

MCR100-8

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
$I_{T(RMS)}$	0.8	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	200	μA

产品特性

- dv/dt高
- 通态压降低
- Rohs环保产品

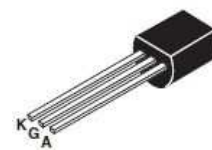
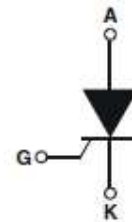
FEATURES

- 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.



TO-92



SOT-223

极限值(除非另有规定, Tj=25°C) ABSOLUTE RATINGS

(Tj=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 _{lead} ≤51°C	0.8 A
I _{TSM}	通态峰值浪涌电流 Non repetitive surge peak on-state current	F=50Hz, t=20ms	10 A
I ² t	I ² t 耗散值 I ² t value for fusing	T _p =10ms	0.4 A ² s
di/dt	通态电流上升值 Critical rate of rise of on-state current	F=120Hz, Tj=125°C	50 A/μs
I _{GM}	门极峰值电流 Peak gate current	T _p =20μs, Tj=125°C	0.2 A
P _{G(AV)}	平均门极耗散功率 Average gate power dissipation	Tj=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, Tj=25°C) ELECTRICAL CHARACTERISTICS

(Tj=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}	≤200	μA	V _D =6V, I _T =0.01A
触发电压 Gate trigger voltage	V _{GT}	≤0.8	V	V _D =7V, I _T =0.01A
维持电流 Holding current	I _H	≤5	mA	V _D =7V, I _T =0.01A
擎住电流 Latching current	I _L	≤8	mA	V _D =7V, I _T =0.01A
电压上升率 Rise of off-state voltage	dv/dt	≥15	V/μS	V _D =67%V _{DRM}
通态压降 Peak on-state voltage	V _{TM}	≤1.7	V	I _T =2A
断态漏电流 Peak repetitive forward blocking current	I _{DRM}	≤5	μA	V _{RRM} =V _{DRM} , Tj=25°C
	I _{RRM}	≤0.5	mA	V _{RRM} =V _{DRM} , Tj=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)	TO-92	60	K/W
		SOT-223	20	
Rth(j-a)	Junction to ambient	TO-92	150	K/W
		SOT-223	100	

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

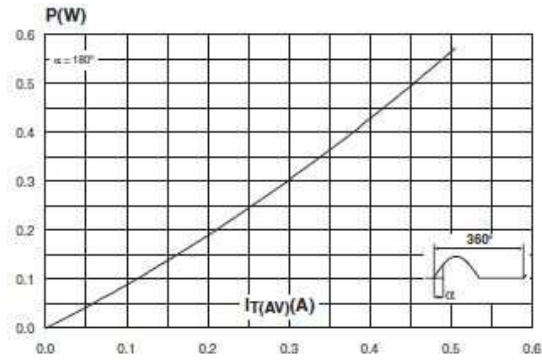


图3 通态特性
Fig.3.On-State Characteristics

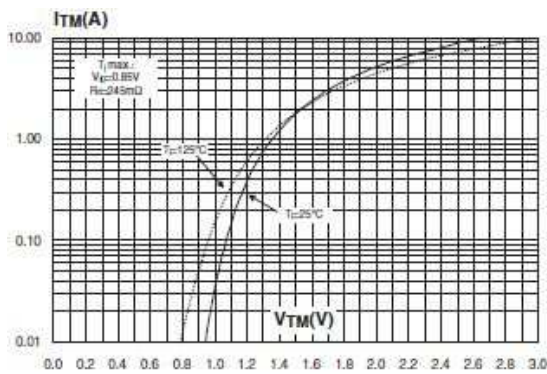


图5 I_{GT} 、 I_H 、 I_L 相对值（相对于25°C）与结温关系

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

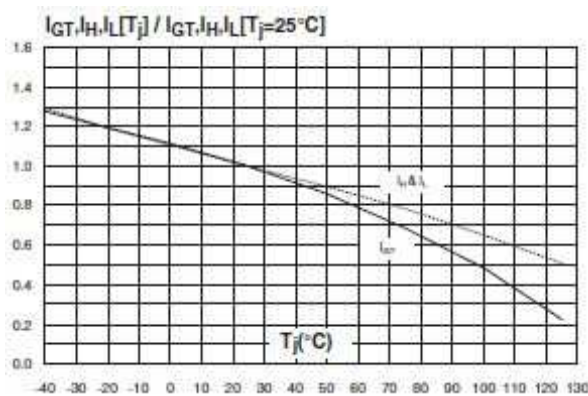


图2 平均通态电流与Tc温度关系
Fig.2. $I_{T(AV)}$ On-state Current Versus TL

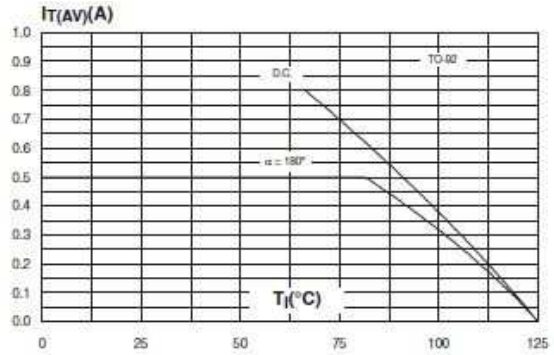
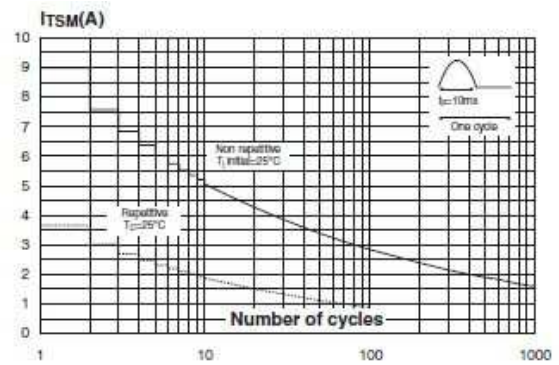


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number Cycles

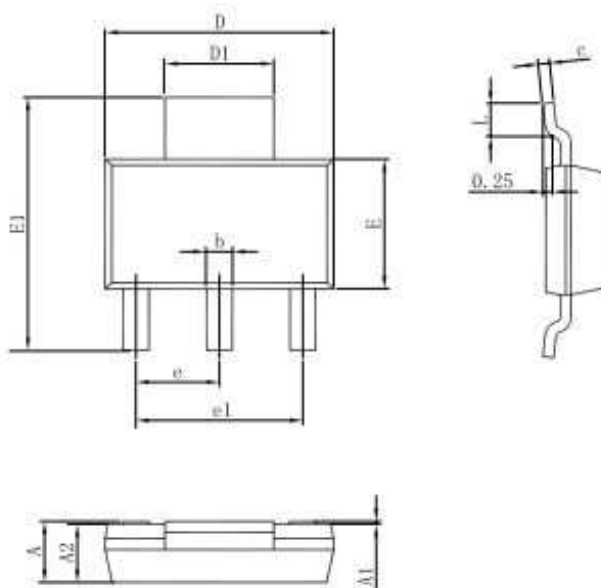


封装尺寸 PACKAGE MECHANICAL DATA

TO-92

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		1.35			0.053	
B			4.70			0.185
C		2.54			0.100	
D	4.40			0.173		
E	12.70			0.500		
F			3.70			0.146
a			0.50			0.019

SOT-223



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.02	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.810	0.026	0.032
c	0.240	0.320	0.010	0.014
D	6.300	6.500	0.248	0.256
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045

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