



MCR100-8

主要参数 MAIN CHARACTERISTICS

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

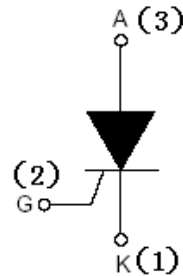
APPLICATIONS

- Half AC switching
- Phase control

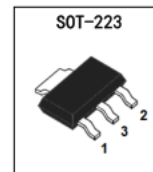
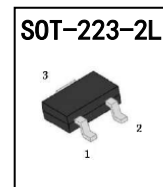
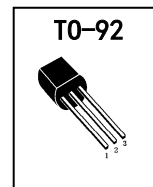
FEATURES

- 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 Marking	封 装 Package
Halogen-Reel	Halogen-Free-Reel	Halogen-Bag		
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	T0-92
MCR100-8--NC-A	N/A	N/A	MCR100-8	SOT-223

绝对最大额定值 ABSOLUTE RATINGS ($T_C=25^{\circ}\text{C}$)

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_{DRM}		900	V
反向重复峰值电压 Repetitive peak reverse voltage	V_{RRM}		900	V
Non -Repetitive peak off-state voltage	V_{DSM}		950	V
Non -Repetitive peak reverse voltage	V_{RSM}		950	V
通态平均电流 Average on-state current	$I_{\text{T (AV)}}$		0.6	A
通态方均根电流 On-state RMS current	$I_{\text{T (RMS)}}$		1.0	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current	I_{TSM}	half sine cycle ($t=20\text{ms}$), $T_j=25^{\circ}\text{C}$	12	A
熔断 I^2t I^2t for fusing	I^2t	half sine wave, $t=10\text{ms}$	0.72	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after riggering	dI/dt	$I_{\text{TM}}=2.0\text{A}$, $I_{\text{G}}=0.02\text{A}$, $dI_{\text{G}}/dt=1.0\text{A}/\mu\text{s}$	50	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{GM}	$t_p=20\mu\text{s}$, $T_j=110^{\circ}\text{C}$	1	A
平均门极功率 Average gate power	$P_{\text{G(AV)}}$	$t_p=20\mu\text{s}$, $T_j=110^{\circ}\text{C}$	0.1	W
存储温度 Storage temperature	T_{stg}		-40~150	$^{\circ}\text{C}$
操作结温 Operation junction temperature	T_{VJ}		-40~125	$^{\circ}\text{C}$



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

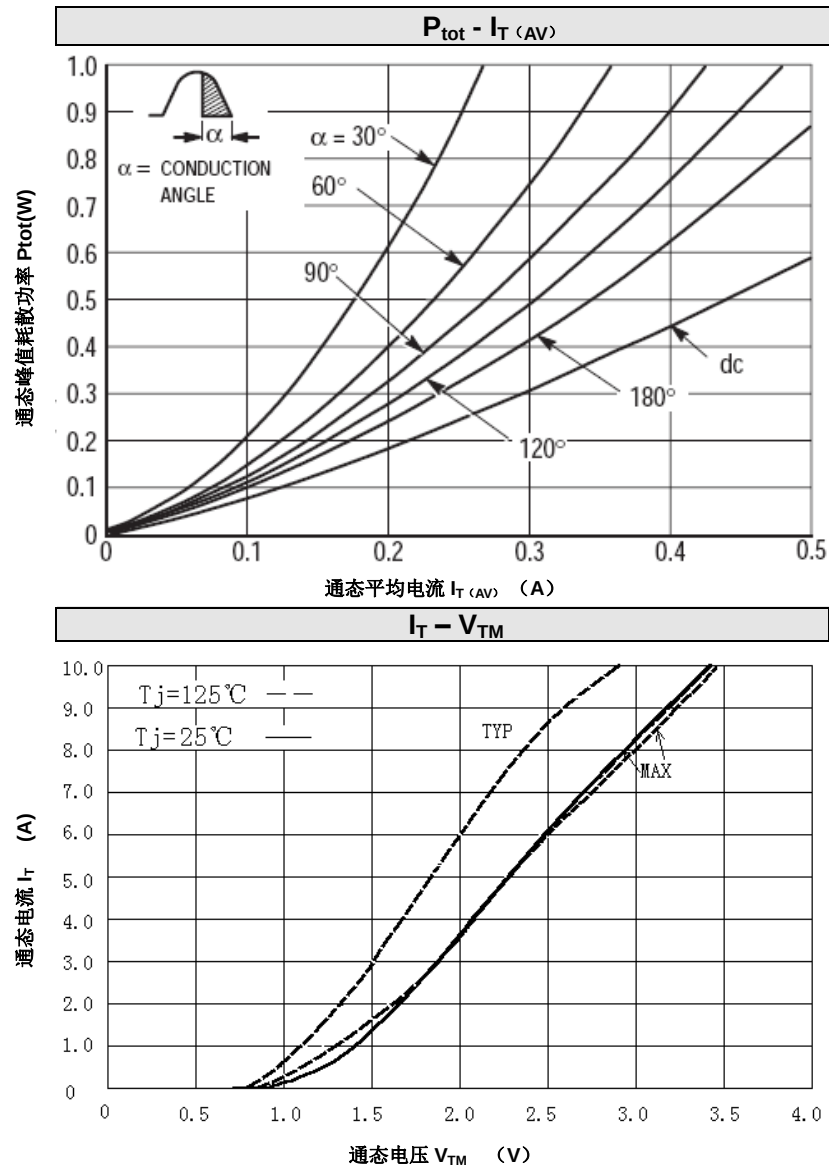
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	I_{DRM}	$V_{\text{DM}}=V_{\text{DRM}}, T_j=125^{\circ}\text{C}, R_{\text{GK}}=1\text{K}\Omega$	-	-	0.1	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I_{RRM}	$V_{\text{RM}}=V_{\text{RRM}}, T_j=125^{\circ}\text{C},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

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	$R_{\text{th(j-l)}}$	half cycle (TO-92)	-	-	75	$^{\circ}\text{C}/\text{W}$
结到环境的热阻 Thermal resistance junction to ambient	$R_{\text{th(j-a)}}$	half cycle (TO-92)	-	-	200	$^{\circ}\text{C}/\text{W}$
结到基座的热阻 Thermal resistance junction to tab	$R_{\text{th(j-t)}}$	full cycle (SOT-223/SOT-223-2L)	-	-	25	$^{\circ}\text{C}/\text{W}$

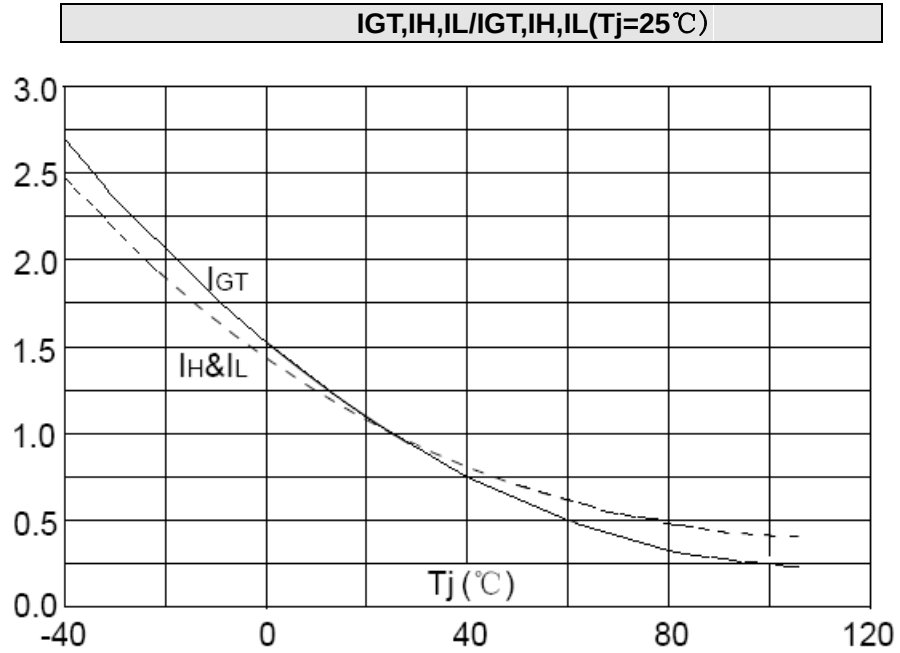


特征曲线 ELECTRICAL CHARACTERISTICS (curves)





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



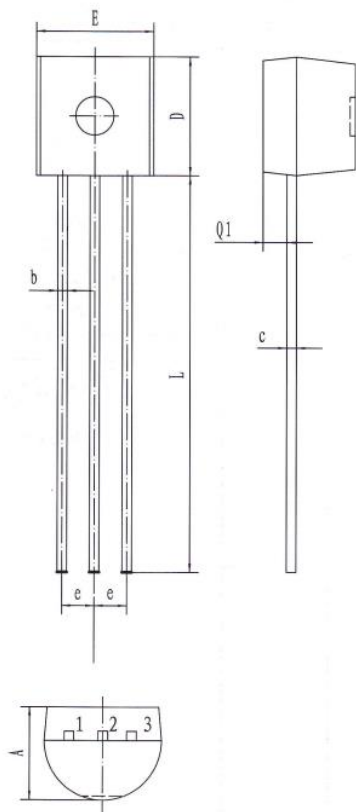


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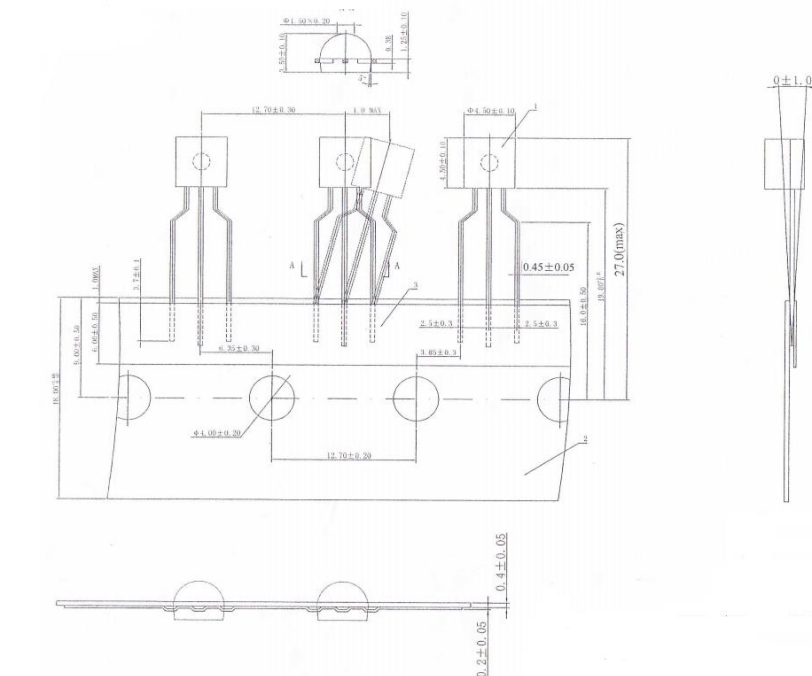
外形尺寸 PACKAGE MECHANICAL DATA

TO-92

单位 Unit : mm



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



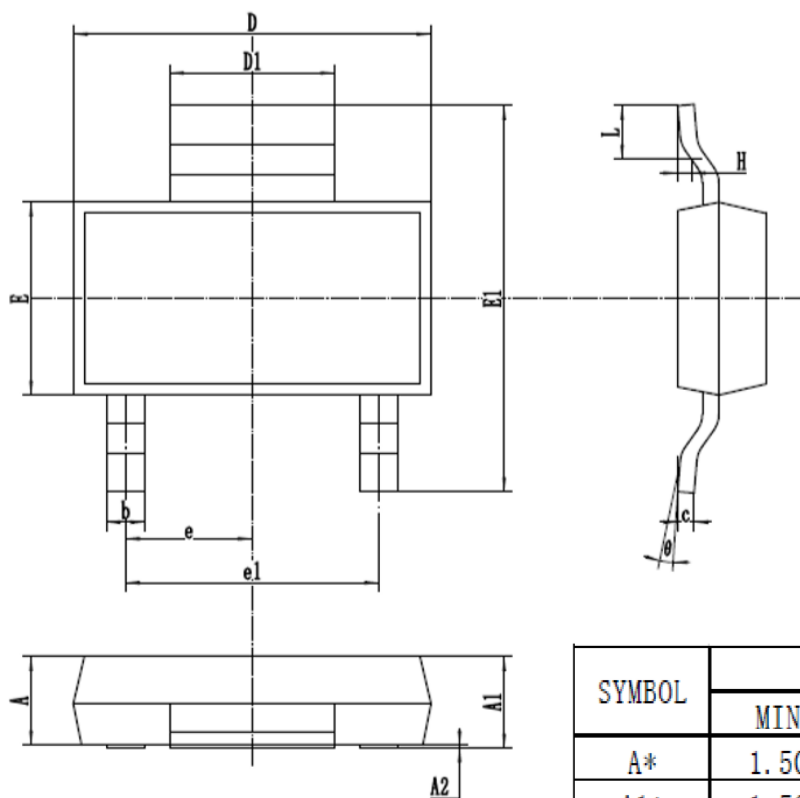


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外形尺寸 PACKAGE MECHANICAL DATA

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°

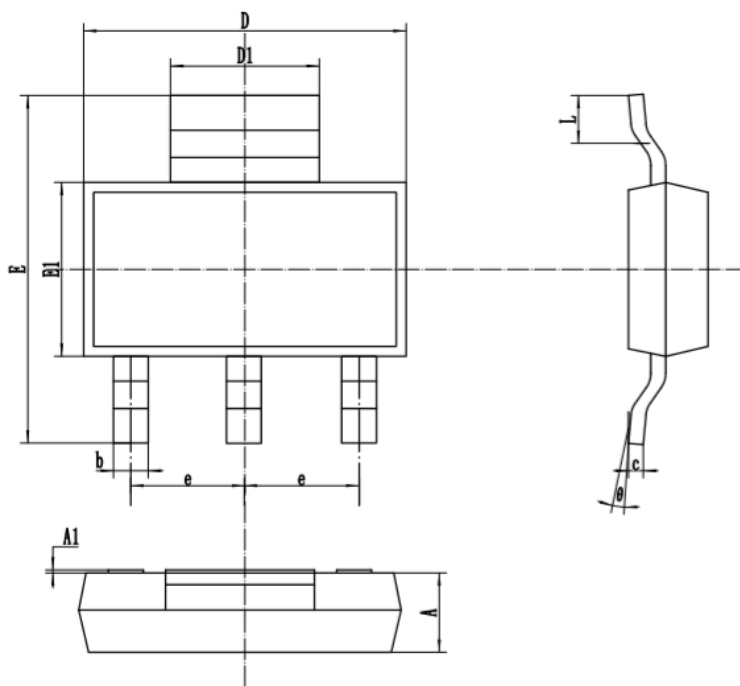
注：*标注为检验项目。



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
θ	-	10°



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