HAOHAI ELECTRONICS CO.,LTD.

MMCR100-X SCRs

PRODUCT SPECIFCATION 英文與中文繁體版本

0.8A SCR : 0.8A 高靈敏度貼片單向可控硅【器件參數】

無鉛產品提供SGS環保認證, 符合歐美RoHS環保指令標準

■QUICK REFERENCE【參考特性】

產品型號 Part Number	打印标识 Marking	通態電流均方值 $I_{T(RMS)}$ (A)	斷態重復峰值電壓 V_{DRM} / V_{RRM} (V)	門極觸發電流 I_{GT}(μA/mA)	封裝外形 Package	包裝方式 Packing	图例標識 Marking
MMCR100-4	MCR14	0.8A	200V	≤200μA	SMD SOT-23	3Kpcs/Reel 12Kpcs/Box 每卷3000只 每盒12000只 0.01g / Pcs 每枚重量0.01克	 MMCR100-8 元件標識可按客戶指定要求
MMCR100-5	MCR16		400V				
MMCR100-6	MCR18		600V				
MCR100-6	06E		400V				
MCR100-8	08E		600V				
說明 Explain	①此規格為貼片高靈敏度-微觸發、SOT-23表面貼封裝單向可控硅 ②以常規電壓規格出貨, 高壓規格機種(特殊品種), 批量交期6~8周 ③門極觸發電流IGT值可根據客戶要求細分至多個規格, 單位μA (微安)						

■PINNING: SOT-23 (SC-59) Tape & Reel 【片狀-表面貼SOT-23封裝, 載帶卷盤包裝】"MMBT/MMCR" 表示 SOT-23

Pin 管腳排列	Symbol 對應極性	Description 極性名詞	Description 極性含義	Practicality in Pin Arrange 元件實物與管腳排列	Pin Polarity Circuit diagram 腳位與極性 電路符號表示
1	G	Gate	門極		1=G 2=A 3=K 
2	A	Anode	陽極		
3	K	Cathode	陰極		

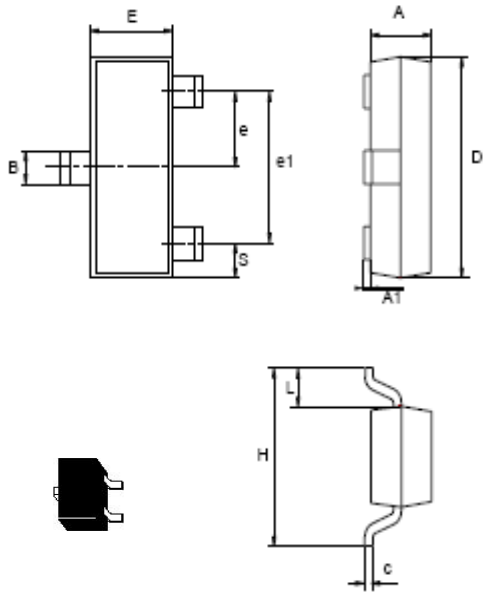
■ABSOLUTE RATINGs (Limiting Values)【額定值參數】

SYMBOL 符號表示	Paramenter & Test Conditions 符號含義 及 參數測試條件說明	Value 數值	Unit 單位
$I_{T(RMS)}$	通態電流均方值: On-State RMS Current (Tc=80℃) 180℃ Conduction Angles	0.8	A
I_{TSM}	通態浪湧電流: ½周期, 60Hz, 正弦波, 不重復 Peak Non-Repetitive Surge Current (½ Cycle, Sine Wave, 60Hz,Tj=25°C)	10	
I_{GM}	正向門極最大電流: Forward Peak Gate Current (Pulse Width ≤1μS, T_C=25°C)	1	
I^2t	週期電流平方時間積: Circuit Fusing Consideration (t=8.3mS)	0.35	A^2ses
P_{GM}	門極平均峰值功率: Forward Peak Gate Power (Pulse Width ≤1μS, T_C=25°C)	0.5	W
$P_{G(AV)}$	門極平均散耗功率: Forward Average Gate Power(t=8.3mS, T_C=80°C)	0.05	
V_{DRM} or V_{RRM}	斷態重復峰值電壓: Peak Repetitive Off-State Voltage (Tj=-40~110℃, Sine Wave, 50~60Hz; Gate Open) (見參考特性對應說明)	100~800	V
T j	工作結溫: Operating Junction Temperature Range @ Rate V_{RRM} and V_{DRM}	-40 ~ +125	℃
Tstg	貯存溫度: Storage Temperature Range	-40 ~ +150	
T_L	引腳承受焊錫極限溫度: Lead Solder Temperature (1/16, from case, 10 secs max)	260	

■ELECTRICAL CHARACTERISTICs (Tj=25℃ Unless Otherwise Noted)【電參數】

SYMBOL 符號表示	Paramenter & Test Conditions 參數符號含義 及 測試條件說明	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
I_{GT}	門極 觸發電流: V_D=12V_{DC}, R_L=140Ω (T_C=25°C)	5	50	200	μA
I_H	維持電流: Holding Current (I_T=50mA, V_D=12V_{DC}, R_{GK}=1KΩ, Tc=25°C)	→	0.5	6	mA
I_L	最大接入電流: Latching Current (V_D=12V, I_{GT}=1mA, R_{GK}=1KΩ, Tc=25°C)	→	0.6	7	
V_{GT}	門極 觸發電壓: V_D=12V, R_L=140Ω (Tj=25°C)	→	0.5	0.8	V
V_{TM}	峰值通態電壓: Peak Forward On-State Voltage (I_{TM}=0.4A, tp=380μs)	→	→	1.7	
dv / dt	斷態臨界電壓上升率: Critical Rate of Rise of Off-State Voltage (Tj=125°C)	→	200	→	V/μs
di / dt	通態臨界電流上升率: Critical Rate of Rise of On-State Current	→	→	50	A/μs
R_D	通態輸出阻抗: Dynamic resistance slops Resistance	→	→	1000	mΩ
Rth(j-c)	熱阻-結到外殼: Thermal Resistance-Junction-to-Case	→	→	50	℃/W
Rth(j-a)	熱阻-結到環境: Thermal Resistance-Junction-to-Ambient	→	→	400	

PACKAGE MECHANICAL DATA SOT-23



REF.	DIMENSIONS			
	毫米單位 mm		英寸單位 Inch	
	Min.	Max.	Min.	Max.
A	0.89	1.4	0.035	0.055
A1	0	0.1	0	0.004
B	0.3	0.51	0.012	0.02
c	0.085	0.18	0.003	0.007
D	2.75	3.04	0.108	0.12
e	0.85	1.05	0.033	0.041
e1	1.7	2.1	0.067	0.083
E	1.2	1.6	0.047	0.063
H	2.1	2.75	0.083	0.108
L	0.6 typ.		0.024 typ.	
S	0.35	0.65	0.014	0.026

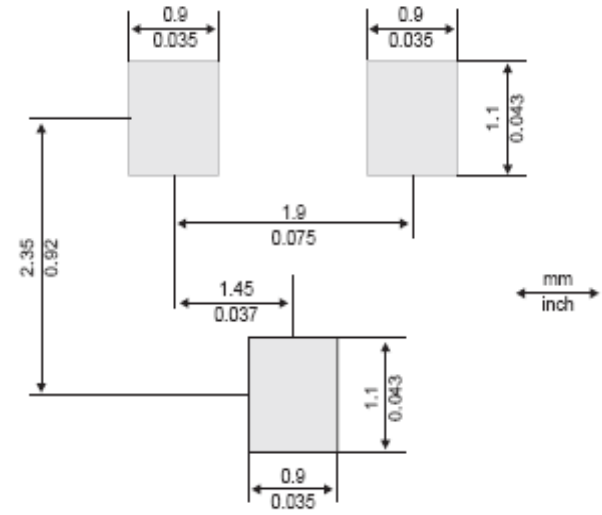


Fig. 1: Maximum average power dissipation versus average on-state current.

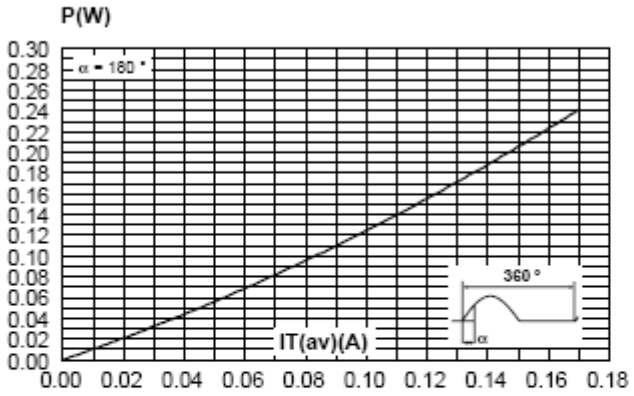


Fig. 2: Average and D.C. on-state current versus ambient temperature.

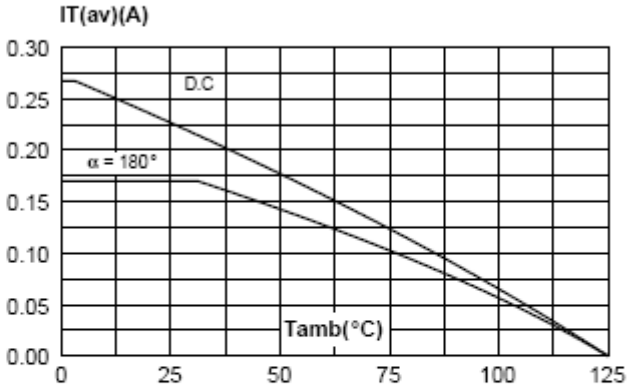


Fig. 3: Relative variation of thermal impedance junction to ambient versus pulse duration.

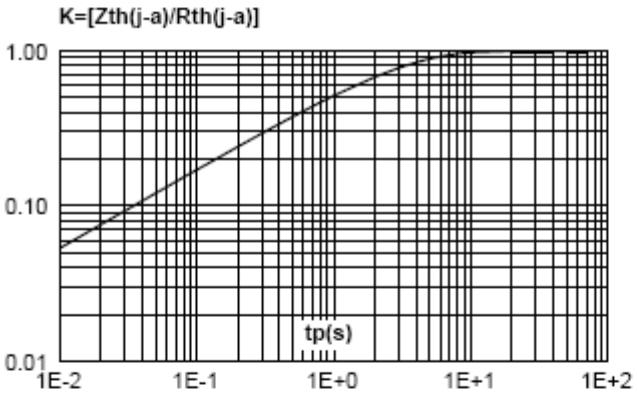


Fig. 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

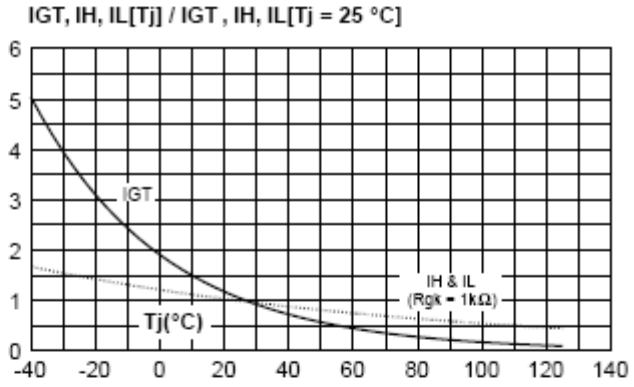


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

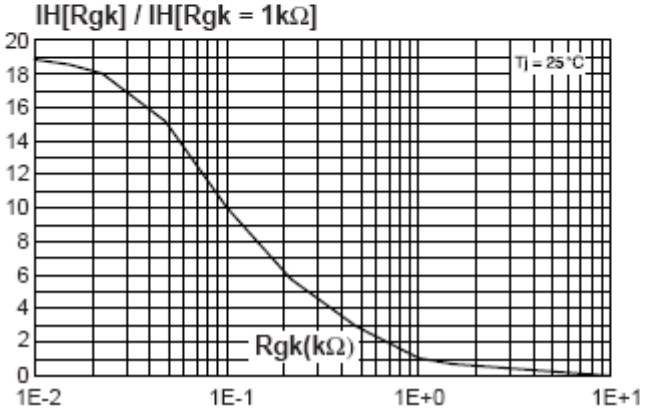


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).