



# ST20N045

## 主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	20A
$V_{RRM}$	45 V
$T_j$	200 °C
IFSM	400 A
$V_{F(max)}$	0.42V (@ $T_j=125^{\circ}C$ )

### 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

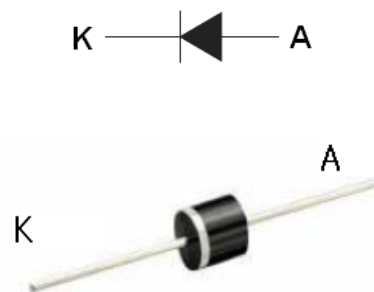
### APPLICATIONS

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

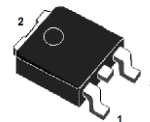
### FEATURES

- 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
有卤-条管 Halogen-Tube	无卤-条管 Halogen Free-Tube	有卤-编带 Halogen-Reel	无卤-编带 Halogen Free-Reel		
N/A	N/A	ST20N045-DA-A	ST20N045-DA-AR	ST20N045	R-6
ST20N045-S-B	ST20N045-S-BR	ST20N045-S-A	ST20N045-S-AR	ST20N045	TO-263



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
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)	$I_{FSM}$	400	A
正向工作结温 Operating junction temperature In DC forward mode	$T_J$	-50~200	$^\circ\text{C}$
反向工作结温 At reduced reverse voltage: $V_R \leq 80\% V_{RRM}$		-50~150	
反向工作结温 At reduced reverse voltage: $V_R \leq 50\% V_{RRM}$		-50~170	
储存温度 Storage temperature range	$T_{STG}$	-50~170	$^\circ\text{C}$

## @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
$I_R$	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$	20	50	$\mu\text{A}$
	$T_j = 125^\circ\text{C}$	$V_R = V_{RRM}$	5	30	mA
$V_F$	$T_j = 25^\circ\text{C}$	$I_F = 20\text{A}$	0.48	0.52	V
	$T_j = 125^\circ\text{C}$	$I_F = 20\text{A}$	0.42	0.45	

## 热特性 THERMAL CHARACTERISTICS

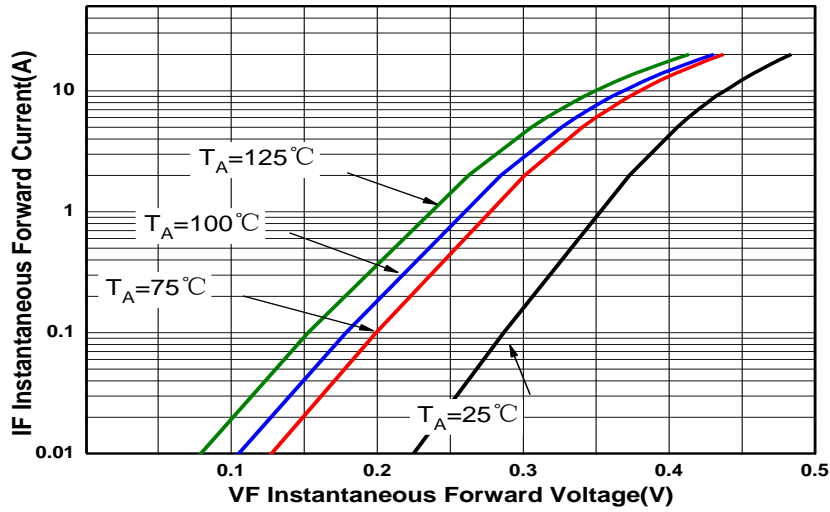
项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	R-6		3.0	$^\circ\text{C/W}$
	TO-263	$R_{th(j-c)}$	1.9	



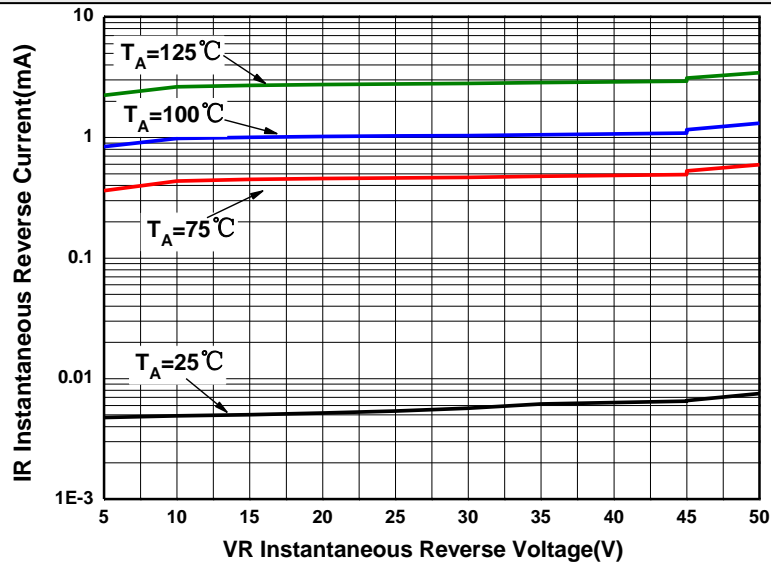


特征曲线 ELECTRICAL CHARACTERISTICS

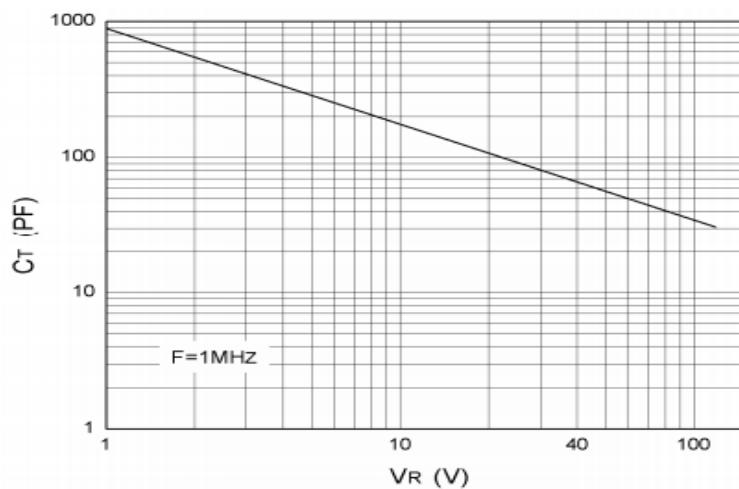
IF vs VF

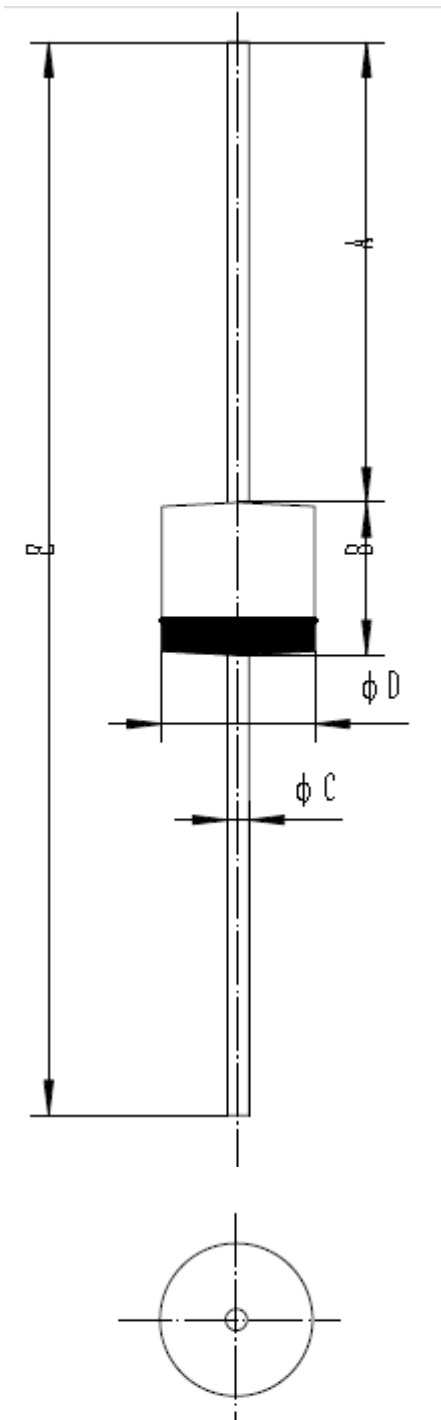


IR vs VR



CT vs VR





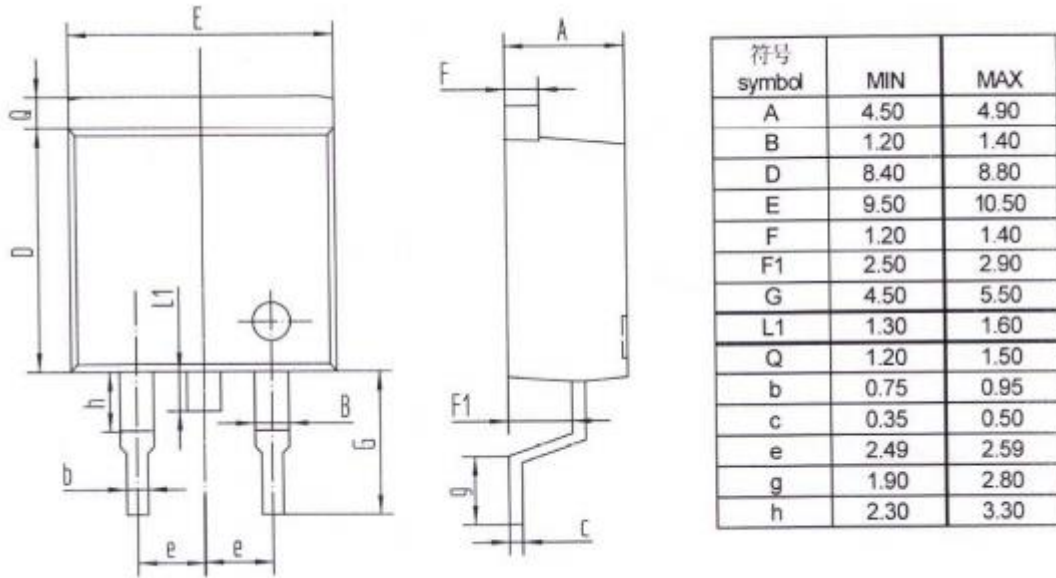
符号 symbol	Min	Max
A	25.4	--
B	8.6	9.1
C	1.2	1.3
D	8.6	9.1
E	59.4	62.9



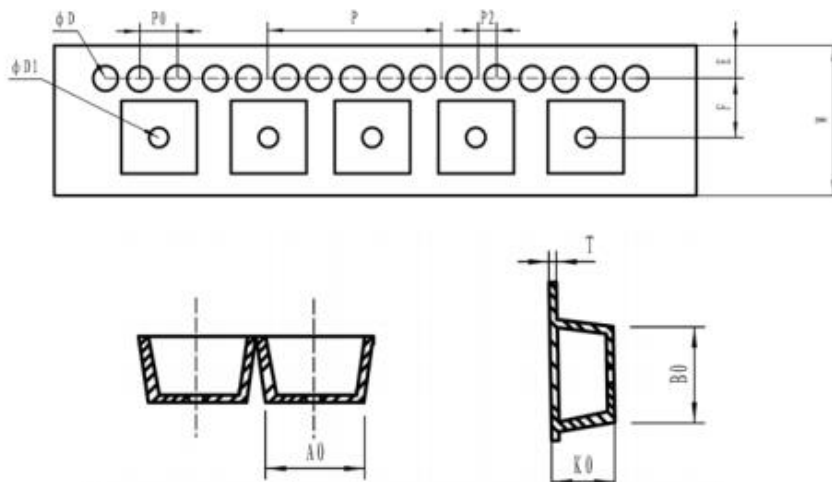


外形尺寸 PACKAGE MECHANICAL DATA  
TO-263

单位 Unit : mm



编带 REEL



产品尺寸规格 (UNIT: mm)					
规格	W	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			





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