

<b>MCR100-8</b>		
	单向可控硅 THYRISTOR	版本号 201603-A

## 产品概述 GENERAL DESCRIPTION

MCR100-8 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。

MCR100-8 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
$I_{T(RMS)}$	1	A
$V_{DRM}/V_{RRM}$	800	V
$I_{GT}$	200	$\mu A$

## 产品特性

- dv/dt高
- 通态压降低
- Rohs环保产品

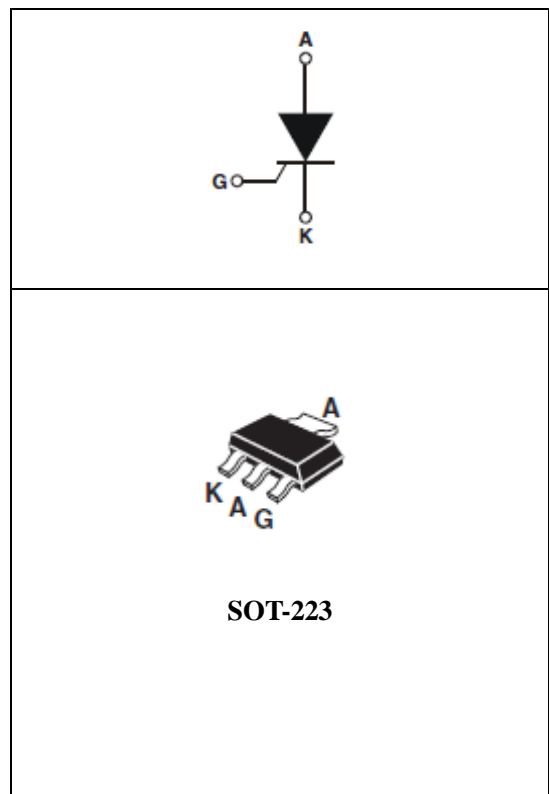
## FEATURES

- 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<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>lead</sub> ≤51℃	1 A
I <sub>TSM</sub>	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=20ms	10 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	0.4 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℃	0.2 A
P <sub>G(AV)</sub>	平均门极耗散功率 Average gate power dissipation	T <sub>j</sub> =125℃	0.5 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
触发电流 Gate trigger current	I <sub>GT</sub>	≤200	μA	V <sub>D</sub> =6V, I <sub>T</sub> =0.01A
触发电压 Gate trigger voltage	V <sub>GT</sub>	≤1.0	V	V <sub>D</sub> =7V, I <sub>T</sub> =0.01A
维持电流 Holding current	I <sub>H</sub>	≤5	mA	V <sub>D</sub> =7V, I <sub>T</sub> =0.01A
擎住电流 Latching current	I <sub>L</sub>	≤8	mA	V <sub>D</sub> =7V, I <sub>T</sub> =0.01A
电压上升率 Rise of off- state voltage	dv/dt	≥15	V/μS	V <sub>D</sub> =67% V <sub>DRM</sub>
通态压降 Peak on-state voltage	V <sub>TM</sub>	≤1.5	V	I <sub>T</sub> =2A
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>	≤3	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)	20	℃/W
R <sub>th(j-a)</sub>	Junction to ambient	100	℃/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

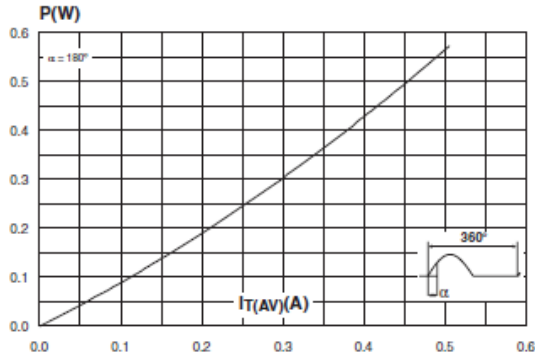


图3 通态特性  
Fig.3.On-State Characteristics

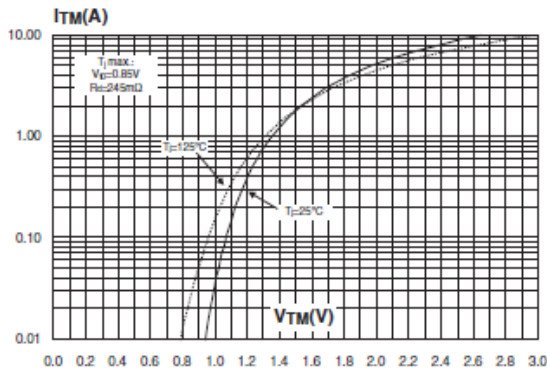


图5  $I_{GT}$ 、 $I_H$ 、 $I_L$ 相对值（相对于25°C）与结温关系

Fig.5.Relative Variation Of Gate Trigger Current , Holding Current And Latching Current Versus Junction Temperature (Typical Value)

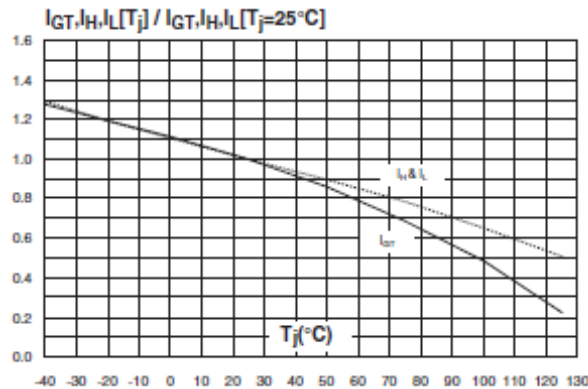


图2 平均通态电流与Tc温度关系  
Fig.2.  $I_{T(AV)}$  On-state Current Versus TL

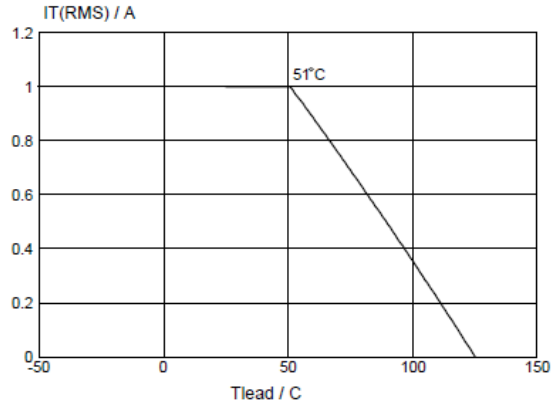
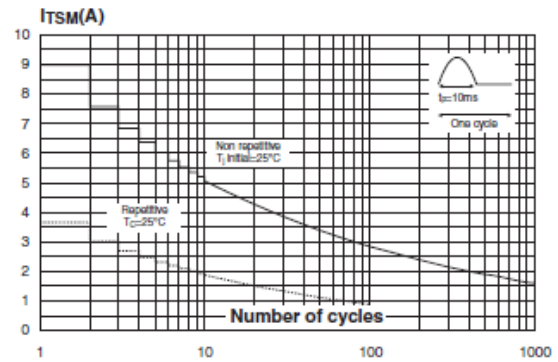
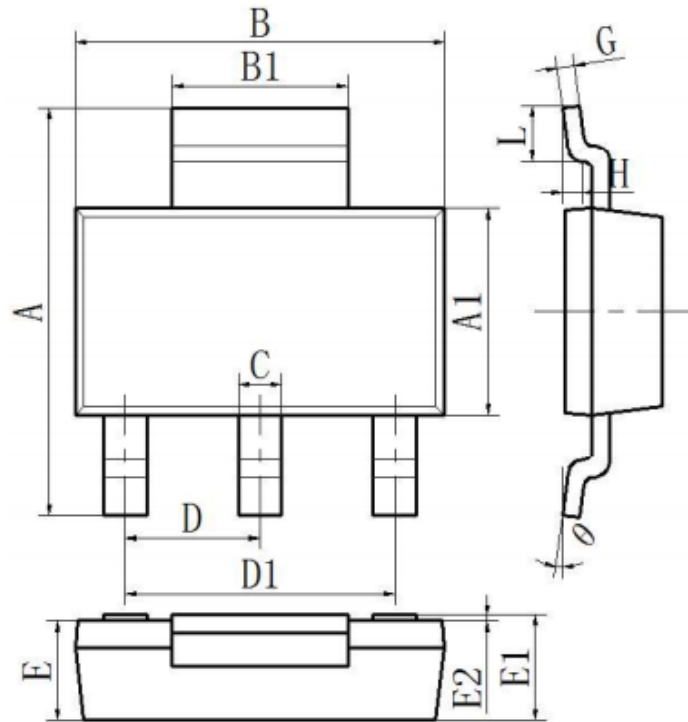


图4 通态浪涌峰值电流与周期数关系  
Fig.4.Surge Peak On-state Current Versus Number Cycles



封装尺寸 PACKAGE MECHANICAL DATA

SOT-223



符号	标准	下公差	上公差	下限值	上限值
A	6.95	-0.24	0.24	6.71	7.19
A1	3.5	-0.1	0.1	3.4	3.6
B	6.4	-0.1	0.1	6.2	6.4
B1	3.00	-0.1	0.1	2.9	3.1
C	0.74	-0.08	0.08	0.66	0.82
D	2.3	-0.05	0.05	2.25	2.35
D1	4.6	-0.1	0.1	4.5	4.7
E	1.6	-0.1	0.1	1.5	1.7
E1	1.66	-0.14	0.14	1.52	1.8
E2(测试后)	/	/	/	0	0.1
E2(成型后)	/	/	/	0.02	0.08
G	0.3	-0.05	0.05	0.25	0.35
H	0.25	-0.05	0.05	0.20	0.30
L	0.95	-0.15	0.15	0.8	1.1
θ	8	/	/	8	8

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