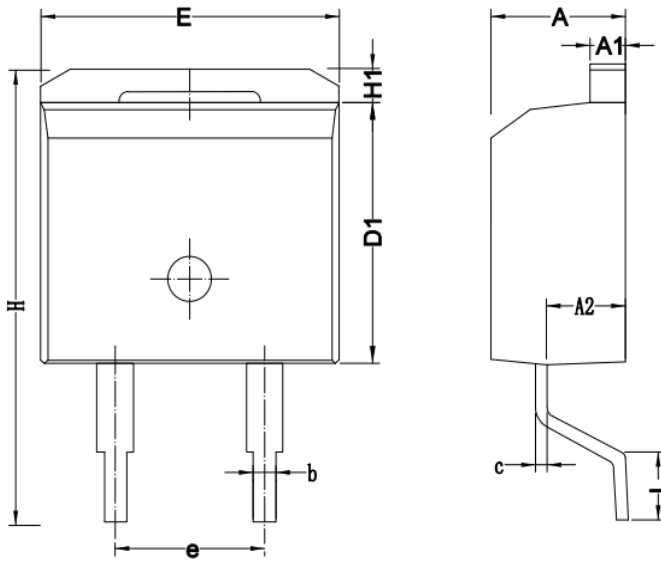


Figure 5. Capacitance Stored Energy



**Package Dimensions: TO-263-2**

SYMBOL	MM	
	MIN	MAX
A	4.18	4.68
A1	1.10	1.50
A2	2.40	2.80
b	0.63	1.00
c	0.35	0.70
D1	8.80	9.40
E	9.88	10.48
e	5.08 BSC	
H	14.50	16.50
H1	0.95	1.45
L	1.70	2.70

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