

<b>BT151</b>		
	单向可控硅 THYRISTOR	版本号 201603-A

## 产品概述 GENERAL DESCRIPTION

BT151 单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。

BT151 Thyristor 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
$I_{T(RMS)}$	12	A
$V_{DRM}/V_{RRM}$	600&800	V
$I_{GT}$	15	mA

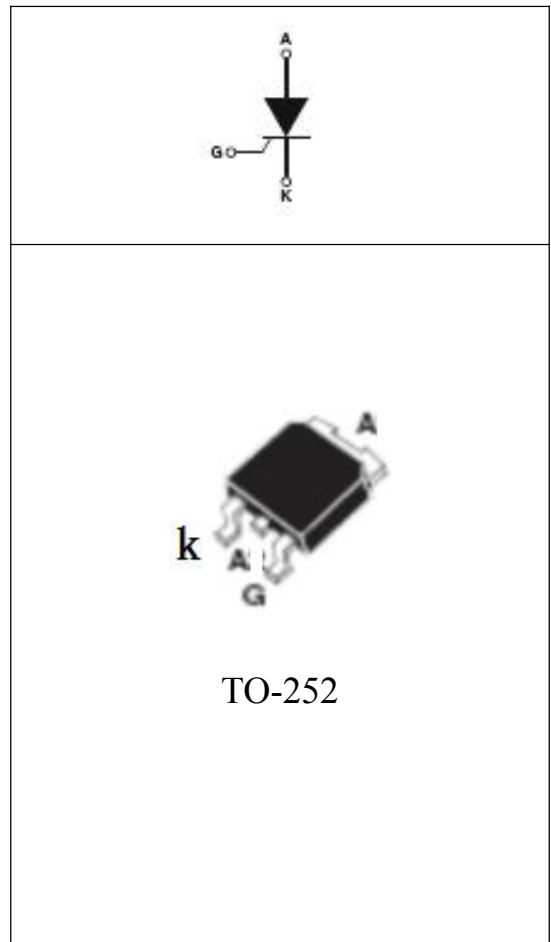
## 产品特性 FEATURES

- |            |                        |
|------------|------------------------|
| ● dv/dt高   | ● Highly dv/dt         |
| ● 通态压降低    | ● Low on-state voltage |
| ● Rohs环保产品 | ● 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<sub>j</sub>=25℃) ABSOLUTE RATINGS**

 (T<sub>j</sub>=25℃, unless otherwise specified)

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
I <sub>T(RMS)</sub>	RMS 通态电流 RMS on-state current (full sine wave)	T <sub>C</sub> =90℃	12 A
I <sub>TSM</sub>	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=10ms	110 A
I <sup>2</sup> t	I <sup>2</sup> t 耗散值 I <sup>2</sup> t value for fusing	T <sub>P</sub> =10ms	60 A <sup>2</sup> s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz, T <sub>j</sub> =125℃	50 A/μs
I <sub>GM</sub>	门极峰值电流 Peak gate current	T <sub>P</sub> =20μs, T <sub>j</sub> =125℃	4 A
P <sub>G(AV)</sub>	平均门极耗散功率 Average gate power dissipation	T <sub>j</sub> =125℃	1 W
T <sub>stg</sub>	贮存结温范围 Storage junction temperature range		-40+150 ℃
T <sub>j</sub>	工作结温范围 Operating junction temperature range		-40+125 ℃

**电参数(除非另有规定, T<sub>j</sub>=25℃) ELECTRICAL CHARACTERISTICS**

 (T<sub>j</sub>=25℃, unless otherwise specified)

参数 Parameter	符号 Symbol	规范值 Value			单位 Unit	测试条件 Test Conditions
		Min	Typ	Max		
触发电流 Gate trigger current	I <sub>GT</sub>	-	-	15	mA	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
触发电压 Gate trigger voltage	V <sub>GT</sub>	-	-	1.3	V	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
维持电流 Holding current	I <sub>H</sub>	-	-	40	mA	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
擎住电流 Latching current	I <sub>L</sub>	-	-	80	mA	V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
电压上升率 Rise of off- state voltage	dv/dt	200	-	-	V/μS	V <sub>D</sub> =67%V <sub>DRM</sub>
通态压降 Peak on-state voltage	V <sub>TM</sub>	-	-	1.6	V	I <sub>T</sub> =24A
断态漏电流 Peak repetitive forward blocking current	I <sub>DRM</sub>	-	-	5	μA	V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> = 25℃
	I <sub>RRM</sub>	-	-	2	mA	V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> = 125℃

**热特性 THERMAL RESISTANCES**

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
R <sub>th(j-c)</sub>	Junction to case(AC)	3	℃/W
R <sub>th(j-a)</sub>	Junction to ambient	75	℃/W

**特征曲线 ELECTRICAL CHARACTERISTICS (CURVES)**

图1 最大耗散功率与平均通态电流关系

Fig.1.Maximum Power Dissipation Versus Average On-state Current

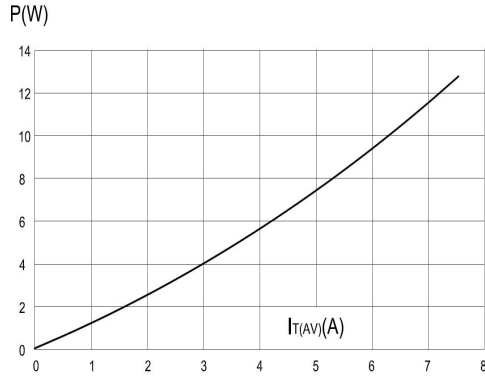


图2 RMS通态电流与Tc温度关系

Fig.2. RMS On-state Current Versus TL

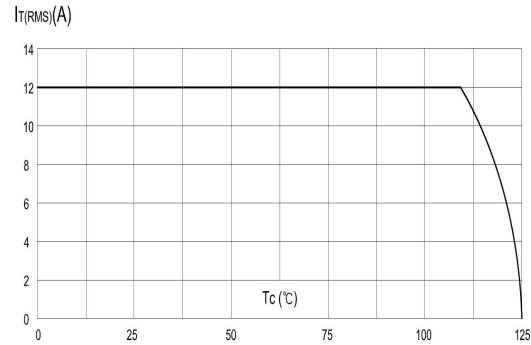


图3 通态特性

Fig.3.On-State Characteristics

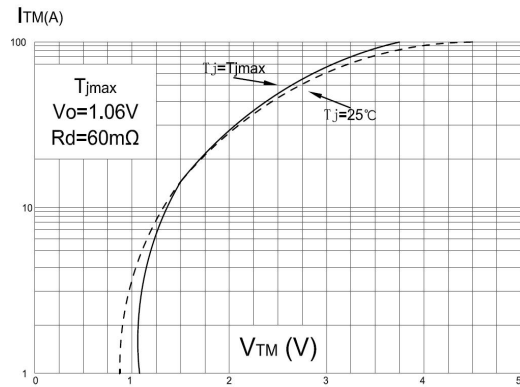


图4 通态浪涌峰值电流与周期数关系

Fig.4.Surge Peak On-state Current Versus Number Cycles

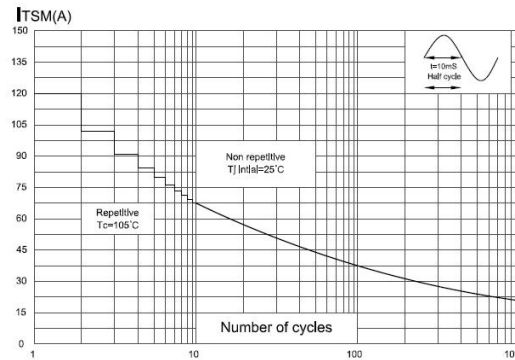
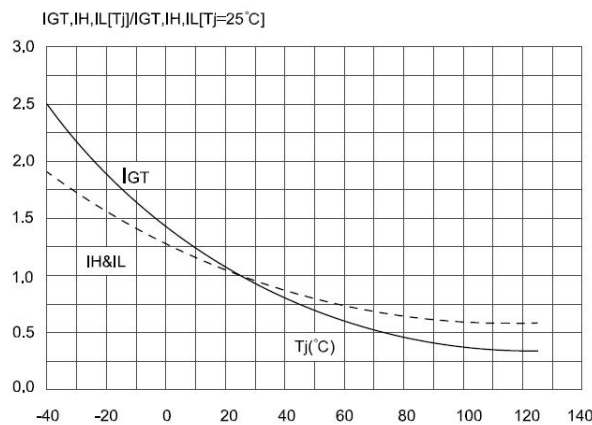


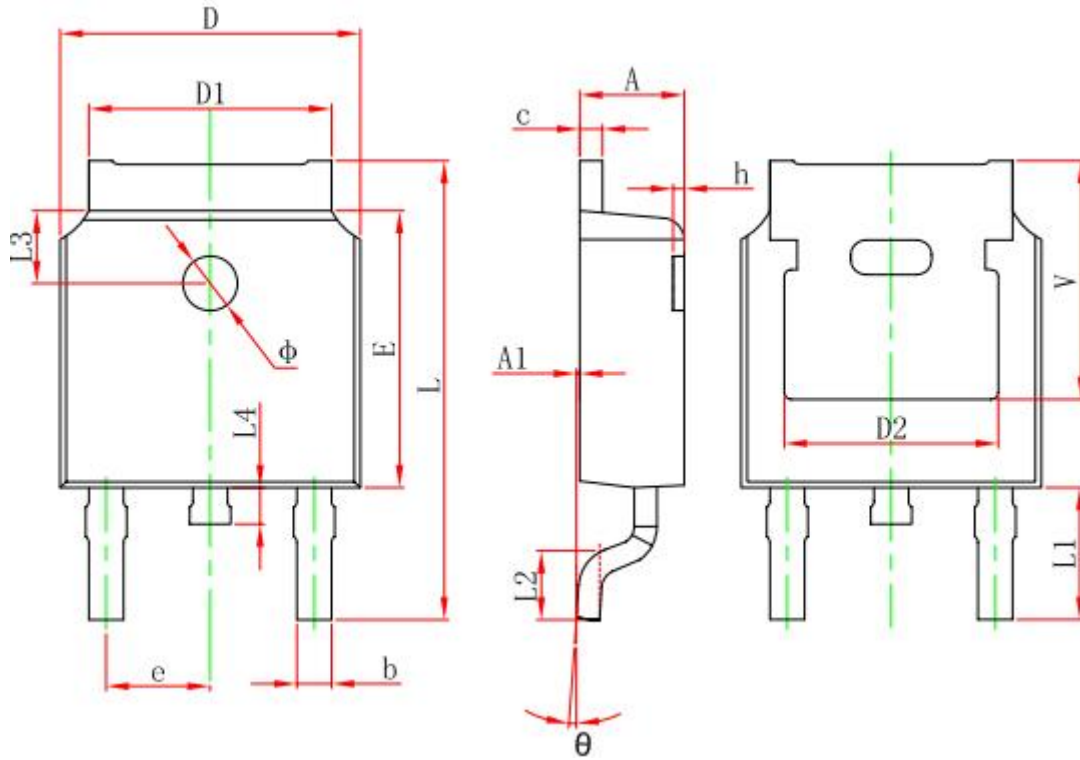
图5 IGT、IH、IL相对值（相对于25°C）与结温关系

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

TO-252



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.860	0.026	0.034
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.350 REF.		0.211 REF.	

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