绍兴怡华电子科技有限公司

■ 主要特点：

符号	数值	单位
I_T（RMS）	0.8	A
V_{DRM}/V_{RRM}	400&600	V
I_{GT}（Q1）	200	μA

TO-92

■ 用途：

MCR100 Series单向可控硅系列适用于一般交流开关电路,如:固态继电器,感应马达启动控制,调温控制,调光控制,调速控制…等.

■ 极限值：

符号	参数		数值	单位
V_{DRM}/V_{RRM}	峰值正反向阻断电压	(TJ = 25 to 125°C, RGK = 1 kW MCR100— 4 / 6 / 8	200 400 600	V
$I_{T(RMS)}$	RMS 通态电流	T_C=80℃	0.8	A
I_{TSM}	通态峰值浪涌电流	F=60H_Z,T_J = 25° C	10	A
I^2t	I^2t 耗散值	t=8.3ms	0.415	A^2s
di/dt	通态电流上升值	F=120H_Z,Tj=125℃	50	A/μs
I_{GM}	门极峰值电流	TP=1.0μs,T_A=25℃	2	A
$P_{G(AV)}$	平均门极耗散功率	T_A=25℃，t=8.3ms	0.1	W

Tstg	贮存结温范围	**-40-+150**	℃
Tj	工作结温范围	**-40-+125**	℃

■ 电特性 (TC = 25°C unless otherwise noted)

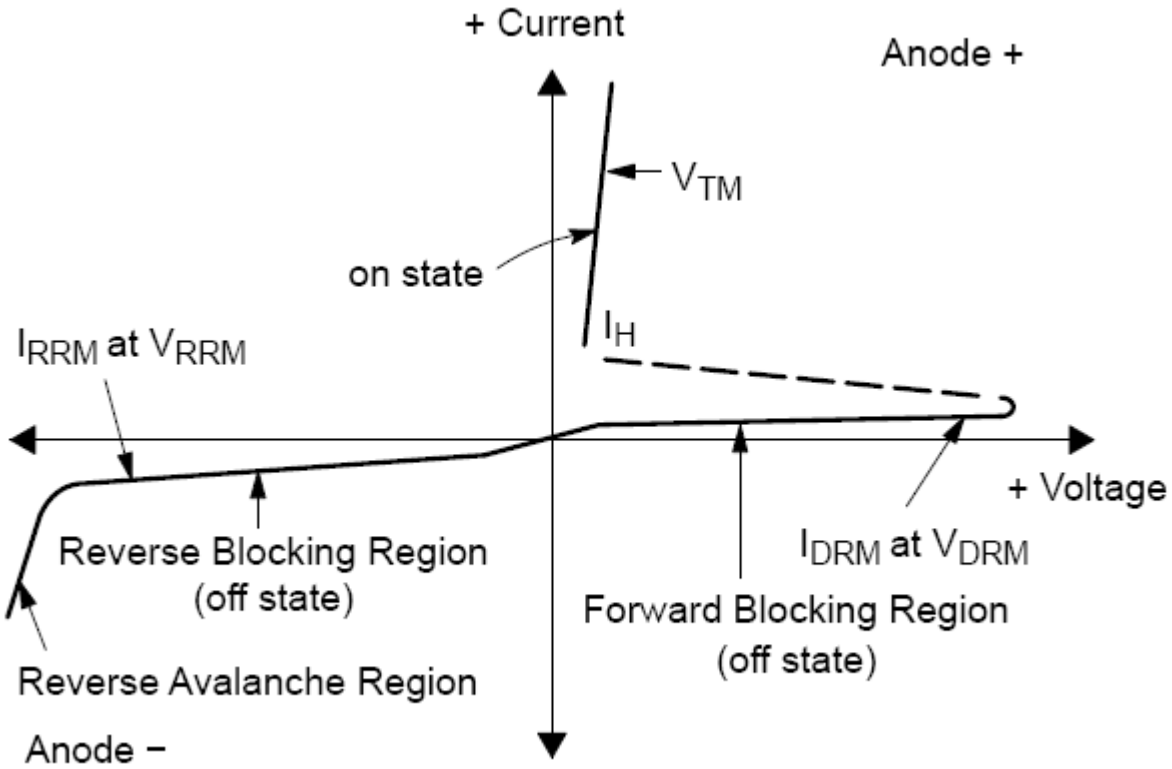
Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Peak Repetitive Forward or Reverse Blocking Current (Note 2) (V_D = Rated V_{DRM} and V_{RRM}; R_{GK} = 1 kΩ)	T_C = 25°C T_C = 110°C	I_{DRM}, I_{RRM}	– –	– –	10 100	μA
ON CHARACTERISTICS						
Peak Forward On-State Voltage* (I_{TM} = 1.0 A Peak @ T_A = 25°C)		V_{TM}	–	–	1.7	V
Gate Trigger Current (Continuous dc) (Note 3) (V_{AK} = 7.0 Vdc, R_L = 100 Ω)	T_C = 25°C	I_{GT}	–	40	200	μA
Holding Current(2) (V_{AK} = 7.0 Vdc, Initiating Current = 20 mA)	T_C = 25°C T_C = −40°C	I_H	– –	0.5 –	5.0 10	mA
Latch Current (V_{AK} = 7.0 V, Ig = 200 μA)	T_C = 25°C T_C = −40°C	I_L	– –	0.6 –	10 15	mA
Gate Trigger Voltage (Continuous dc) (Note 3) (V_{AK} = 7.0 Vdc, R_L = 100 Ω) T_C = −40°C	T_C = 25°C	V_{GT}	– –	0.62 –	0.8 1.2	V
DYNAMIC CHARACTERISTICS						
Critical Rate of Rise of Off-State Voltage (V_D = Rated V_{DRM}, Exponential Waveform, R_{GK} = 1000 Ω, T_J = 110°C)		dV/dt	20	35	–	V/μs
Critical Rate of Rise of On-State Current (I_{PK} = 20 A; Pw = 10 μsec; diG/dt = 1 A/μsec, Igt = 20 mA)		di/dt	–	–	50	A/μs

■ 热阻：

符号	参数	数值	单位
R JC R JA	Thermal Resistance, Junction-to-Case Junction-to-Ambient	**75** **200**	℃/W
TL	Lead Solder Temperature (<1/16″, from case, 10 secs max)	**260**	℃

■ 可控硅电压电流特性：

Symbol	Parameter
V_{DRM}	Peak Repetitive Off State Forward Voltage
I_{DRM}	Peak Forward Blocking Current
V_{RRM}	Peak Repetitive Off State Reverse Voltage
I_{RRM}	Peak Reverse Blocking Current
V_{TM}	Peak on State Voltage
I_H	Holding Current



■ 特性曲线：

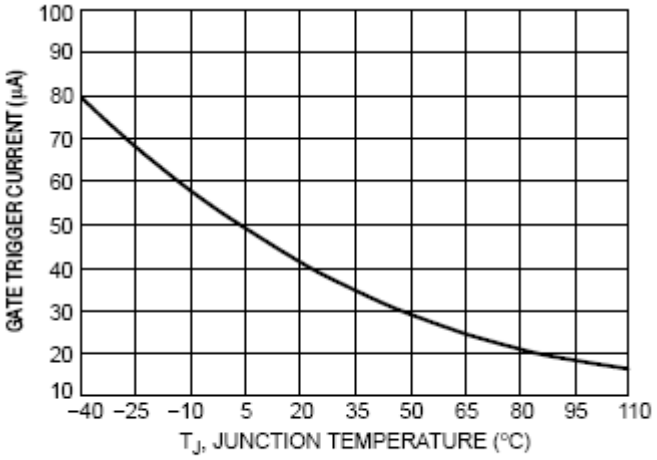


Figure 1. Typical Gate Trigger Current versus Junction Temperature

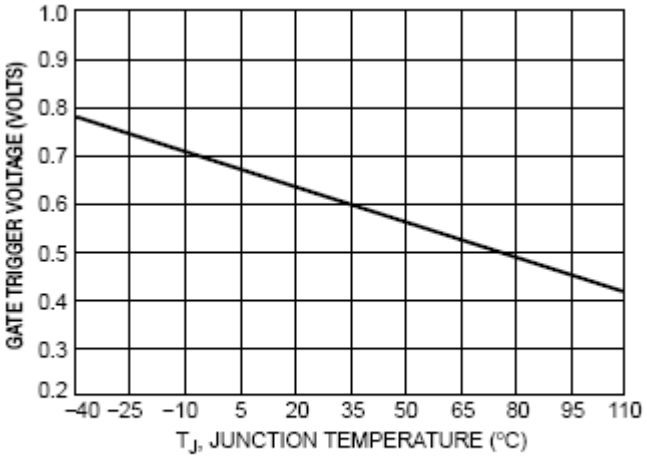


Figure 2. Typical Gate Trigger Voltage versus Junction Temperature

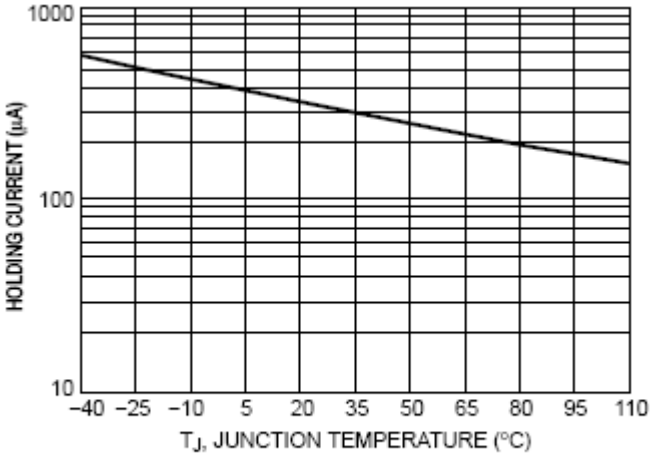


Figure 3. Typical Holding Current versus Junction Temperature

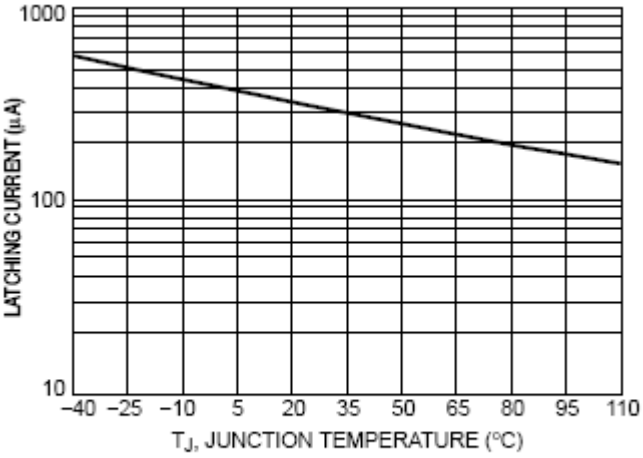


Figure 4. Typical Latching Current versus Junction Temperature

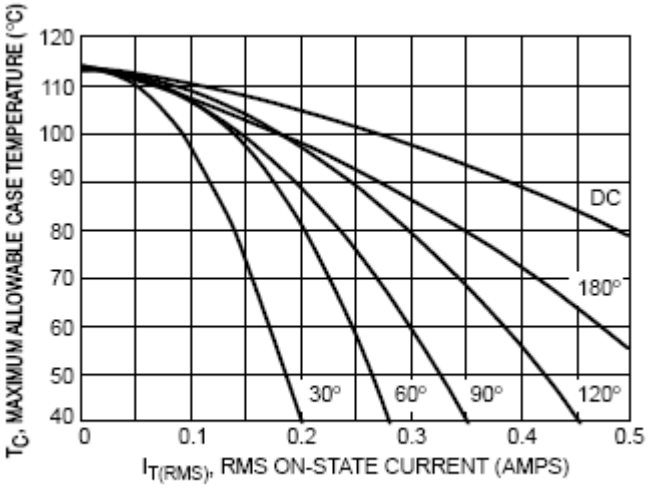


Figure 5. Typical RMS Current Derating

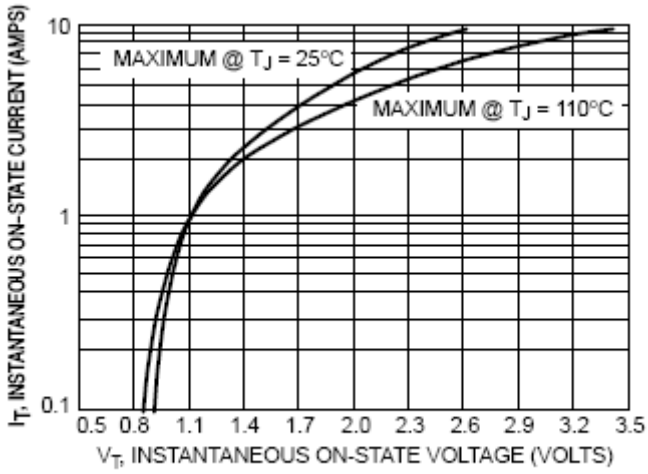
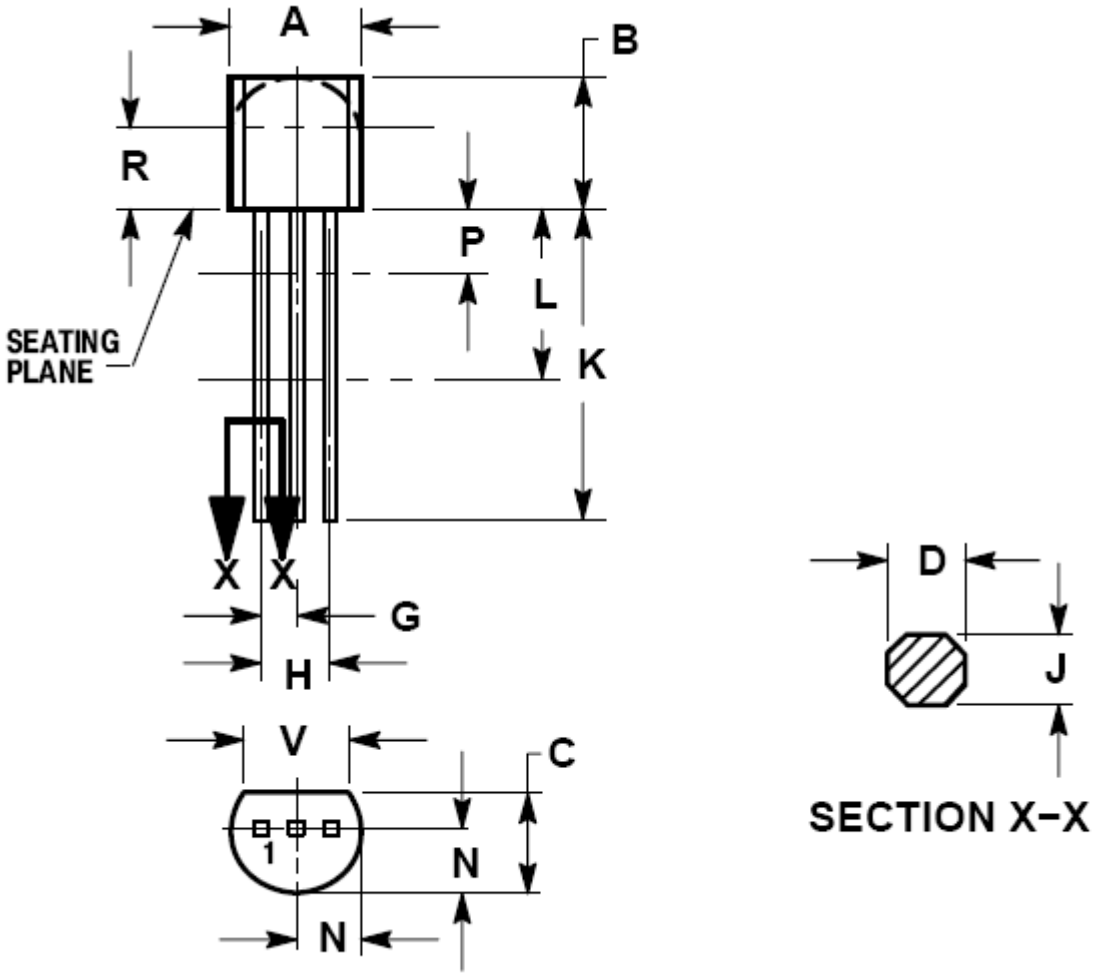


Figure 6. Typical On−State Characteristics

■ TO-92 外形尺寸



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---