



BT151

主要参数 MAIN CHARACTERISTICS

$I_{T(AV)}$	7.5A
V_{DRM}/V_{RRM}	600V
I_{GT}	1-15mA

用途

- 半交流开关
- 相位控制

APPLICATIONS

- Half AC switching
- Phase control

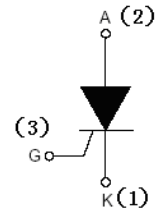
产品特性

- 平面工艺芯片，高可靠性和一致性
- 低通态电流和高浪涌电流能力
- 环保 RoHS 产品

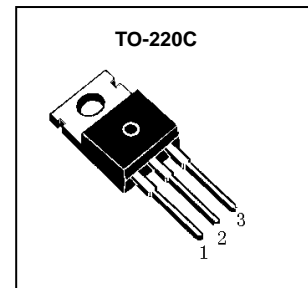
FEATURES

- The planar process chip for reliability and uniform
- Low on-state voltage and High I_{TSM}
- RoHS products

封装 Package



序号 Pin	引线名称 Description	
1	阴极	K
2	阳极	A
3	门极	G



订货信息 ORDER MESSAGE

订货型号 Order codes				印 记 Marking	封 装 Package
有卤-条管	无卤-条管	有卤-袋装	有卤-袋装	BT151	TO-220C
Halogen-Tube	halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
BT151-C-B	BT151-C-BR	BT151-C-C	BT151-C-CR		



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
断态重复峰值电压 Repetitive peak off-state voltage	V_{DRM}	600	V
反向重复峰值电压 Repetitive peak reverse voltage	V_{RRM}	600	V
通态平均电流 Average on-state current (half sine wave)	$I_{\text{T(AV)}}$	7.5	A
通态方均根电流 On-state RMS current (all conduction angles)	$I_{\text{T(RMS)}}$	12	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current (half sine wave , $t=10\text{ms}$)	I_{TSM}	110	A
I^2t for fusing ($t=10\text{ms}$)	I^2t	60	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	50	$\text{A}/\mu\text{s}$
门极峰值电流 Peak gate current	I_{GM}	2	A
门极峰值电压 Peak gate voltage	V_{GM}	5	V
反向门极峰值电压 Peak reverses gate voltage	V_{RGM}	5	V
门极峰值功率 Peak gate power	P_{GM}	5	W
门极平均功率 Average gate power (over any 20ms period)	$P_{\text{G(AV)}}$	0.5	W
存储温度 Storage temperature	T_{stg}	-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	T_{J}	-40~150	$^\circ\text{C}$

静态特性 STATIC CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	I_{DRM}	$V_{\text{DM}}=V_{\text{DRM(MAX)}}$, $T_{\text{J}}=150^\circ\text{C}$	-	-	3.0	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I_{RRM}	$V_{\text{RM}}=V_{\text{RRM(MAX)}}$, $T_{\text{J}}=150^\circ\text{C}$	-	-	3.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{\text{TM}}=23\text{A}$	-	1.40	1.75	V
门极触发电流 Gate trigger current	I_{GT}	$V_{\text{DM}}=12\text{V}, I_{\text{T}}=0.1\text{A}$	1	4	15	mA
门极触发电压 Gate trigger voltage	V_{GT}	$V_{\text{DM}}=12\text{V}, I_{\text{T}}=0.1\text{A}$	-	0.8	1.5	V
维持电流 Holding current	I_{H}	$V_{\text{DM}}=12\text{V}, I_{\text{GT}}=0.1\text{A}$	-	-	25	mA
擎住电流 Latching current	I_{L}	$V_{\text{DM}}=12\text{V}, I_{\text{GT}}=0.1\text{A}$	-	-	40	mA

动态特性 DYNAMIC CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态临界电压上升率 Critical rate of rise of off- state voltage	dV/dt	$V_{\text{DM}}=67\% V_{\text{DRM(MAX)}}$, $T_{\text{J}}=125^\circ\text{C}$	200	-	-	$\text{V}/\mu\text{s}$



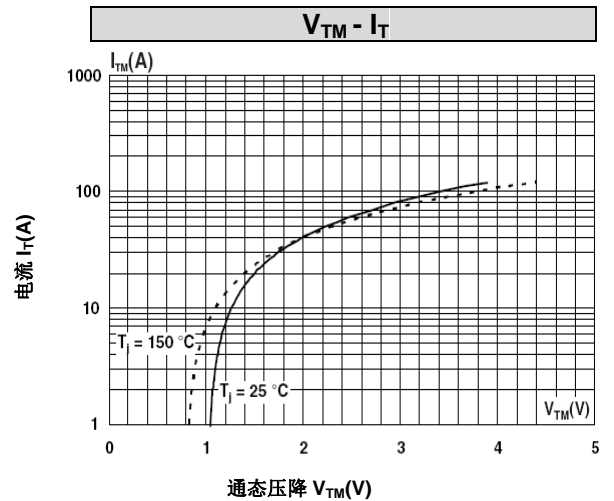
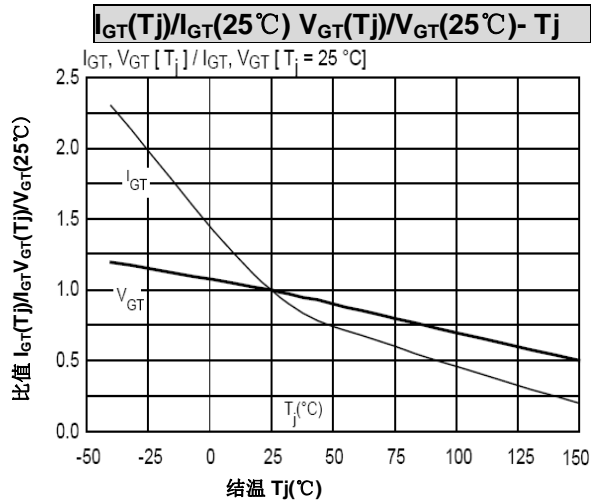
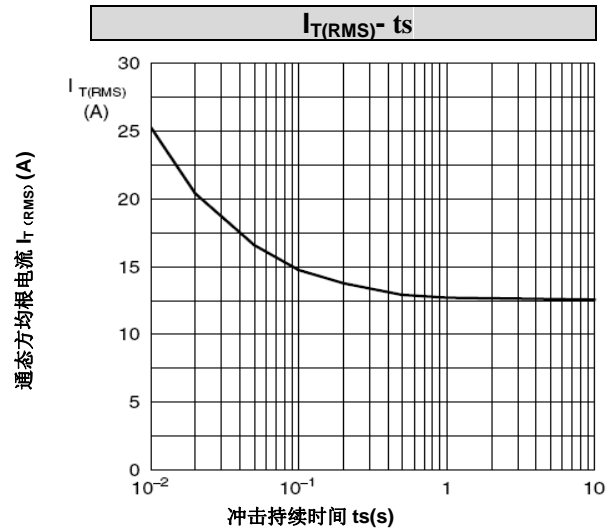
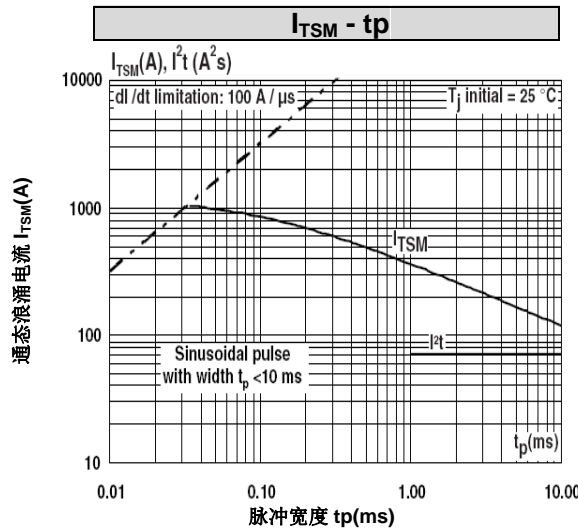
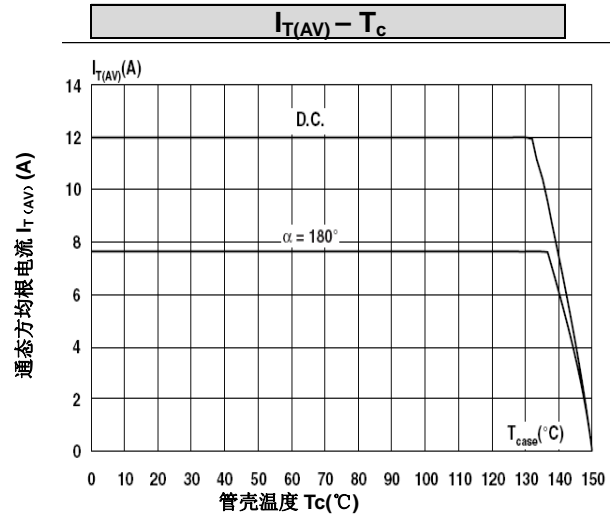
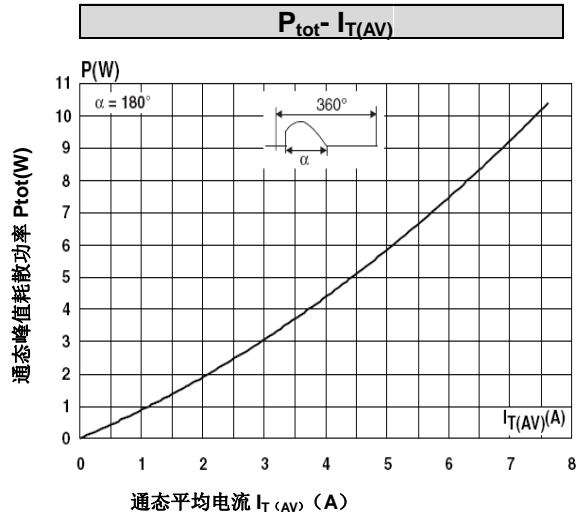
**热特性 THERMAL CHARACTERISTIC**

项 目 Parameter	符 号 Symbol	值 value	单位 Unit
结到管壳的热阻 Thermal resistance junction to case TO-220C	$R_{th(j-c)}$	1.3 max	°C/W





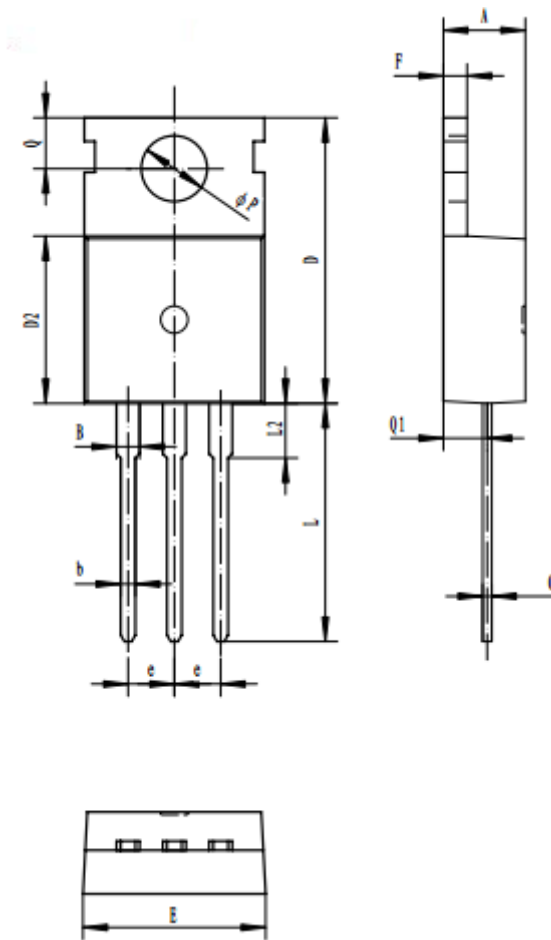
特征曲线 ELECTRICAL CHARACTERISTICS (curves)



外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm



A	4.30-4.70
B	1.22-1.40
b	0.70-0.95
c	0.40-0.65
D	15.2-16.2
D2	9.00-9.40
E	9.70-10.10
e	2.39-2.69
F	1.25-1.40
L	12.60-13.60
L2	2.80-3.20
Q	2.60-3.00
Q1	2.20-2.60
P	3.50-3.80

**注意事项**

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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.
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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