

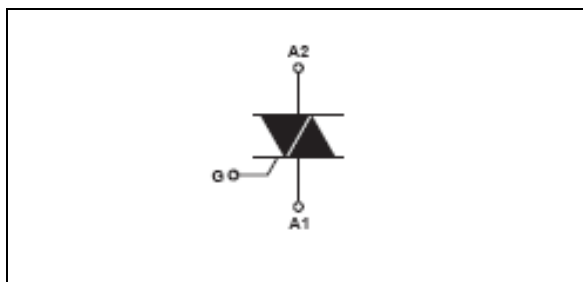
## 产品概述 GENERAL DESCRIPTION

BT137 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。

BT137 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

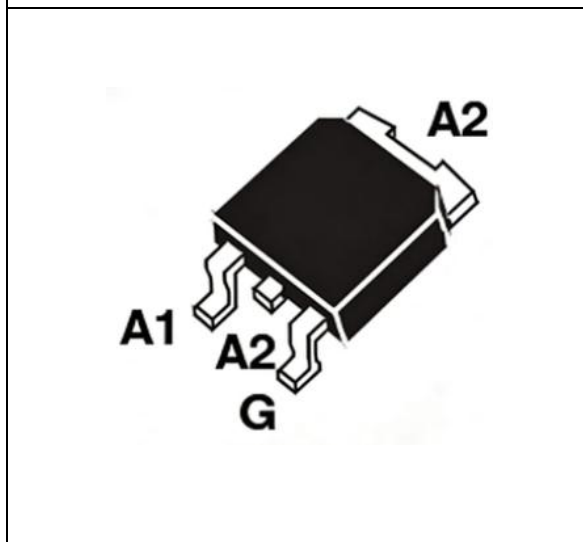
参数 Parameter	数值 Value	单位 Unit
$I_{T(RMS)}$	8	A
$V_{DRM}/V_{RRM}$	600&800	V
$I_{GT(III)}$	$\leq 10$	mA



## 产品特性

## FEATURES

- dv/dt高
- 通态压降低
- Rohs环保产品
- 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<sub>j</sub>=25°C) ABSOLUTE RATINGS**

 (T<sub>j</sub>=25°C, 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> =102°C	8 A
I <sub>TSM</sub>	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=20ms	60 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	21 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°C	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°C	2 A
P <sub>G(AV)</sub>	平均门极耗散功率 Average gate power dissipation	T <sub>j</sub> =125°C	0.5 W
T <sub>stg</sub>	贮存结温范围 Storage junction temperature range		-40~+150 °C
T <sub>j</sub>	工作结温范围 Operating junction temperature range		-40~+125 °C

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

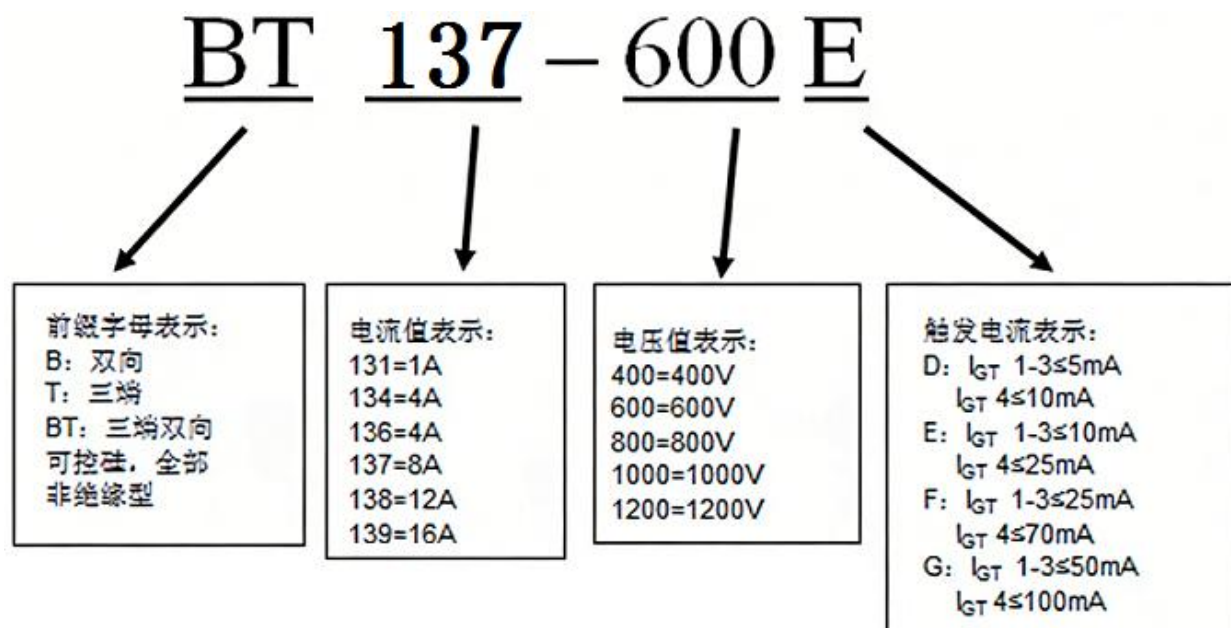
 (T<sub>j</sub>=25°C, unless otherwise specified)

参数 Parameter	符号 Symbol	规范值 Value		单位 Unit	测试条件 Test Conditions
		D	E		
触发电流 Gate trigger current	I <sub>GT</sub>	I ~ III	≤5	≤10	mA V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
		IV	≤10	≤25	
触发电压 Gate trigger voltage	V <sub>GT</sub>	I ~ IV	≤1.5		V V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
维持电流 Holding current	I <sub>H</sub>		≤20	≤30	mA V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
擎住电流 Latching current	I <sub>L</sub>		≤30	≤35	mA V <sub>D</sub> =12V, I <sub>T</sub> =0.1A
电压上升率 Rise of off-state voltage	dv/dt		≥20	≥50	V/μS V <sub>D</sub> =67% V <sub>DRM</sub>
通态压降 Peak on-state voltage	V <sub>TM</sub>		≤1.65		V I <sub>T</sub> =10A
断态漏电流 Peak repetitive forward blocking current	I <sub>DRM</sub> I <sub>RRM</sub>		≤10		μA V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =25°C
			≤0.5		mA V <sub>RRM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C

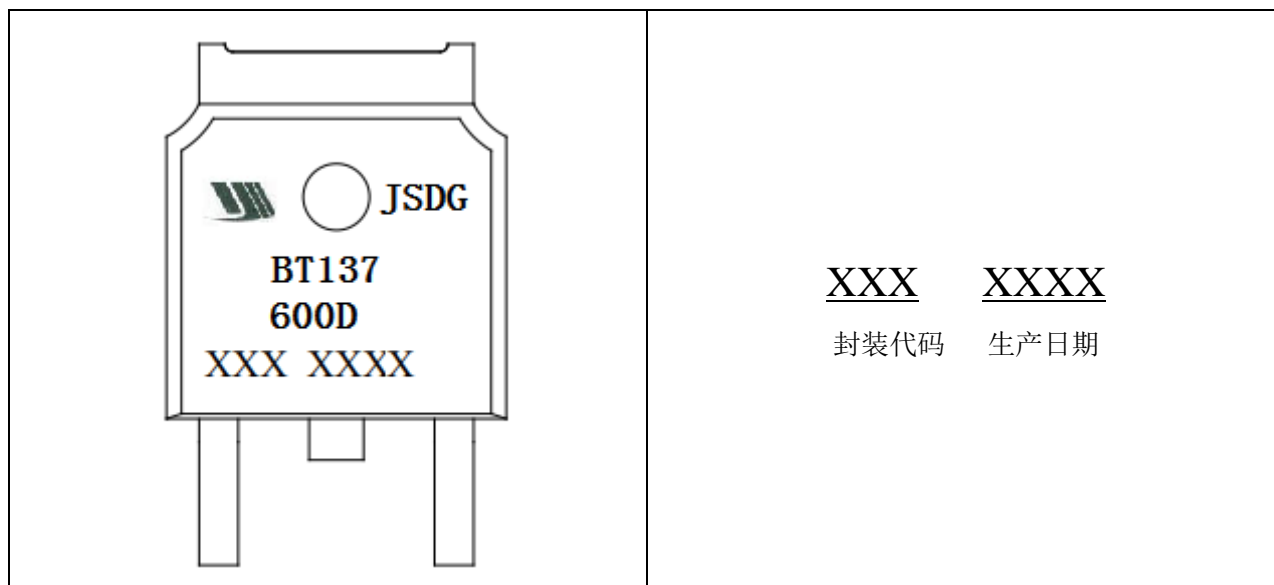
**热特性 THERMAL RESISTANCES**

符号 Symbol	参数 Parameter	数值 Value	单位 Unit
R <sub>th(j-c)</sub>	Junction to case(AC)	1.6	°C/W
R <sub>th(j-a)</sub>	Junction to ambient	70	°C/W

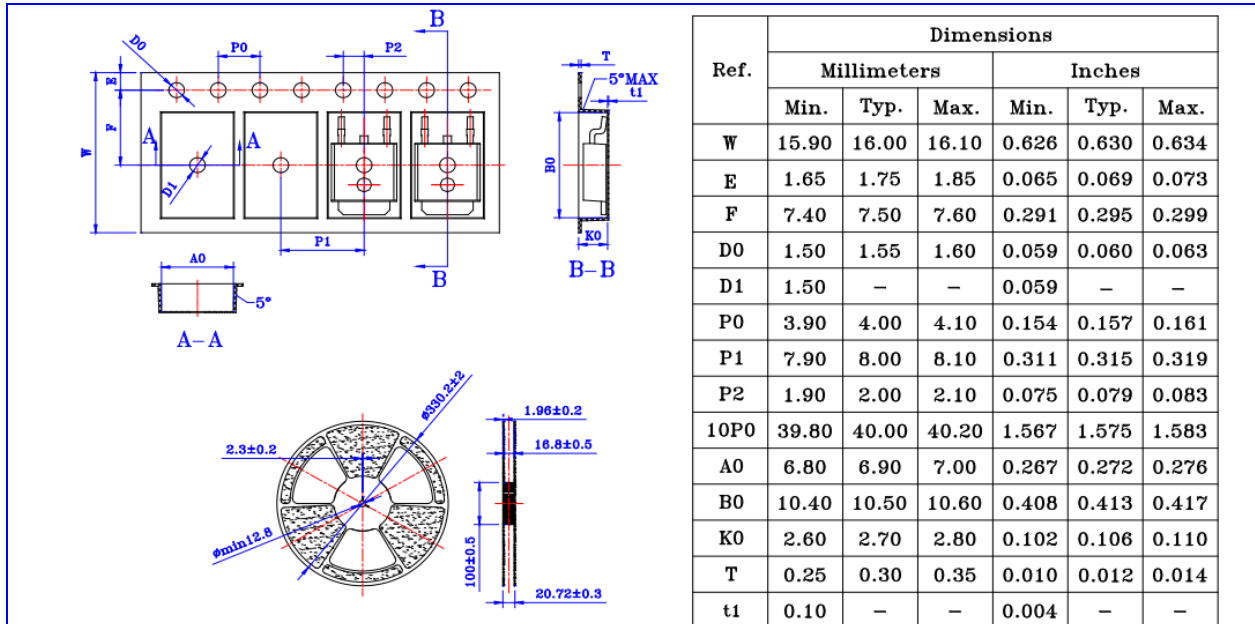
## ORDERING INFORMATION



## 印章说明MARKING



配送方式 DELIVERY MODE



PACKAGE	OUTLINE	REEL(PCS)	PER CARTON (PCS)	TAPE&REEL
TO-252	TAPING	2500	25000	13inch

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

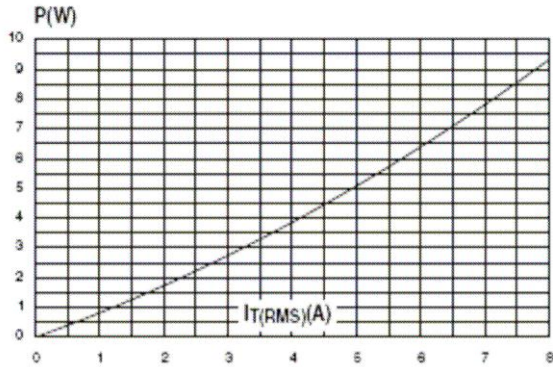


图2 RMS通态电流与Tc温度关系  
Fig.2. RMS On-state Current Versus TL

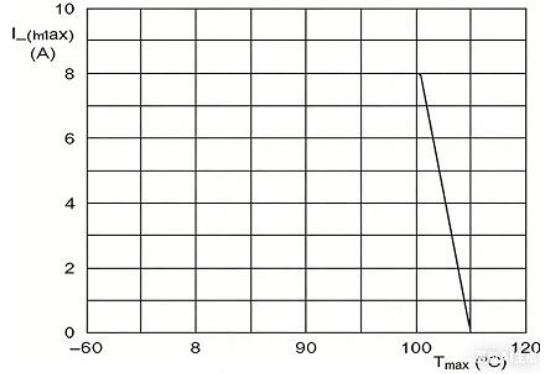


图3 通态特性  
Fig.3.On-State Characteristics

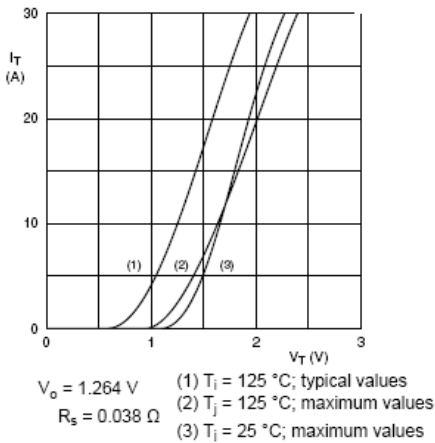


图4 通态浪涌峰值电流与周期数关系  
Fig.4.Surge Peak On-state Current Versus Number Cycles

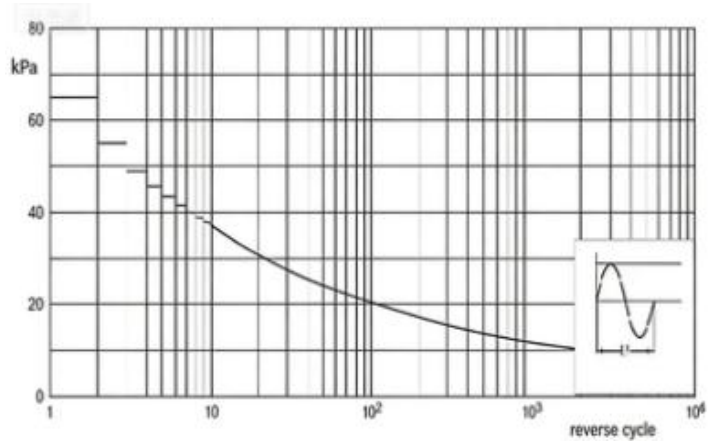
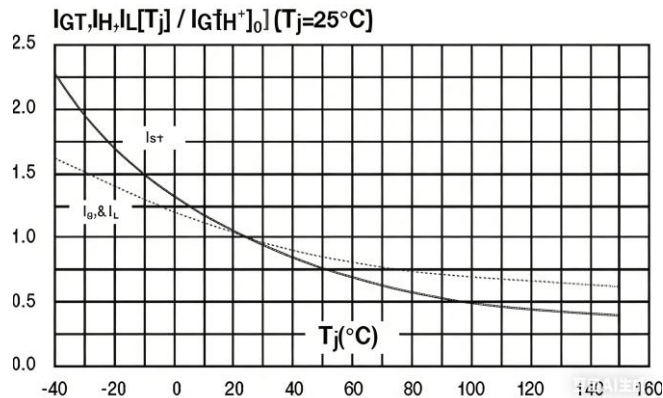
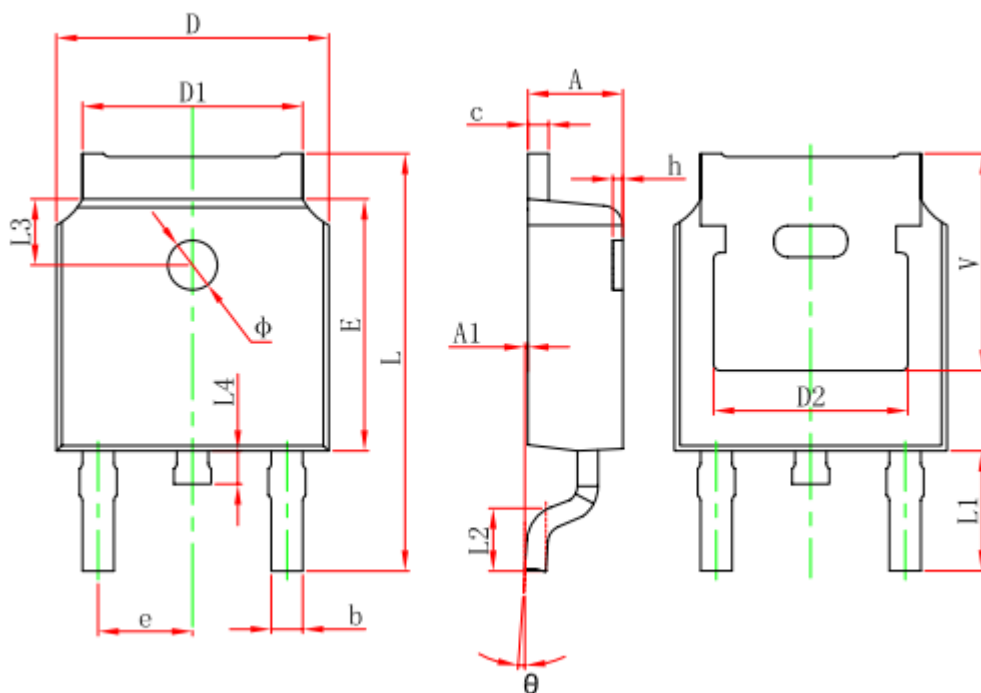


图5  $I_{GT}$ 、 $I_H$ 、 $I_L$ 相对值（相对于25°C）与结温关系  
Fig.5.Relative Variation Of Gate Trigger Current, Holding Current And Latching Current Versus Junction Temperature (Typical Value)



封装尺寸 PACKAGE MECHANICAL DATA

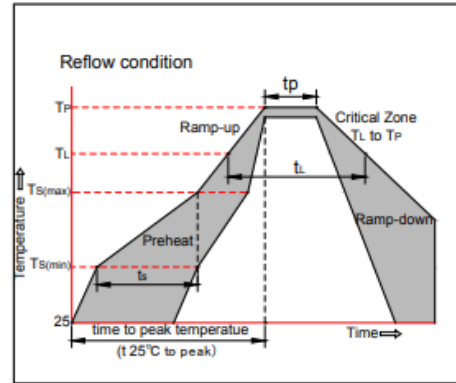
TO-252



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.	

焊接参数 SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C



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