



HBR5100U

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	5A
V_{RRM}	100 V
T_j	175 °C
$V_{F(max)}$	0.65V (@ $T_j=125^{\circ}C$)

用途

- 低压、高频整流
- 低压续流电路和保护电路

APPLICATIONS

- Low voltage, high frequency rectifier
- Free wheeling diodes, polarity protection applications

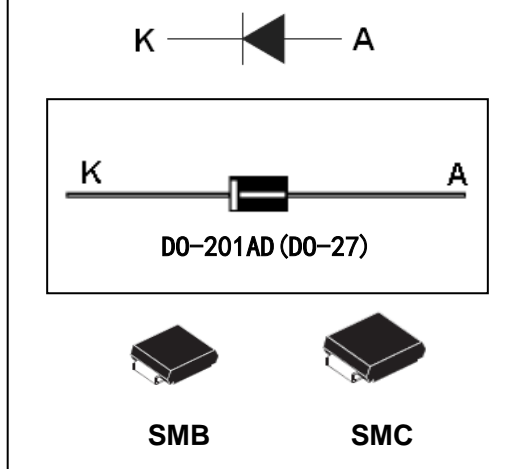
产品特性

- 轴向结构
- 低压降, 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

FEATURES

- Axial Lead Rectifier
- Low V_F , Low power loss, High efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

封装 Package



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	HBR5100U-D-A	HBR5100U-D-AR	HBR5100U	DO-201AD
N/A	N/A	HBR5100U-XC-A	HBR5100U-XC-AR	HBR5100U	SMB
N/A	N/A	HBR5100U-XE-A	HBR5100U-XE-AR	HBR5100U	SMC
有卤-散装 Halogen-Bulk	无卤-散装 Halogen Free-Bulk			印记 Marking	封装 Package
HBR5100U-D4-F	HBR5100U-D4-FR			HBR5100U	DO-201AD-B4

**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}	100	V
最大直流阻断电压 Maximum DC blocking voltage	V_{DC}	100	V
正向平均整流电流 $T_c=125^\circ\text{C}$ Average Rectified Forward Current	$I_{F(AV)}$	5	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}	180	A
最高结温 Maximum junction temperature	T_j	175	$^\circ\text{C}$
储存温度 Storage temperature range	T_{STG}	-40~+150	$^\circ\text{C}$

电特性 ELECTRICAL CHARACTERISTICS

项 目 Parameter	测试条件 Tests conditions		最小值 Value(min)	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	μA
	$T_j=125^\circ\text{C}$				10	mA
V_F	$T_j=25^\circ\text{C}$	$I_F=5\text{A}$		0.69	0.72	V
	$T_j=125^\circ\text{C}$			0.6	0.65	V
	$T_j=25^\circ\text{C}$	$I_F=8\text{A}$		0.76	0.8	V
	$T_j=125^\circ\text{C}$			0.66	0.72	V

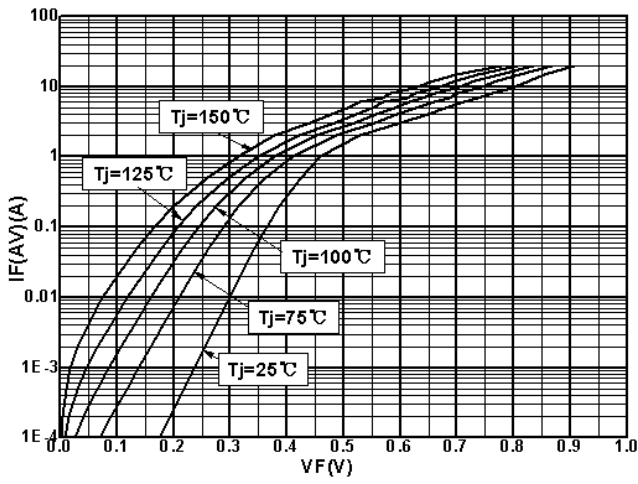
热特性 THERMAL CHARACTERISTICS

项 目 Parameter		符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到环境的热阻 Thermal resistance from junction to ambient	DO-201AD(D4)	$R_{th(j-a)}$		70	$^\circ\text{C}/\text{W}$
	SMB			140	
	SMC			120	
结到管壳的热阻 Thermal resistance from junction to case	DO-201AD(D4)	$R_{th(j-c)}$		25	$^\circ\text{C}/\text{W}$
	SMB			40	
	SMC			37	

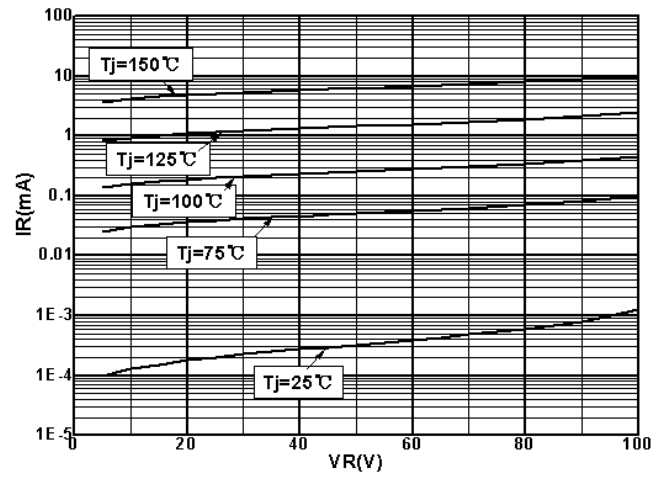


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

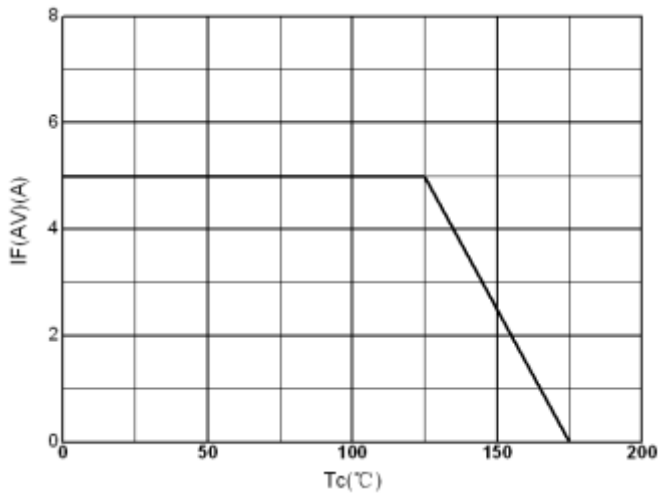
IF vs VF



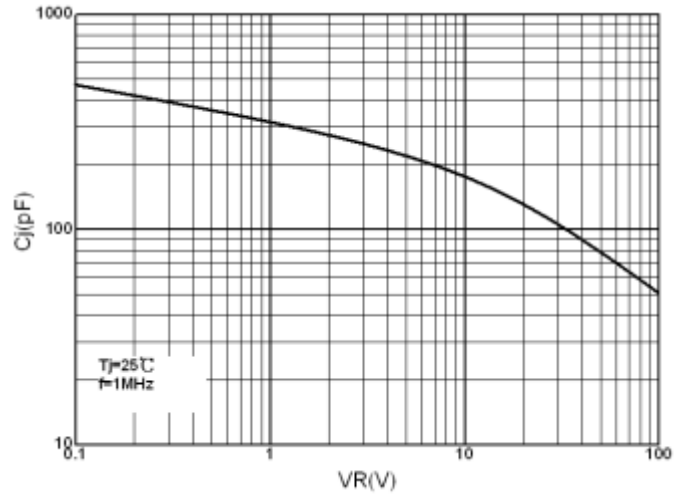
IR vs VR

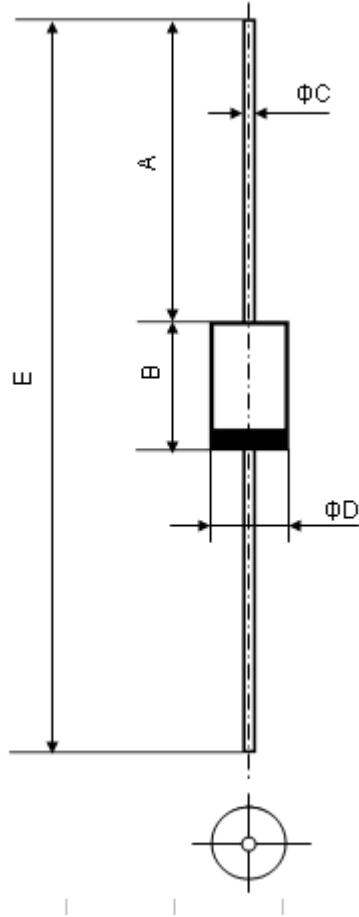


IF(AV) vs Tc

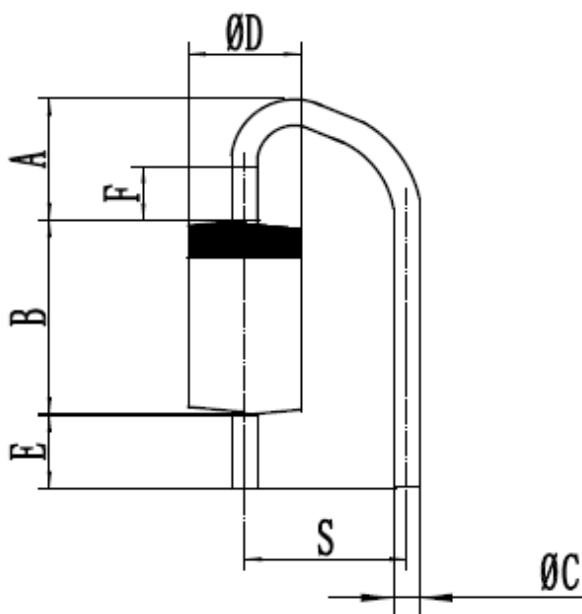


Cj vs VR

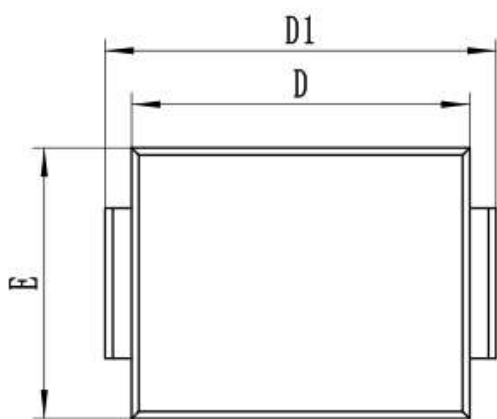
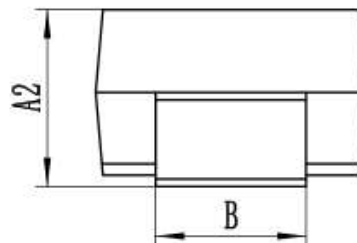
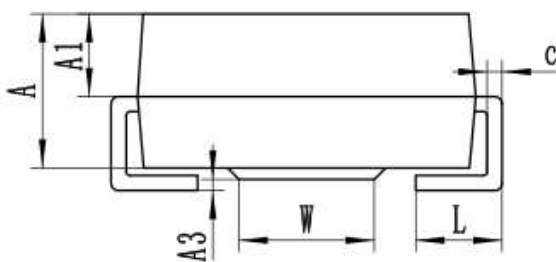




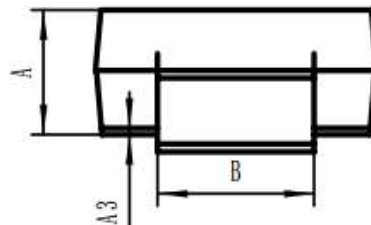
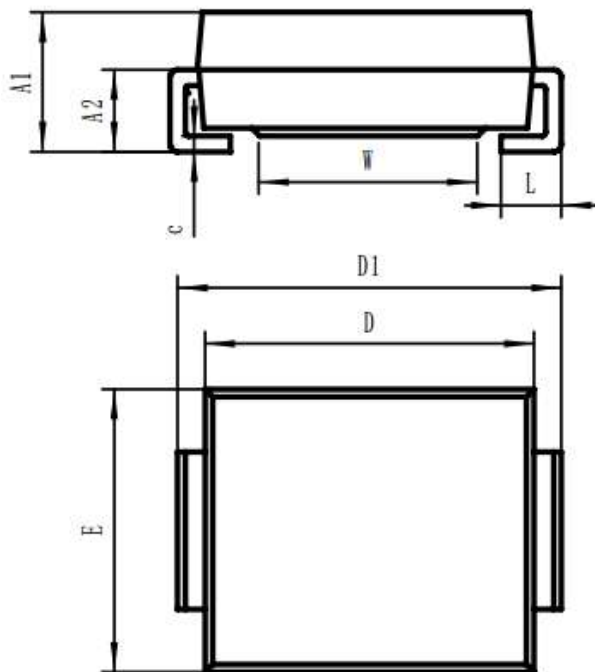
符号 Symbol	Min	Max
A	25.4	--
B	8.5	9.5
C	1.2	1.3
D	5.0	5.6
E	59.5	64



符号 symbol	Min	Max
A	4.00	5.00
B	7.20	9.50
C	1.20	1.35
D	4.80	5.30
E	3.00	4.00
F	1.00	2.00
S	7.00	8.00
说明：单位为mm		



SYMBOL	MM	
	MIN	MAX
A	1.70	2.25
A1	0.90	1.30
A2	2.10	2.60
A3	0.00	0.30
B	1.80	2.20
c	0.10	0.30
D	4.30	4.70
D1	4.95	5.70
E	3.40	3.80
L	0.80	1.50
W	1.60	2.10



SYMBOL	MIN	MAX
A	2.30	2.70
A1	2.40	3.00
A2	1.30	1.90
A3	0.10	0.20
B	2.80	3.10
c	0.15	0.25
D	6.70	7.10
D1	7.70	8.30
E	5.80	6.20
L	0.90	1.60
W	4.30	4.70



注意事项

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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。

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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