



SB20N045

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	20A
V_{RRM}	45 V
T_j	200 °C
IFSM	350 A
$V_{F(max)}$	0.45V (@ $T_j=125^{\circ}C$)

用途

- 低压、高频整流
- 低压续流电路和保护电路
- 太阳能电池接线盒旁路二极管

产品特性

- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保（RoHS）产品

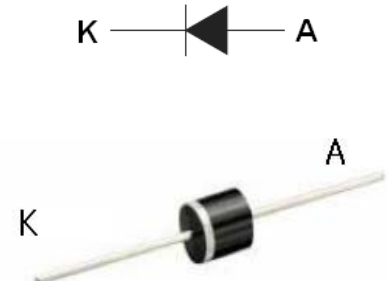
APPLICATIONS

- Low voltage, high frequency rectifier
- Freewheeling circuit and protection circuit of low voltage
- solar cell junction box as a bypass diode

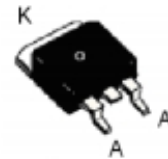
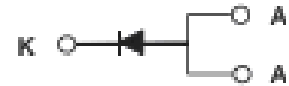
FEATURES

- Low power loss, high efficiency.
- High Operating Junction Temperature.
- Guard ring for overvoltage protection, High reliability.
- RoHS product.

封装 Package



R-6



TO-263

订货信息 ORDER MESSAGE

订货型号 Order codes	印记 Marking	封装 Package	无卤素 Halogen Free	包装 Packaging	器件重量 Device Weight
SB20N045E	SB20N045	R-6	否 NO	编带 Reel	2.1g
SB20N045ER	SB20N045	R-6	是 YES	编带 Reel	2.1g
SB20N045S	SB20N045	TO-263	否 NO	编带 Reel	1.41g(approx.)
SB20N045SR	SB20N045	TO-263	是 YES	编带 Reel	1.41g(approx.)
SB20N045S	SB20N045	TO-263	否 NO	条管 Tube	1.41g(approx.)
SB20N045SR	SB20N045	TO-263	是 YES	条管 Tube	1.41g(approx.)



**绝对最大额定值 ABSOLUTE RATINGS (Tc=25℃)**

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
最大反向重复峰值电压 Repetitive peak reverse voltage	V_{RRM}	45	V
最大直流阻断电压 Maximum DC blocking voltage	V_{DC}	45	V
正向平均整流电流 Average Rectified Forward Current	$I_{F(AV)}$	20	A
正向峰值浪涌电流 Surge non repetitive forward current (额定负载 8.3ms 半正弦波—按 JEDEC 方法) 8.3 ms single half-sine-wave (JEDEC Method)	I_{FSM}	350	A
正向工作结温 Operating junction temperature In DC forward mode	T_J	-50~200	℃
反向工作结温 At reduced reverse voltage: $V_R \leq 80\% V_{RRM}$		-50~125	
储存温度 Storage temperature range	T_{STG}	-50~+150	℃

@电特性 ELECTRICAL CHARACTERISTICS

项 目 Parameter	测试条件 Tests conditions		典型值 Value(typ)	最大值 Value(max)	单 位 Unit
I_R	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$	0.13	0.2	mA
	$T_j = 125^\circ\text{C}$	$V_R = V_{RRM}$	10	50	
V_F	$T_j = 25^\circ\text{C}$	$I_F = 20\text{A}$	0.48	0.52	V
	$T_j = 125^\circ\text{C}$	$I_F = 20\text{A}$	0.41	0.45	

热特性 THERMAL CHARACTERISTICS

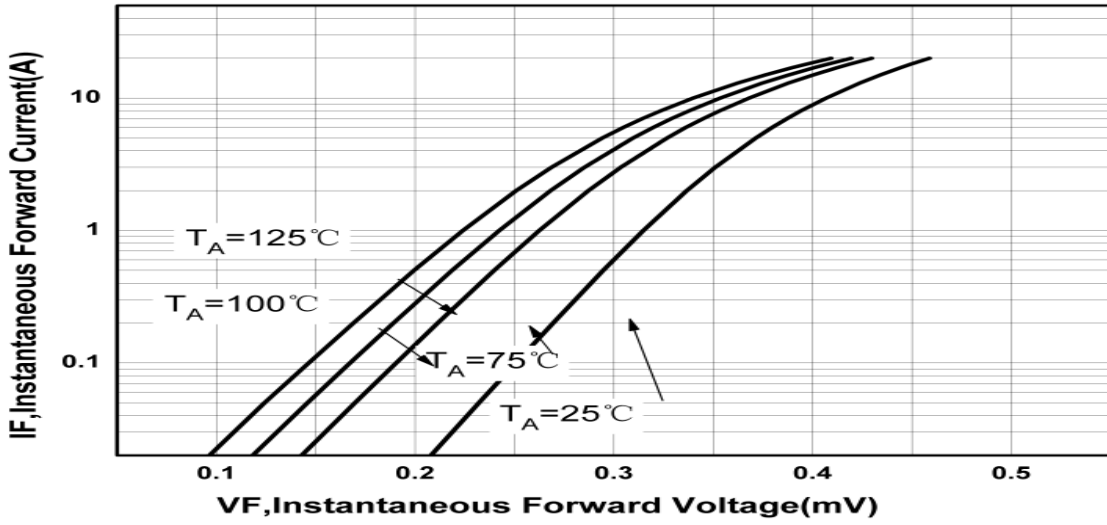
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	R-6 $R_{th(j-c)}$		3.0	℃/W
	TO-263 $R_{th(j-c)}$		2.5	℃/W



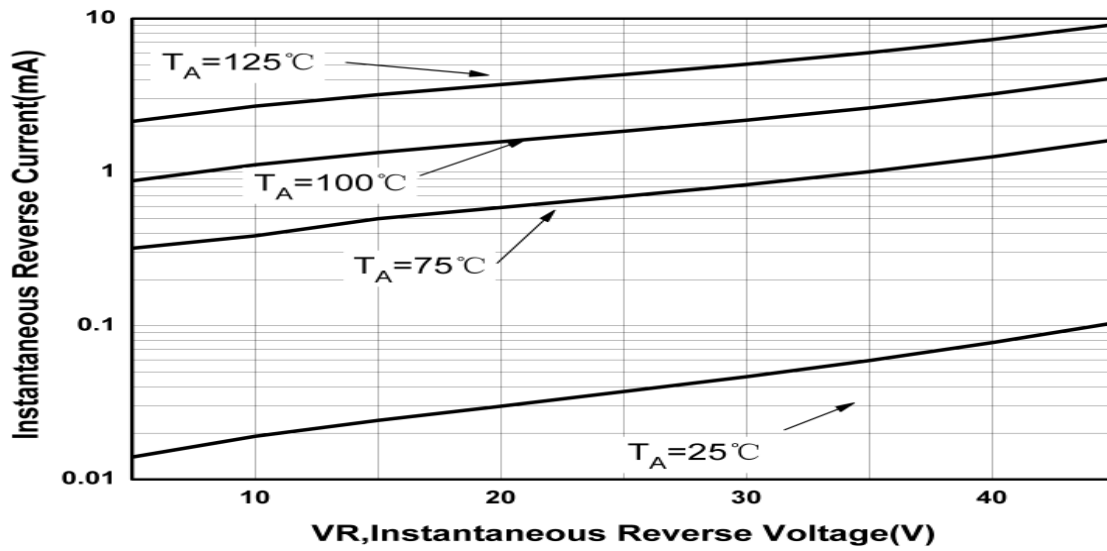


特征曲线 ELECTRICAL CHARACTERISTICS

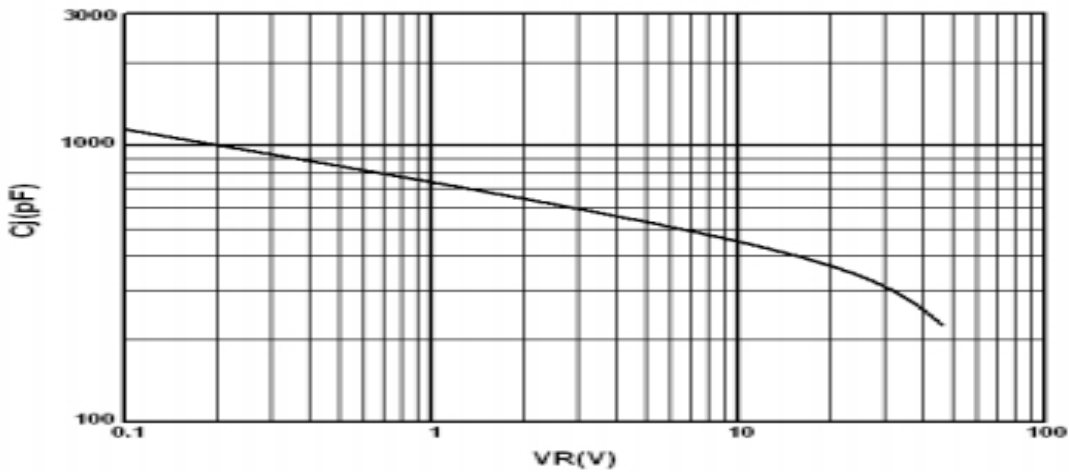
IF vs VF



IR vs VR



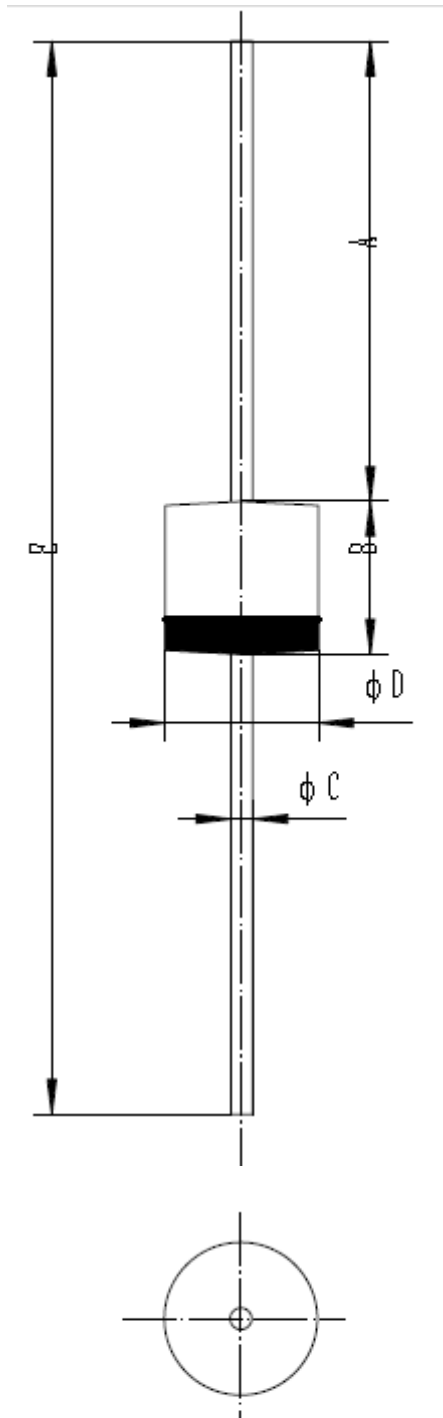
CJ vs VR





外形尺寸 PACKAGE MECHANICAL DATA
R-6

单位 Unit : mm



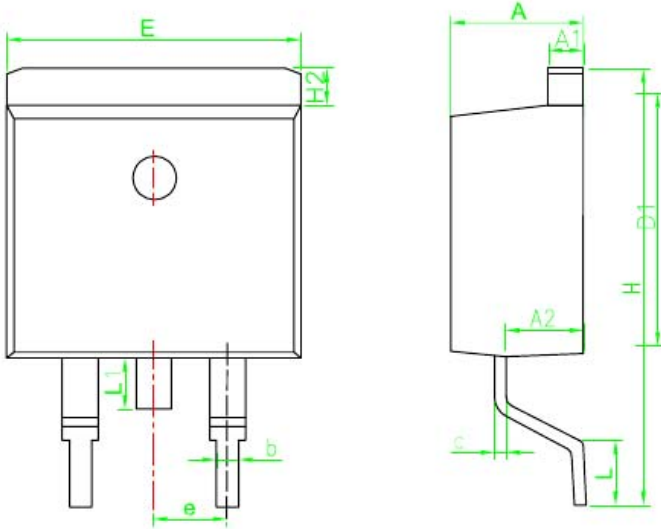
符号 symbol	Min	Max
A	25.4	--
B	8.6	9.1
C	1.2	1.3
D	8.6	9.1
E	59.4	62.9





外形尺寸 PACKAGE MECHANICAL DATA
TO-263

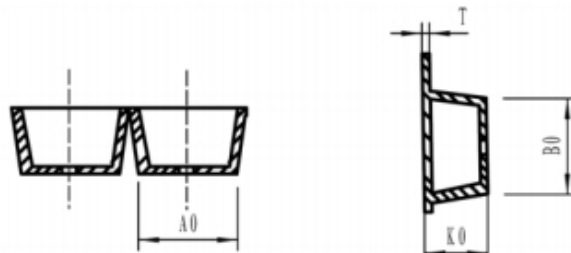
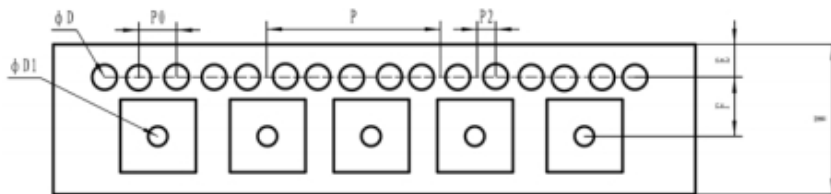
单位 Unit : mm



SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70

单位: mm

编带 REEL



产品尺寸规格 (UNIT: mm)					
规格	V	A0	E	F	D
尺寸	24 ± 0.3	10.9 ± 0.2	1.75 ± 0.2	11.5 ± 0.2	1.5 +0.2/-0.1
规格	D1	P0	P2	P	T
尺寸	1.5 +0.2/-0.1	4 ± 0.2	2 ± 0.2	16 ± 0.2	0.35 ± 0.05
规格	K0	B0			
尺寸	4.9 ± 0.2	16.0 ± 0.2			





注意事项

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- 2.购买时请认清公司商标,如有疑问请与公司本部联系。
- 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

1. Jilin Sino-microelectronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering , please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
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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附录 (Appendix): 修订记录 (Revision History)

日期 Date	旧版本 Last Rev.	新版本 New Rev.	修订内容 Description of Changes

