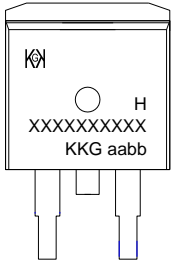


DESCRIPTION:

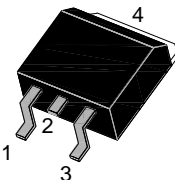
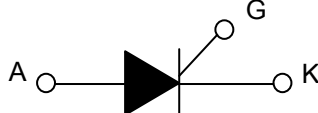
HBT151B series of silicon controlled rectifiers, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

QUICK REFERENCE 【參考特性】

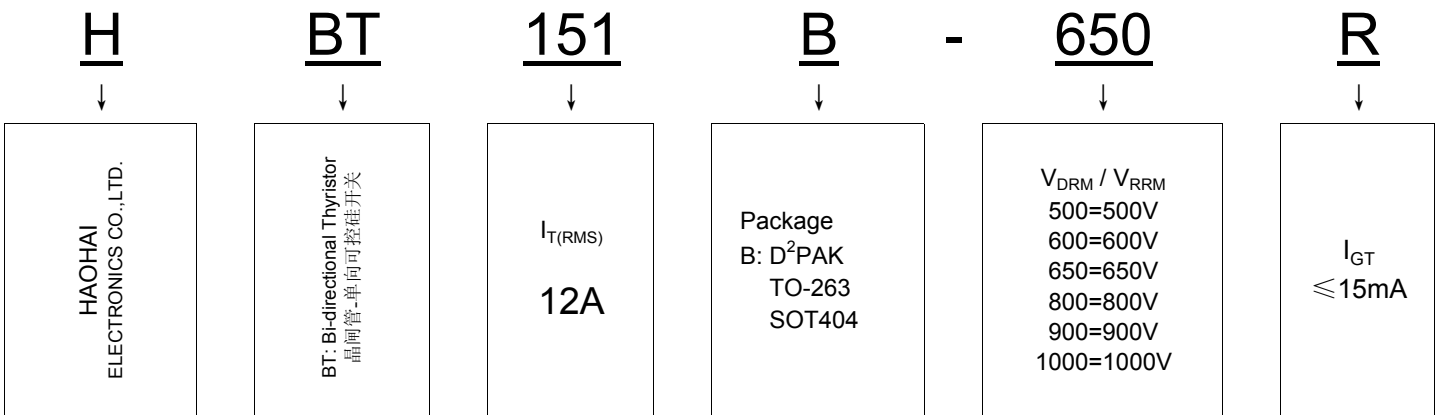
Part Number	Industry Part No	$I_{T(RMS)}$	V_{DRM} / V_{RRM}	I_{GT}	Package	Packing	Marking
HBT151B-500R	BT151B-500R	12A	500V	15mA	SMD D ² PAK TO-263 SOT404	50Pcs/Tube 4Kpcs/Box 2.5Kpcs/Reel 每管50只 每盒4000只 或 每卷2500只 每盒5000只 2.1g / Pcs 每枚重量2.1克 每K重2.5克	
HBT151B-600R	BT151B-600R		600V				
HBT151B-650R	BT151B-650R		650V				
HBT151B-800R	BT151B-800R		800V				
HBT151B-900R	BT151B-900R		900V				
HBT151B-1000R	BT151B-1000R		1000V				
說明 Explain	①此規格為貼片封裝、非絕緣型、單向可控矽，電流值可按客戶要求定製 ②常規品種以500V電壓規格出貨，高壓規格600V品種以上批量交期6~8周 ③門極觸發電流IGT值可根據客戶要求細分至多個規格，單位mA (毫安)					元件標識可按 客戶指定要求	

PINNING: TO-263 (SOT404, D²PAK) 【表面貼TO-263片式封裝】

【"B"表示貼片元件TO-263封裝-載帶卷盤包裝】

Pin	Symbol	Description	Description	Practicality in Pin Arrange	Pin Polarity Circuit diagram
1	K	Cathode	陰極		
2	A	Anode	陽極		
3	G	Gate	門-控制極		
4	mb	mounting base	散熱片		

ORDERING INFORMATION



■ ABSOLUTE RATINGS (Limiting Values) 【额定值参数】

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current ($T_C=100^\circ\text{C}$)	12	A
I_{TSM}	Non repetitive surge peak on-state current ($t_p=10\text{ms}$)	120	
I_{GM}	Peak gate current	2	
V_{DRM}	Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	500~1000	V
V_{RRM}	Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)		
I^2t	I^2t value for fusing ($t_p=10\text{ms}$)	72	A^2S
di_T/dt	Repetitive rate of rise of on-state current ($I_G=2 \times I_{GT}$)	50	$\text{A}/\mu\text{s}$
P_{GM}	Peak gate power	5	W
$P_{G(AV)}$	Average gate power dissipation	0.5	
T_j	Operating junction temperature range	-40~125	$^\circ\text{C}$
T_{stg}	Storage junction temperature range	-40~150	

■ ELECTRICAL CHARACTERISTICS ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	--	4	15	mA
I_L	$I_G=1.2 I_{GT}$	--	12	40	
I_H	$I_T=500\text{mA}$	--	12	30	
V_{GT}	$V_D=12\text{V}, R_L=33\Omega$	--	0.75	1.5	V
V_{GD}	$V_D=V_{DRM}, T_j=125^\circ\text{C}, R_L=3.3\text{K}\Omega$	0.2	--	--	
dV/dt	$V_D=2/3V_{DRM}, \text{Gate Open}, T_j=125^\circ\text{C}$	200	400	--	$\text{V}/\mu\text{s}$

■ STATIC CHARACTERISTICS

Symbol	Parameter	Value(MAX)	Unit
V_{TM}	$I_{TM}=23\text{A}, t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$ 1.7	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_j=25^\circ\text{C}$ 10	μA
I_{RRM}		$T_j=125^\circ\text{C}$ 1	mA

■ THERMAL RESISTANCES

Symbol	Parameter	Value(MAX)	Unit
$R_{th(j-mb)}$	thermal resistance from junction to mounting base	2.0	$^\circ\text{C}/\text{W}$

Electrical characteristics & Typical characteristics (电气特性与典型特征)

FIG.1: Maximum power dissipation versus RMS on-state current

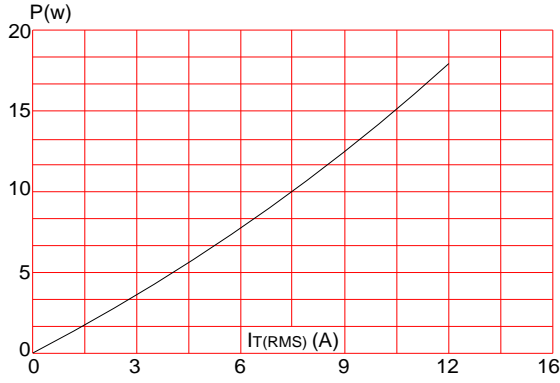


FIG.2: RMS on-state current versus case temperature

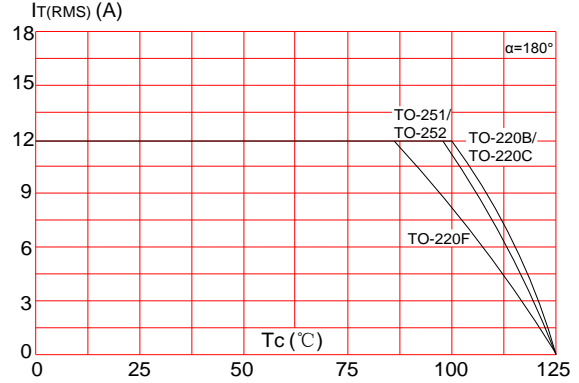


FIG.3: Surge peak on-state current versus number of cycles

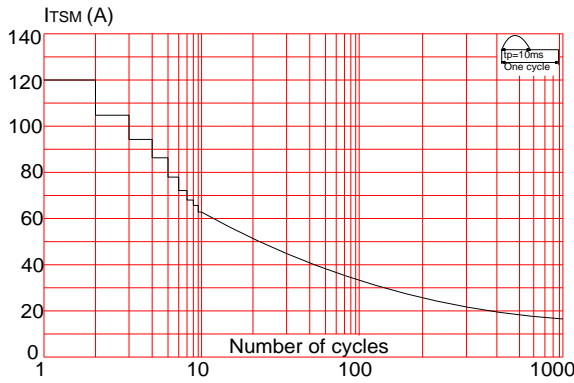


FIG.4: On-state characteristics (maximum values)

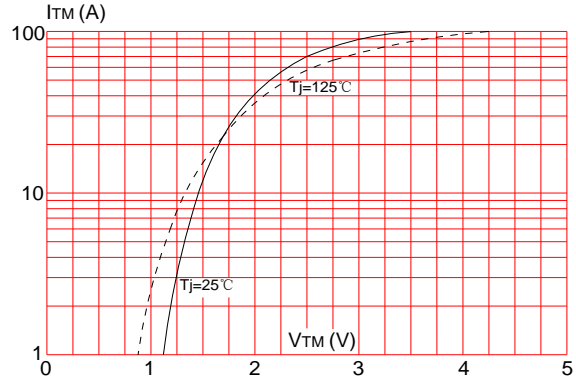


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

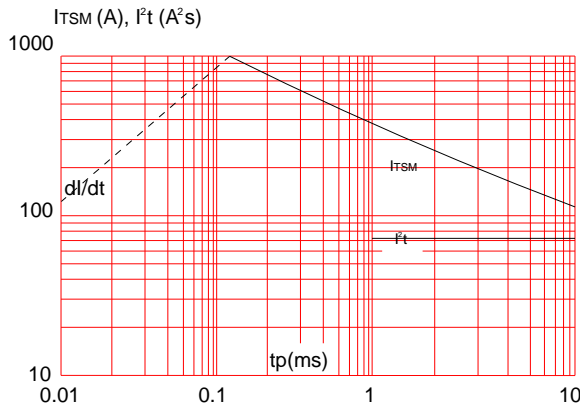
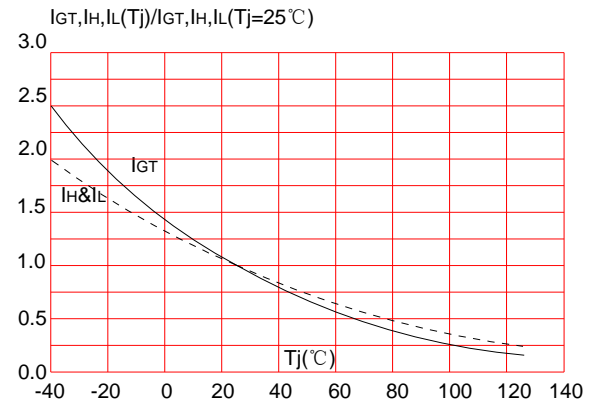
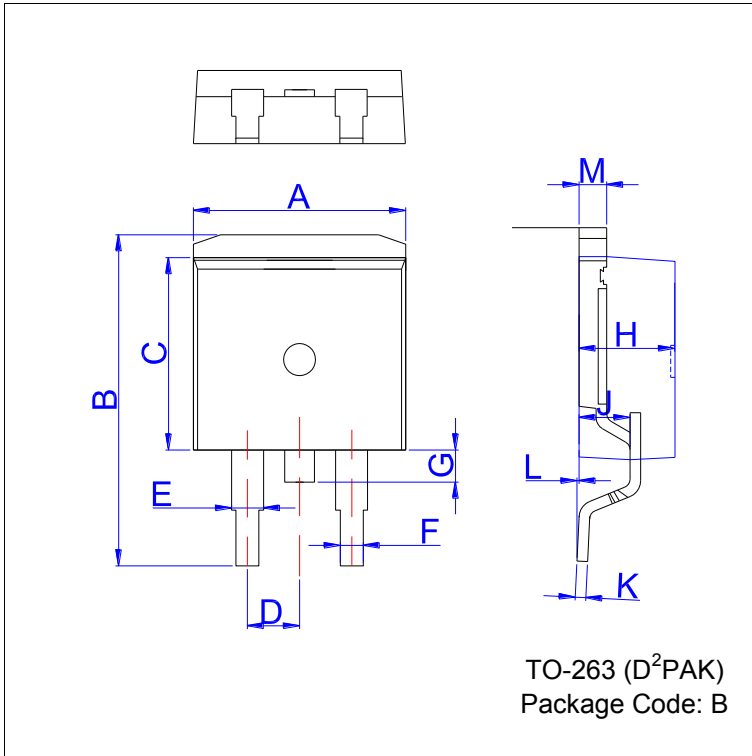


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

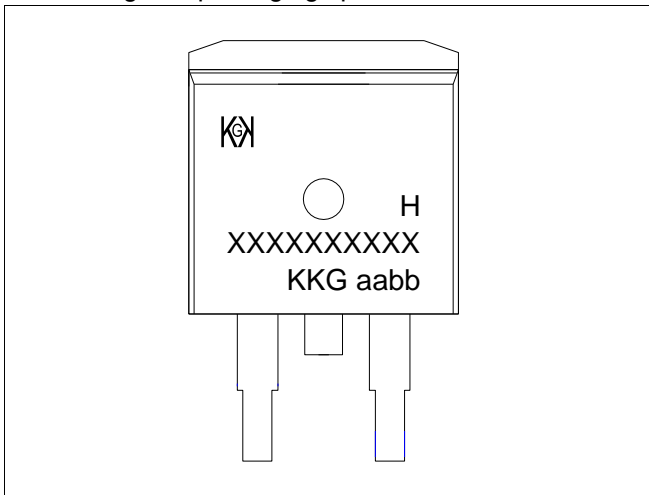


■ PACKAGE MECHANICAL DATA (mm & inch)
TO-263 (SOT404 or D²PAK) 封装尺寸数据 (毫米与英寸对照)



REF	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.90	10.20	0.390	0.402
B	14.70	15.80	0.579	0.622
C	9.40	9.60	0.370	0.378
D	2.54		0.100	
E	1.20	1.40	0.047	0.055
F	0.75	0.85	0.029	0.033
G		1.75		0.069
H	4.40	4.70	0.173	0.185
J	2.30	2.70	0.091	0.106
K	0.38	0.55	0.015	0.022
L	0	0.25	0	0.010
M	1.25	1.35	0.049	0.053

■ Marking and packaging specifications



打印标识
H: 浩海电子
XXXXXXXXXX: 器件型号
KKG: 注册商标
aa: 出厂年份
bb: 出厂自然周 (01~53)

Marking
H: HAOHAI ELECTRONICS
XXXXXXXXXX: Part Number
KKG: Registered trademark
aa: Factory Year
bb: Factory natural Week (01~53)

包装规格
TO-263: 条管装
每管50只, 每盒4000只
或 载带卷盘包装
每卷2500只, 每盒5000只

Packaging Specifications
50Pcs/Tub, 4Kpcs/BOX
TO-263: Tape & Reel Packing
2500Pcs/Reel, 5000Pcs/BOX

Manufacturers version information

2006-02-25, KKG™ Product Data-1.0

2010-07-25, KKG™ Product Data-1.1

2014-11-06, KKG™ Product Data-1.2



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