



# MCR100 - 6

## 主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	1A
$V_{DRM}/V_{RRM}$	900V
$I_{GT}$	30-100 $\mu$ A

## 用途

半交流开关  
相位控制

## APPLICATIONS

Half AC switching  
Phase control

## 产品特性

玻璃钝化芯片，高  
可靠性和一致性

## FEATURES

Glass-passivated mesa chip  
for high reliability and  
uniform

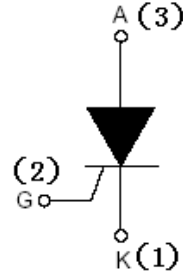
低通态电流和高浪  
涌电流能力

Low on-state voltage and  
High  $I_{TSM}$

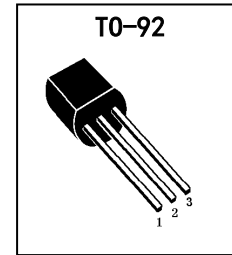
环保 RoHS 产品

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	有卤-袋装	印 记 Marking	封 装 Package
Halogen-Reel	Halogen-Bag		
N/A	MCR100-6-T-C	MCR100-6	TO-92
MCR100-6-T-A	N/A	MCR100-6	TO-92

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	$V_{\text{DRM}}$		900	V
反向重复峰值电压 Repetitive peak reverse voltage	$V_{\text{RRM}}$		900	V
均值电流 Average On-state RMS current	$I_{\text{T (AV)}}$		0.8	A
通态方均根电流 RMS On-state RMS current	$I_{\text{T (RMS)}}$		1	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	$I_{\text{TSM}}$	$t_p=10\text{ms}, T_j=25^\circ\text{C}$	8	A
		$t_p=8.3\text{ms}, T_j=25^\circ\text{C}$	9	A
熔断 $I^2t$ $I^2t$ for fusing	$I^2t$	half sine wave, $t=10\text{ms}$	0.32	$\text{A}^2\text{s}$
通态电流临界上升率 Repetitive rate of rise of on-state current after rigging	$di/dt$	$I_G=2 \cdot I_{\text{GT}}, f=100\text{Hz}, T_j=125^\circ\text{C}$	50	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	$I_{\text{GM}}$	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	1	A
平均门极功率 Average gate power	$P_{\text{G(AV)}}$	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	0.1	W
峰值门极功率 Peak gate power	$P_{\text{GM}}$	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	2	W
存储温度 Storage temperature	$T_{\text{stg}}$		-40~150	$^\circ\text{C}$
工作结温 Operation junction temperature	$T_j$		-40~125	$^\circ\text{C}$



电特性 ELECTRICAL CHARACTERISTIC (T<sub>c</sub>=25°C)

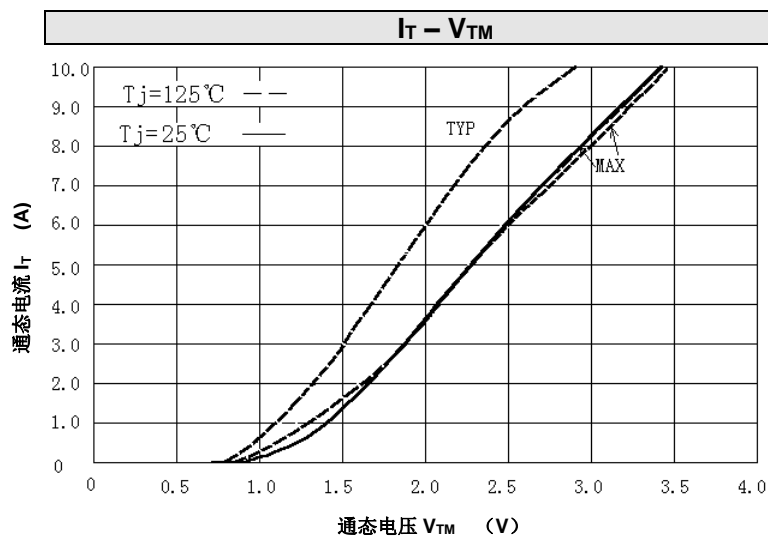
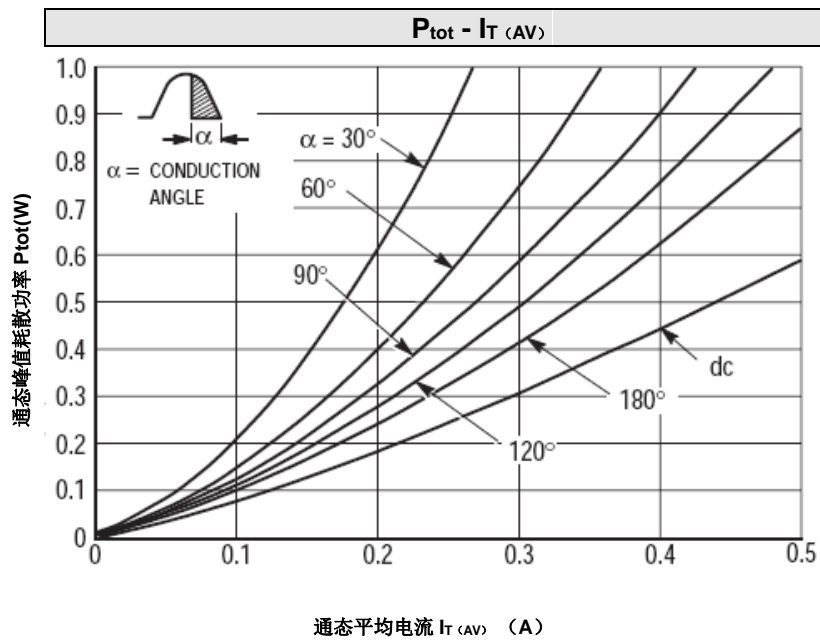
项 目 Parameter	符 号 Symbol	测 试 条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	I <sub>DRM</sub>	V <sub>ce</sub> =V <sub>ceM</sub> , T <sub>j</sub> =25°C, R <sub>GV</sub> =1KΩ V <sub>D</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C, R <sub>GK</sub> =1KΩ	-	-	1	μA
反向峰值重复电流 Peak Repetitive Reverse Current	I <sub>RRM</sub>	V <sub>ce</sub> =V <sub>ceM</sub> , T <sub>j</sub> =25°C, R <sub>GV</sub> =1KΩ V <sub>R</sub> =V <sub>RRM</sub> , T <sub>j</sub> =125°C, R <sub>GK</sub> =1KΩ	-	-	1	μA
峰值通态电压 Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =1A, t <sub>p</sub> =380us, T <sub>j</sub> =25°C	-	-	1.3	V
门极触发电流 Gate trigger current	I <sub>GT</sub>	V <sub>AK</sub> =12V, R <sub>L</sub> =33Ω	-	-	100	μA
门极触发电压 Gate trigger voltage	V <sub>GT</sub>	V <sub>AK</sub> =12V, R <sub>L</sub> =33Ω	-	0.6	0.8	V
门极不触发电压 Gate non-trigger voltage	V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C	0.2	-	-	V
维持电流 Holding current	I <sub>H</sub>	I <sub>T</sub> =0.05A	-	-	3	mA
擎住电流 Latch current	I <sub>L</sub>	I <sub>G</sub> =1.2*I <sub>GT</sub>	-	-	5	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V <sub>ce</sub> =225, T <sub>j</sub> =125°C, R <sub>GV</sub> =1KΩ V <sub>ce</sub> =225, T <sub>j</sub> =125°C, R <sub>GV</sub> =220Ω	20	-	-	V/μs

## 热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	数值 Value	单位 Unit
结到管壳的热阻 Thermal resistance junction to case (DC)	R <sub>th(j-c)</sub>	full cycle (TO-92)	65	°C/W
结到环境的热阻 Thermal resistance junction to ambient (DC)	R <sub>th(j-a)</sub>	full cycle (TO-92)	140	°C/W



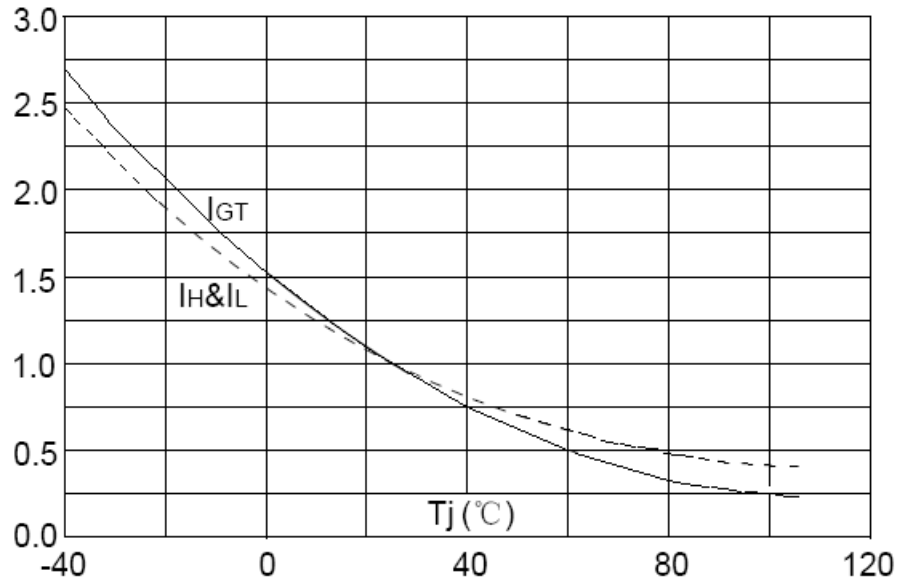
特征曲线 ELECTRICAL CHARACTERISTICS (curves)





**IGT,IH,IL(Tj) /IGT,IH,IL(Tj=25°C)**

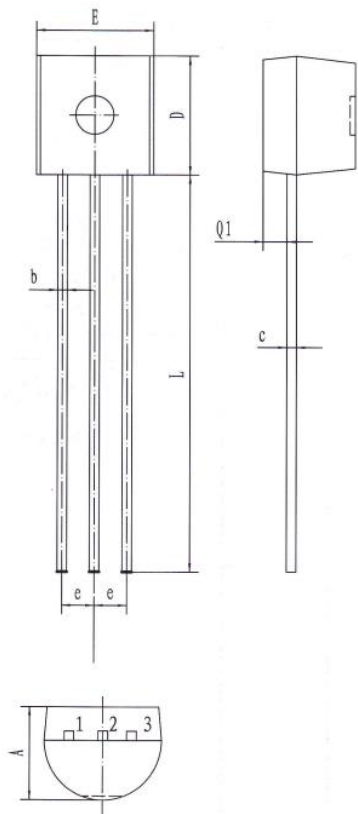
Relative variations of gate trigger current, holding current and latching current versus junction temperature.



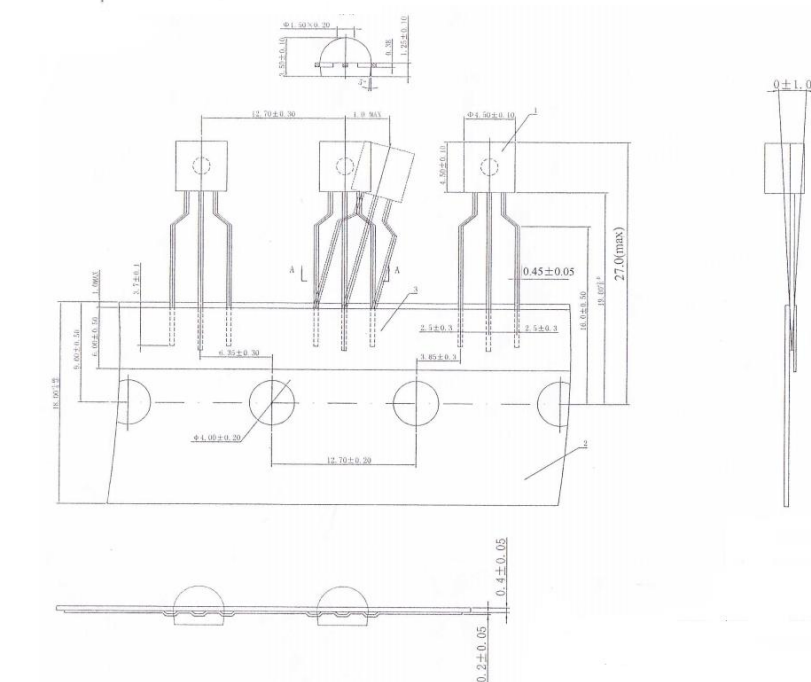


外形尺寸 PACKAGE MECHANICAL DATA  
TO-92

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





### 注意事项

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4. 本说明书如有版本变更不另外告知。

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3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
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