



HBR40100

主要参数 MAIN CHARACTERISTICS

$I_{F(AV)}$	40 (2×20) A
V_{RRM}	100 V
T_j	175 °C
$V_{F(max)}$	0.72V (@ $T_j=125^{\circ}C$)

用途

- 高频开关电源
- 低压续流电路和保护电路

产品特性

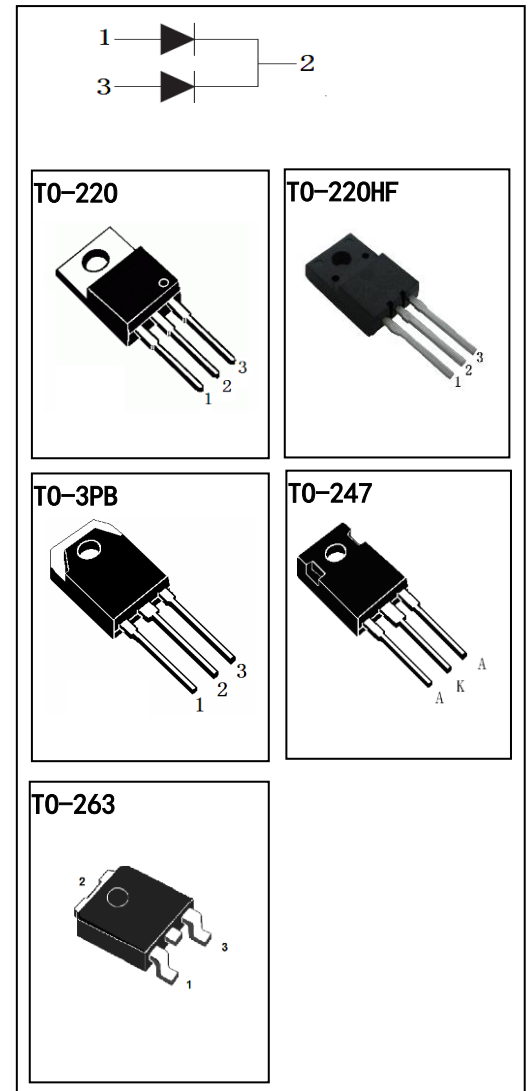
- 共阴结构
- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保 (RoHS) 产品

APPLICATIONS

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

FEATURES

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



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		
HBR40100-CA-B	HBR40100-CA-BR	N/A	N/A	HBR40100	TO-220
HBR40100-FA-B	HBR40100-FA-BR	N/A	N/A	HBR40100	TO-220HF
HBR40100-GD-B	HBR40100-GD-BR	N/A	N/A	HBR40100	TO-3PB
HBR40100-GE-B	HBR40100-GE-BR	N/A	N/A	HBR40100	TO-247
HBR40100-S-B	HBR40100-S-BR	HBR40100-S-A	HBR40100-S-AR	HBR40100	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}	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 Average forward current	$I_{F(AV)}$	$T_c=150^\circ\text{C}$ (TO-220/ TO-3PB/TO-2 47/TO-263)	整个器件 per device 40
		$T_c=125^\circ\text{C}$ (TO-220HF)	单 侧 per diode 20
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}	275	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	$T_j=25^\circ\text{C}$	$I_F=10\text{A}$		0.69	0.73	V
	$T_j=125^\circ\text{C}$			0.57	0.62	V
	$T_j=25^\circ\text{C}$	$I_F=20\text{A}$		0.78	0.85	V
	$T_j=125^\circ\text{C}$			0.66	0.72	V

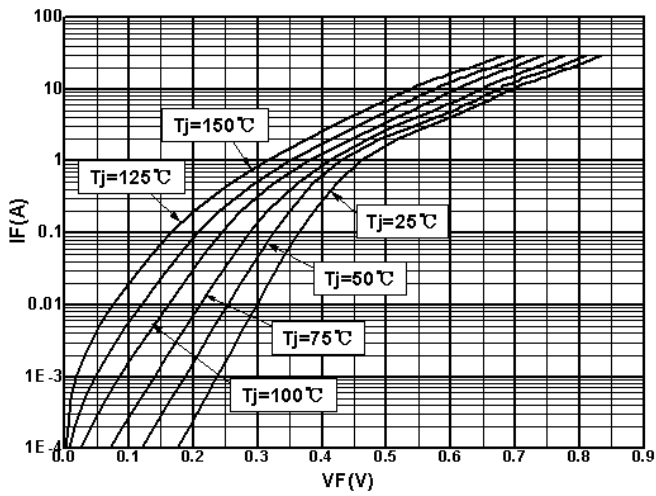
热特性 THERMAL CHARACTERISTICS

项 目 Parameter	符 号 Symbol	最小值 Value(min)	最大值 Value(max)	单 位 Unit
结到管壳的热阻 Thermal resistance from junction to case	TO-220		1.9	$^\circ\text{C/W}$
	TO-3PB		1.9	
	TO-220HF	$R_{th(j-c)}$	2.5	
	TO-247		2.0	
	TO-263		2.2	

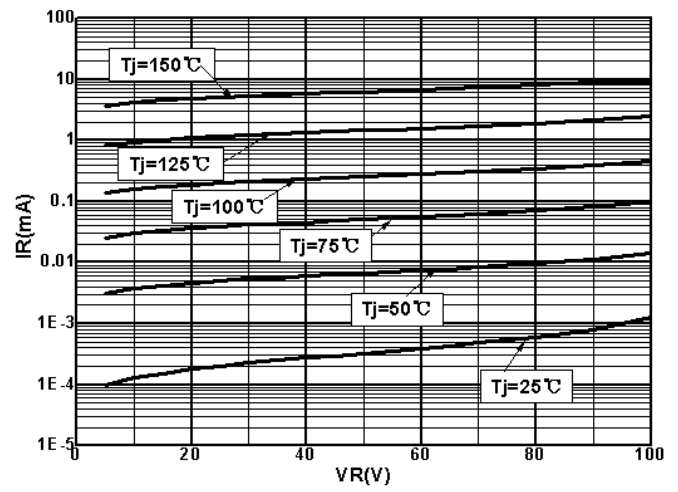


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

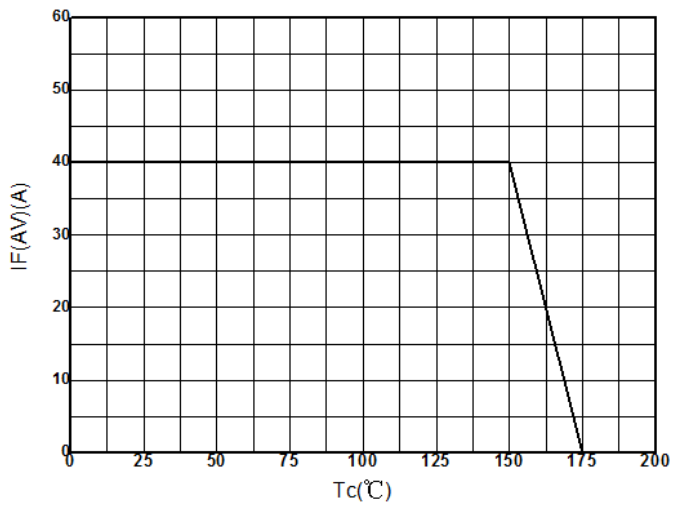
IF vs VF



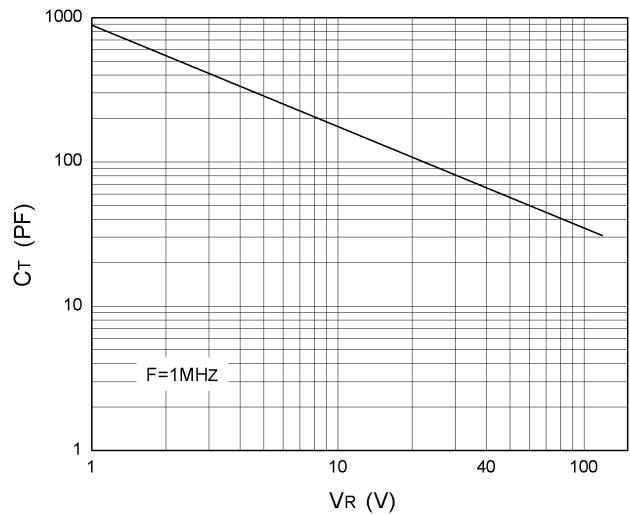
IR vs VR

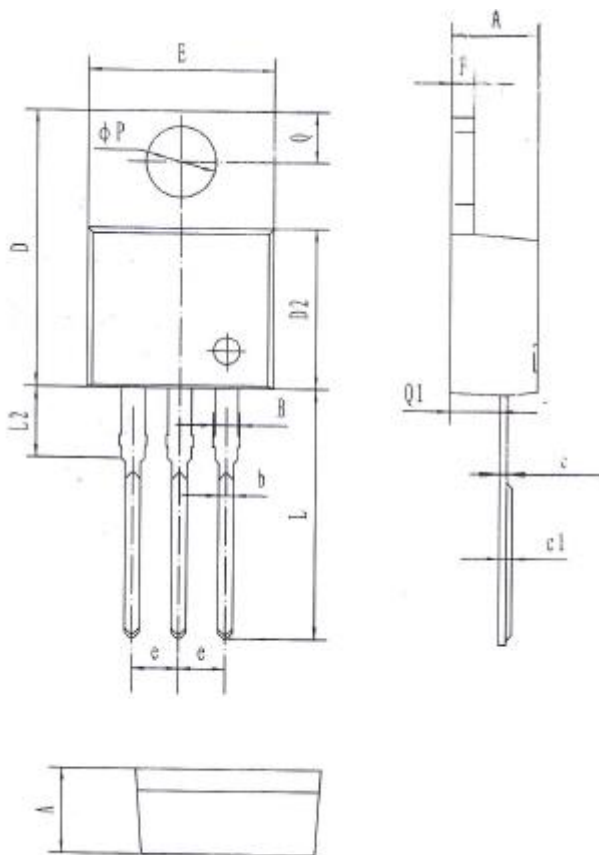


IF(AV) vs Tc

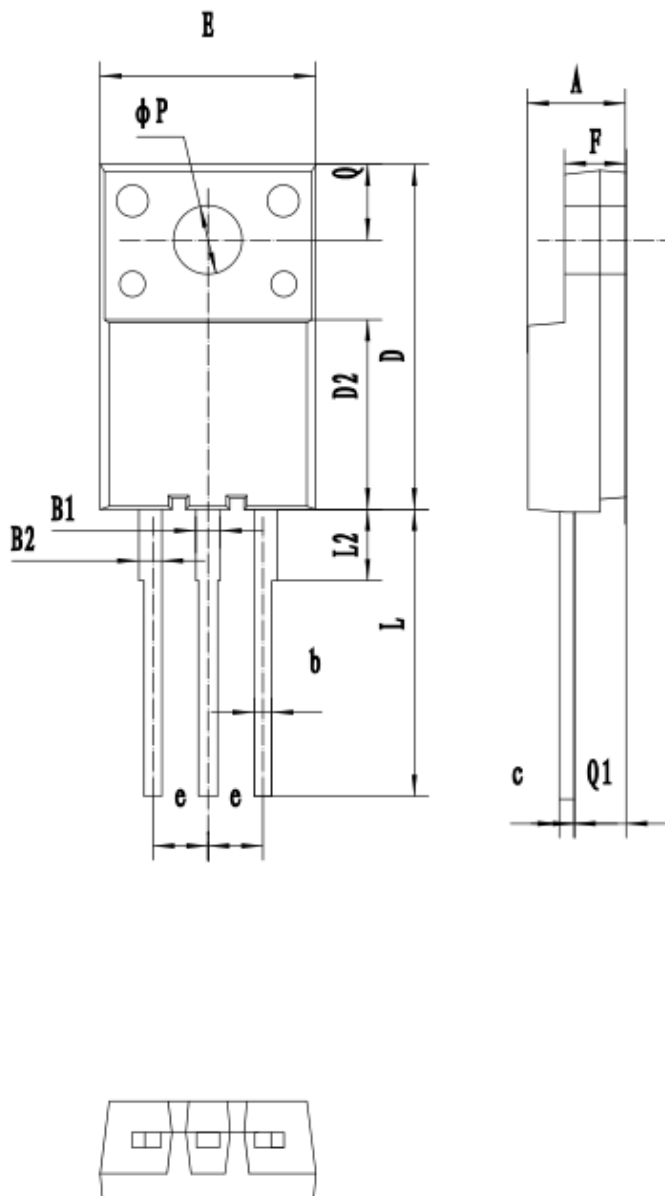


Ct vs VR

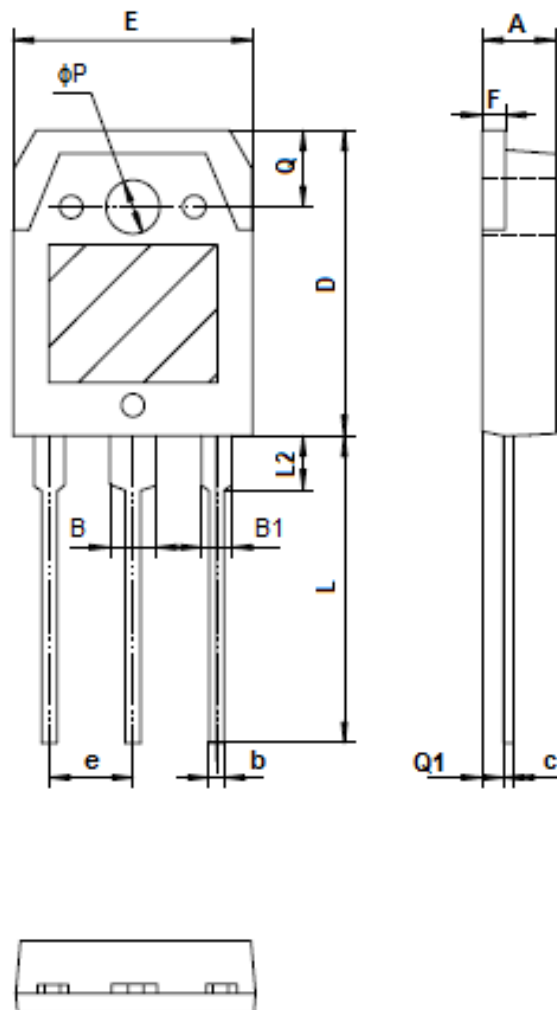




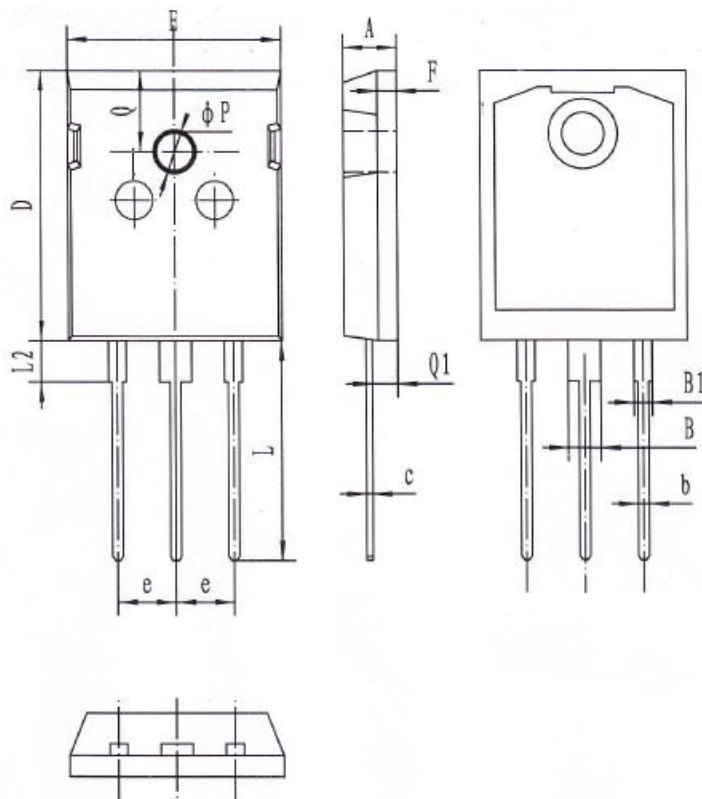
符号 symbol	MIN	MAX
A	4.40	4.80
B	1.10	1.40
b	0.70	0.95
c	0.28	0.48
c1	0.32	0.52
D	14.45	16.00
D2	8.20	9.20
E	9.60	10.40
e	2.39	2.69
F	1.20	1.35
L	13.05	14.05
L2	3.70	3.90
Q	2.40	3.00
Q1	2.20	2.90
P	3.50	4.00



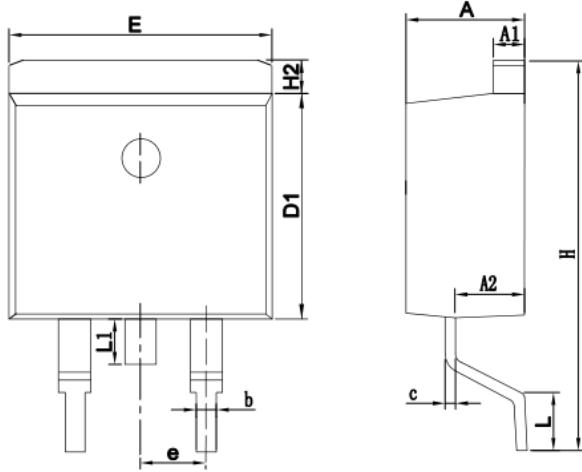
符号 symbol	MIN	MAX
A	4.0	5.0
B1	0.87	1.27
B2	0.87	1.27
b	0.72	0.92
c	0.4	0.6
D	15.0	16.5
D2	7.8	9.4
E	9.62	10.62
e	2.54 TYP	
F	2.3	3.3
L	13.0	14.0
L2	3.1	3.5
ϕP	3.0	3.4
Q	3.15	3.55
Q1	2.2	2.5



符号 Symbol	MIN	MAX
A	4.60	5.00
B	2.90	3.20
B1	1.90	2.20
b	0.90	1.10
c	0.50	0.70
D	19.40	20.40
E	15.40	15.80
e	5.45(TYP)	
F	1.40	1.60
L	19.50	20.50
L2	3.30	3.70
Q	4.90	5.10
Q1	1.30	1.50
P	3.10	3.50

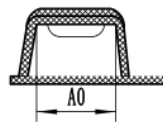
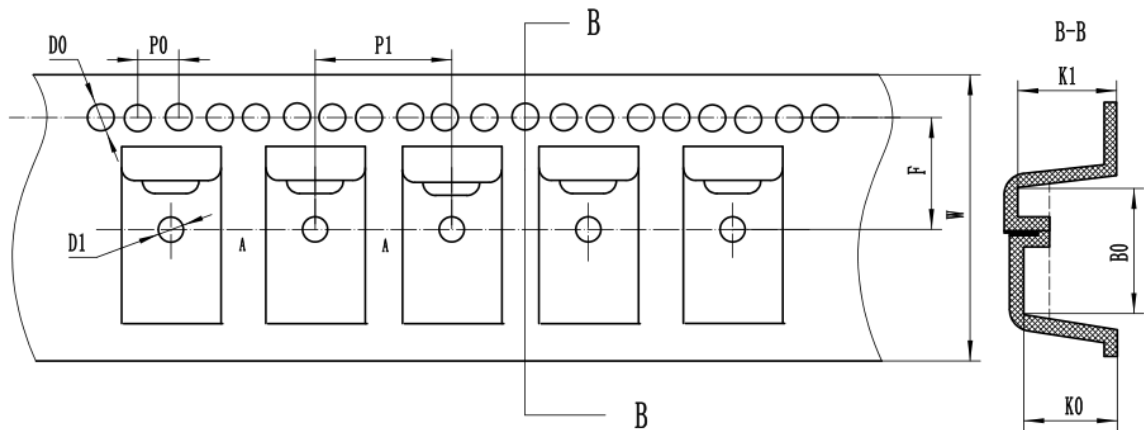


符号 symbol	MIN	MAX
A	4.90	5.10
B	2.85	3.11
B1	1.95	2.05
b	1.15	1.25
c	0.60TYP	
D	20.77	21.07
E	15.77	16.03
e	5.32	5.58
F	1.92	2.08
L	20.05	20.31
L2	4.22	4.32
Q	6.00	6.20
Q1	2.33	2.43
P	3.65	3.75



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



A-A

Symbol	标准范围 (mm)
A0	10.60 ± 0.20
B0	16.10 ± 0.20
D0	1.55 ± 0.10
D1	1.50 ± 0.15
F	11.50 ± 0.20
K0	4.85 ± 0.20
K1	5.26 ± 0.20
P0	4.00 ± 0.20
P1	16.00 ± 0.20
W	24.00 ± 0.40



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