

BT131		
	双向可控硅 TRIAC	版本号 201603-A

产品概述 GENERAL DESCRIPTION

BT131 双向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术，dv/dt高，可靠性高，适用于控温、调光、马达控制。

BT131 Triacs is fabricated using separation diffusion processes ,the junction termination areas are passivated with glass. Thanks to highly dv/dt and reliability,the Triacs series is suitable for domestic lighting ,heating and motor speed controllers.

主要参数 MAIN CHARACTERISTICS

参数 Parameter	数值 Value	单位 Unit
$I_{T(RMS)}$	1	A
V_{DRM}/V_{RRM}	600&800	V
$I_{GT(IV)}$	≤ 7	mA

产品特性

- dv/dt高
- 通态压降低
- Rohs环保产品

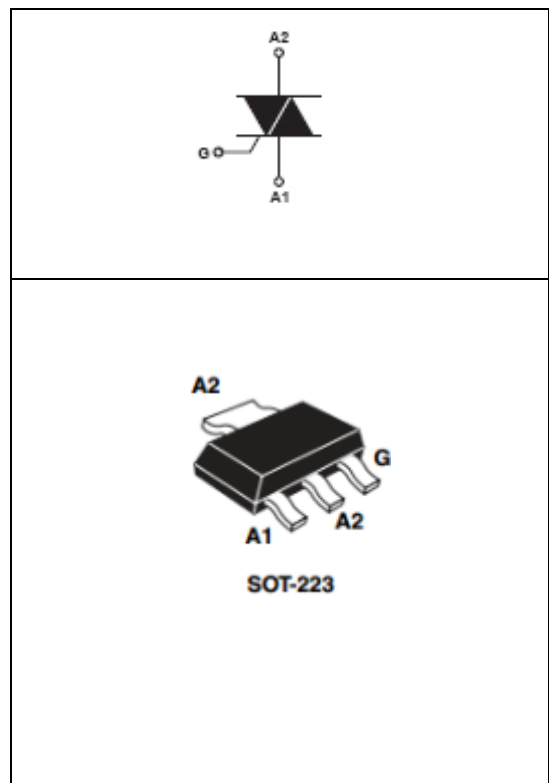
FEATURES

- Highly dv/dt
- Low on-state voltage
- Rohs Products

应用领域 APPLICATIONS

主要应用于调光、控温、马达控制。

domestic lighting ,heating and motor speed controllers.



极限值(除非另有规定, T_j=25°C) ABSOLUTE RATINGS

 (T_j=25°C, unless otherwise specified)

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
I _{T(RMS)}	RMS 通态电流 RMS on-state current (full sine wave)	T _C =90°C	1 A
I _{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=20ms	12.5 A
I ² t	I ² t 耗散值 I ² t value for fusing	T _P =10ms	0.78 A ² s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz, T _j =125°C	50 A/μs
I _{GM}	门极峰值电流 Peak gate current	T _P =20μs, T _j =125°C	2 A
P _{G(AV)}	平均门极耗散功率 Average gate power dissipation	T _j =125°C	0.5 W
T _{stg}	贮存结温范围 Storage junction temperature range		-40+150 °C
T _j	工作结温范围 Operating junction temperature range		-40+125 °C

电参数(除非另有规定, T_j=25°C) ELECTRICAL CHARACTERISTICS

 (T_j=25°C, unless otherwise specified)

参数 Parameter	符号 Symbol	规范值 Value	单位 Unit	测试条件 Test Conditions
触发电流 Gate trigger current	I _{GT}	I ~ III	≤5	mA V _D =12V, I _T =0.1A
		IV	≤7	
触发电压 Gate trigger voltage	V _{GT}	I ~ IV	≤1.5	V V _D =12V, I _T =0.1A
维持电流 Holding current	I _H		≤7	mA V _D =12V, I _T =0.1A
擎住电流 Latching current	I _L	I、 III	≤7	mA V _D =12V, I _T =0.1A
		II、 IV	≤15	
电压上升率 Rise of off- state voltage	dv/dt		≥10	V/μS V _D =67% V _{DRM}
通态压降 Peak on-state voltage	V _{TM}		≤1.5	V I _T =2.0A
断态漏电流 Peak repetitive forward blocking current	I _{DRM} I _{RPM}		≤5	μA V _{RRM} =V _{DRM} , T _j = 25 °C
			≤0.5	mA V _{RRM} =V _{DRM} , T _j = 125 °C

热特性 THERMAL RESISTANCES

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
Rth(j-c)	Junction to case(AC)	25	°C/W
Rth(j-a)	Junction to ambient	60	°C/W

特征曲线 ELECTRICAL CHARACTERISTICS (CURVES)

图1 最大耗散功率与RMS通态电流关系
Fig.1.Maximum Power Dissipation Versus on-state current

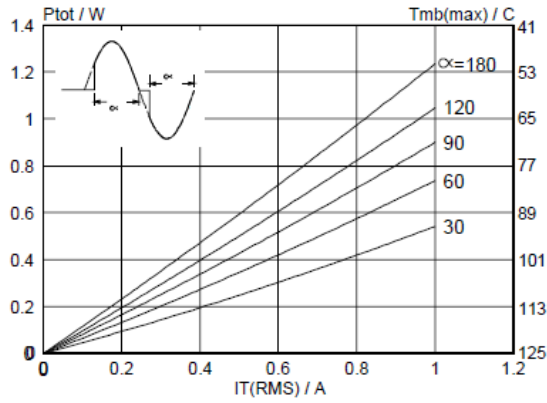


图3 通态特性
Fig.3.On-State Characteristics

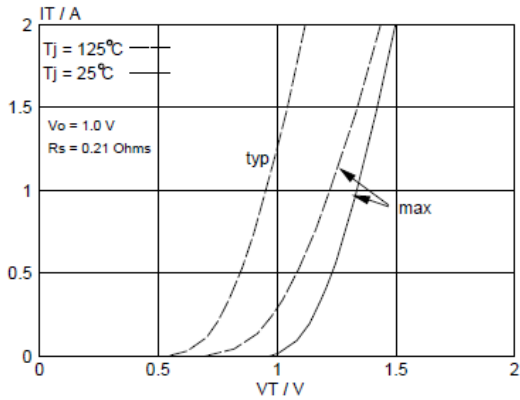


图2 RMS通态电流与Tc温度关系
Fig.2. RMS On-state Current Versus TL

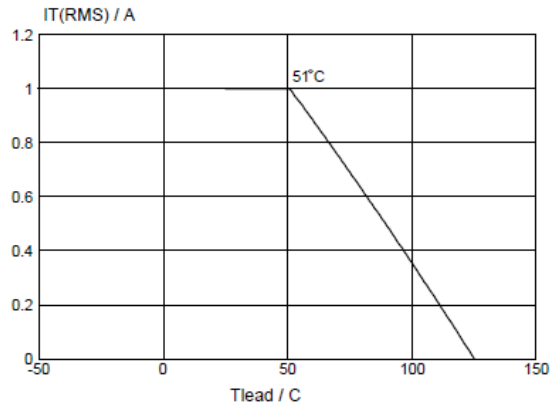


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

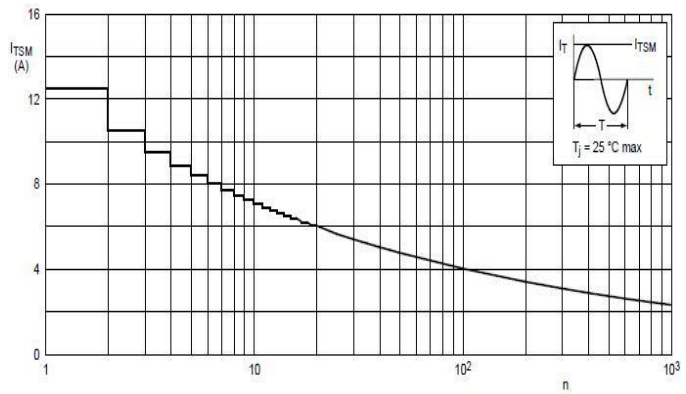
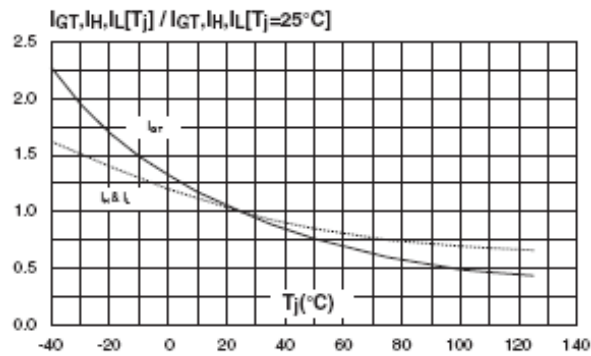
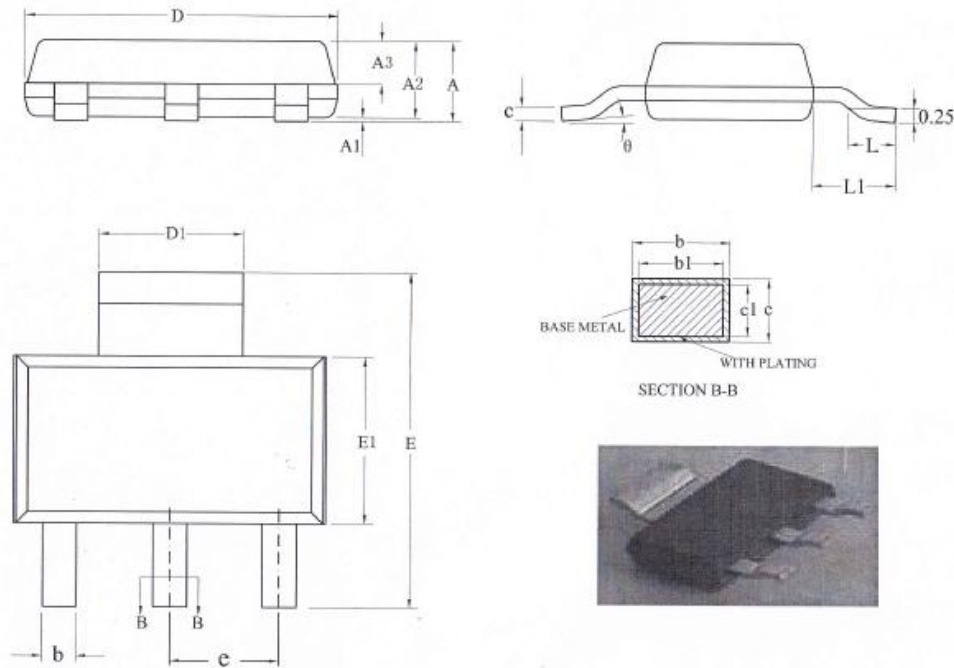


图5 I_{GT} 、 I_H 、 I_L 相对值（相对于 25°C ）与结温关系
Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸 PACKAGE MECHANICAL DATA

SOT-223



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	1.50	1.65	1.80
A1	0.03	0.06	0.09
A2	1.50	1.60	1.70
A3	0.85	0.90	0.95
b	0.69	—	0.77
b1	0.68	0.71	0.74
c	0.30	—	0.34
c1	0.29	0.30	0.31
D	6.40	6.50	6.60
D1	3.00REF		
E	6.80	7.00	7.20
E1	3.40	3.50	3.60
e	2.30BSC		
L	0.90	—	1.15
L1	1.75REF		
θ	0	—	7°

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