



# MCR100-8

## 主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	1A
$V_{DRM}/V_{RRM}$	900V
$I_{GT}$	10-100 $\mu$ A

### 用途

- 半交流开关
- 相位控制

### 产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 低通态电流和高浪涌电流能力
- 环保 RoHS 产品
- 芯片面积 1.36mm\*1.36mm (锯片后最小面积 1.30mm\*1.30mm)

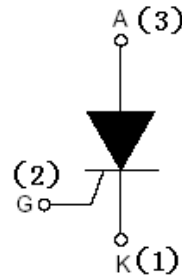
### APPLICATIONS

- Half AC switching
- Phase control

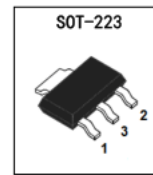
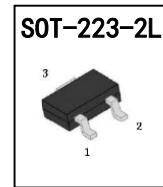
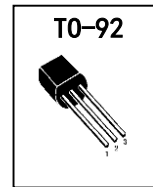
### FEATURES

- Glass-passivated mesa chip for high reliability and uniform
- Low on-state voltage and High  $I_{TSM}$
- RoHS products

## 封装 Package



序号 Pin	引线名称 Description
1	阴极 K
2	门极 G
3	阳极 A



## 订货信息 ORDER MESSAGES

有卤-编带	无卤-编带	有卤-袋装	印记	封装
Halogen-Reel	Halogen-Free-Reel	Halogen-Bag	Marking	Package
MCR100-8--NL-A	N/A	N/A	MCR100-8	SOT-223-2L
MCR100-8-T-E	N/A	MCR100-8--T-C	MCR100-8	TO-92
MCR100-8--NC-A	N/A	N/A	MCR100-8	SOT-223

绝对最大额定值 ABSOLUTE RATINGS (T<sub>c</sub>=25°C)

项 目 Parameter	符 号 Symbol	试 验 条 件 Condition	数 值 Value	单 位 Unit
断态重复峰值电压 Repetitive peak off-state voltage	V <sub>DRM</sub>		900	V
反向重复峰值电压 Repetitive peak reverse voltage	V <sub>RRM</sub>		900	V
Non -Repetitive peak off-state voltage	V <sub>DSM</sub>		950	V
Non -Repetitive peak reverse voltage	V <sub>RSM</sub>		950	V
通态平均电流 Average on-state current	I <sub>T(AV)</sub>		0.6	A
通态方均根电流 On-state RMS current	I <sub>T(RMS)</sub>		1.0	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I <sub>TSM</sub>	half sine cycle (t=20ms), T <sub>j</sub> =25°C	12	A
熔断 I <sup>2</sup> t I <sup>2</sup> t for fusing	I <sup>2</sup> t	half sine wave, t=10ms	0.72	A <sup>2</sup> s
通态电流临界上升率 Repetitive rate of rise of on-state current after riggering	dI/dt	I <sub>TM</sub> =2.0A, I <sub>G</sub> =0.02A,dI <sub>G</sub> /dt=1.0A/μs	50	A/μs
峰值门极电流 Peak gate current	I <sub>GM</sub>	tp=20us,T <sub>j</sub> =110°C	1	A
平均门极功率 Average gate power	P <sub>G(AV)</sub>	tp=20us,T <sub>j</sub> =110°C	0.1	W
存储温度 Storage temperature	T <sub>stg</sub>		-40~150	°C
操作结温 Operation junction temperature	T <sub>VJ</sub>		-40~125	°C



电特性 ELECTRICAL CHARACTERISTIC ( $T_c=25^\circ\text{C}$ )

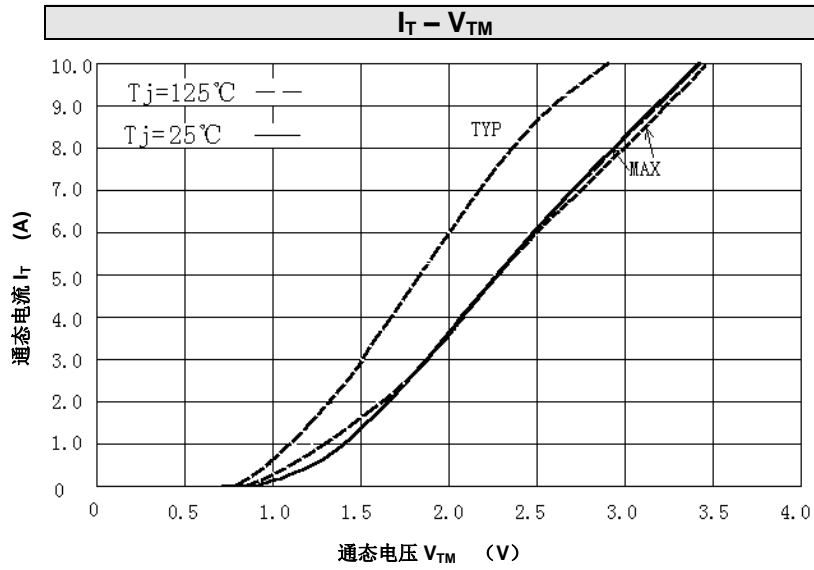
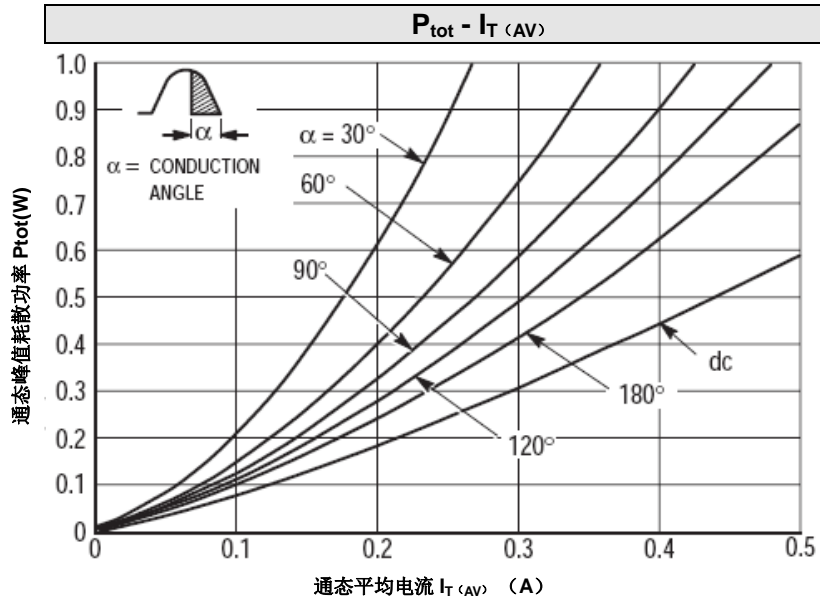
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	$I_{DRM}$	$V_{DM}=V_{DRM}, T_j=125^\circ\text{C}, R_{GK}=1\text{K}\Omega$	-	-	0.1	mA
反向峰值重复电流 Peak Repetitive Reverse Current	$I_{RRM}$	$V_{RM}=V_{RRM}, T_j=125^\circ\text{C}, R_{GK}=1\text{K}\Omega$	-	-	0.1	mA
峰值通态电压 Peak on-state voltage	$V_{TM}$	$I_{TM}=1\text{A}$	-	—	1.7	V
门极触发电流 Gate trigger current	$I_{GT}$	$V_{AK}=12\text{V}, R_L=33\Omega$	10	-	100	$\mu\text{A}$
门极触发电压 Gate trigger voltage	$V_{GT}$	$V_{AK}=12\text{V}, R_L=33\Omega$	-	0.6	0.8	V
维持电流 Holding current	$I_H$	$V_{AK}=12\text{V}, I_T=0.1\text{A}$	-	-	5	mA
擎住电流 Latch current	$I_L$	$V_{AK}=12\text{V}, I_T=0.1\text{A}$	-	-	5	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	$V_{DM}=2/3V_{DRM},$ $T_j=110^\circ\text{C}, R_{GK}=1\text{K}\Omega$	50	100		V/ $\mu\text{s}$

## 热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到引线的热阻 Thermal resistance junction to lead	$R_{th(j-l)}$	half cycle (TO-92)	-	-	75	$^\circ\text{C}/\text{W}$
结到环境的热阻 Thermal resistance junction to ambient	$R_{th(j-a)}$	half cycle (TO-92)	-	-	200	$^\circ\text{C}/\text{W}$
结到基座的热阻 Thermal resistance junction to tab	$R_{th(j-t)}$	full cycle (SOT-223/SOT-223-2L)	-	-	25	$^\circ\text{C}/\text{W}$

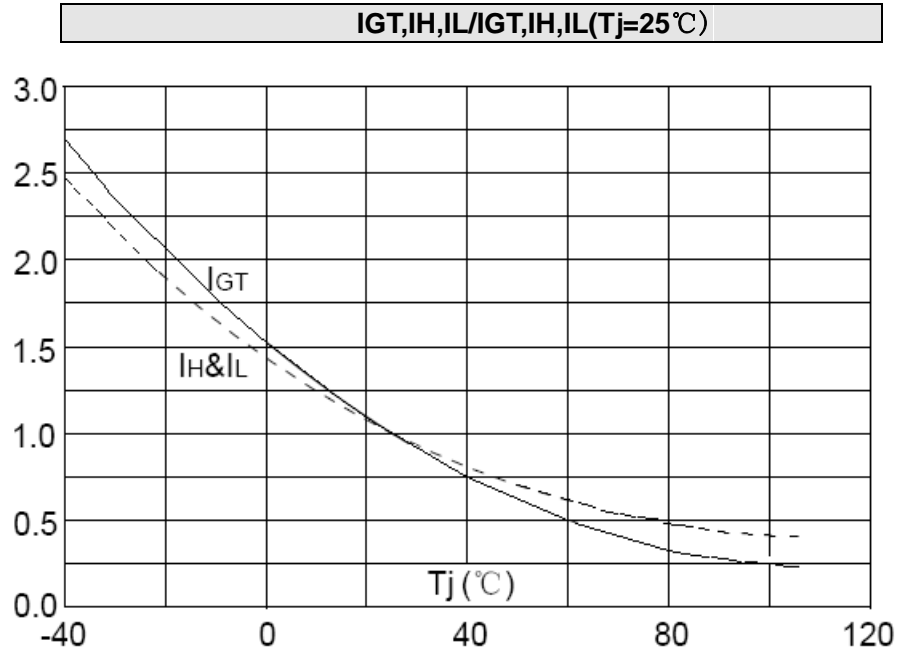


特征曲线 ELECTRICAL CHARACTERISTICS (curves)





Relative variations of gate trigger current, holding current and latching current versus junction temperature.



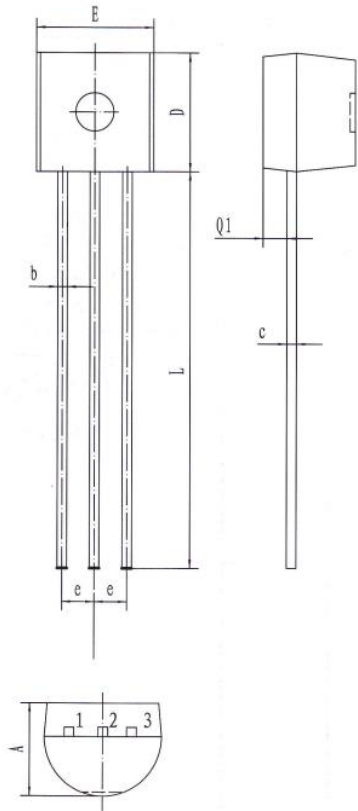


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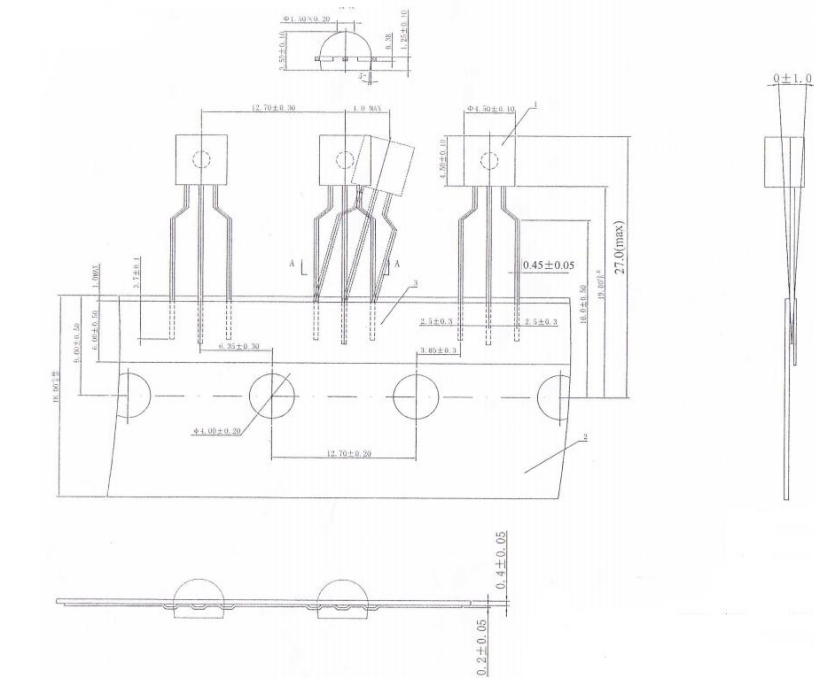
外形尺寸 PACKAGE MECHANICAL DATA

TO-92

单位 Unit : mm



<b>A</b>	3.30-3.90
<b>b</b>	0.35-0.55
<b>c</b>	0.31-0.51
<b>D</b>	4.30-4.90
<b>E</b>	4.30-4.90
<b>e</b>	1.17-1.37
<b>L</b>	12.50-15.50
<b>Q1</b>	0.85-1.00

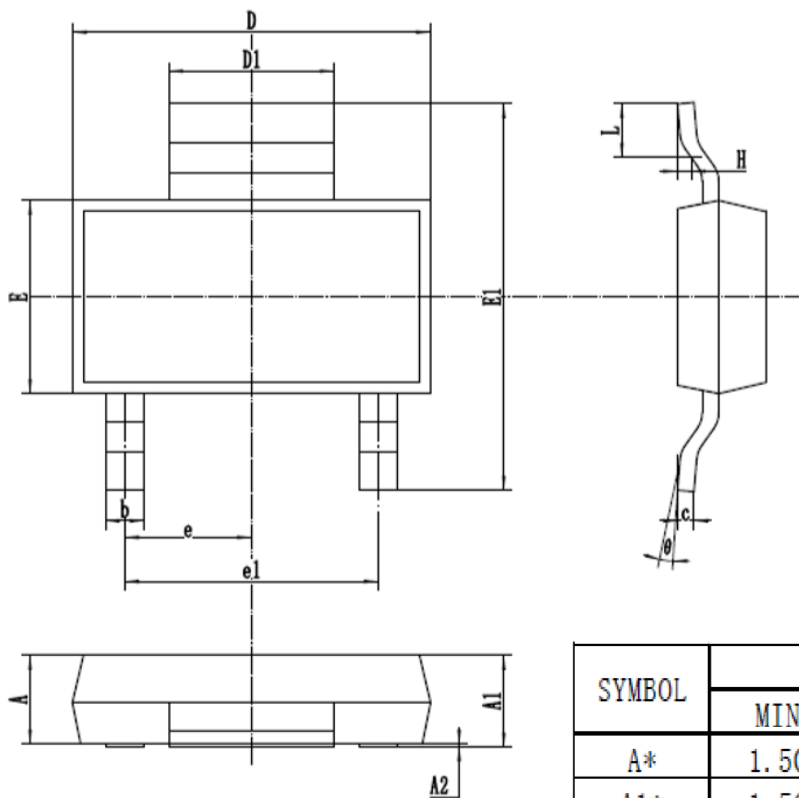




外形尺寸 PACKAGE MECHANICAL DATA

SOT-223-2L

单位 Unit : mm



SYMBOL	mm		
	MIN	NOR	MAX
A*	1.50	1.60	1.70
A1*	1.56	1.66	1.76
A2	0.02	-	0.10
b*	0.65	0.70	0.75
c*	0.25	0.30	0.35
D*	6.35	6.50	6.65
D1*	2.85	3.00	3.15
E*	3.35	3.50	3.65
E1*	6.85	7.00	7.15
e*	2.30 BASIC		
e1*	4.60 BASIC		
L*	0.75	0.95	1.15
H*	0.20	0.25	0.30
θ	-	-	10°

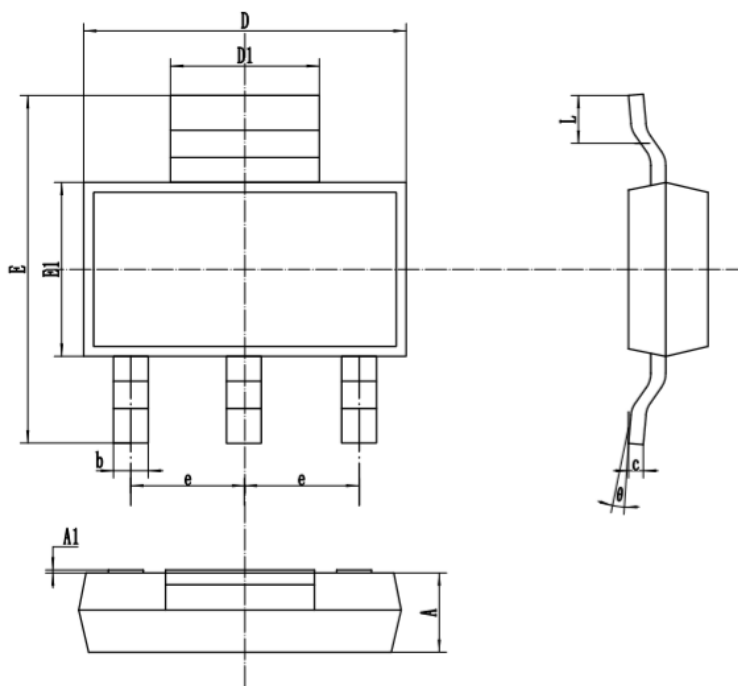
注：\*标注为检验项目。



## 外形尺寸 PACKAGE MECHANICAL DATA

SOT-223

单位 Unit : mm



SYMBOL	mm	
	MIN	MAX
A	1.50	1.80
A1	0.01	0.12
b	0.60	0.85
c	0.15	0.40
D	6.25	6.75
D1	2.80	3.20
E	6.75	7.25
E1	3.30	3.70
e	2.30 BASIC	
L	0.80	1.20
$\theta$	-	10°





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