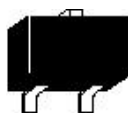



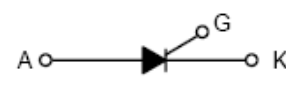
0.8A SCR : 0.8A 高靈敏度貼片單向可控硅【器件參數】

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	工業型號 Industry Part No	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 $I_{GT}(\mu A/mA)$	封裝外形 Package	包裝方式 Packing	元件標識 Marking
MMBT169B	MMBT169B	0.8A	200V	$\leq 200\mu A$	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	
MMBT169D	MMBT169D		400V				
MMBT169M	MMBT169M		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 $\mu A$ (微安)						元件標識可按客戶指定要求

■ PINNING: SOT-23 (SC-59) Tape & Reel 【片狀-表面貼SOT-23封裝,載帶卷盤包裝】"MMBT"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=K 2=G 3=A 
2	A	Anode	陽極		
3	K	Cathode	陰極		

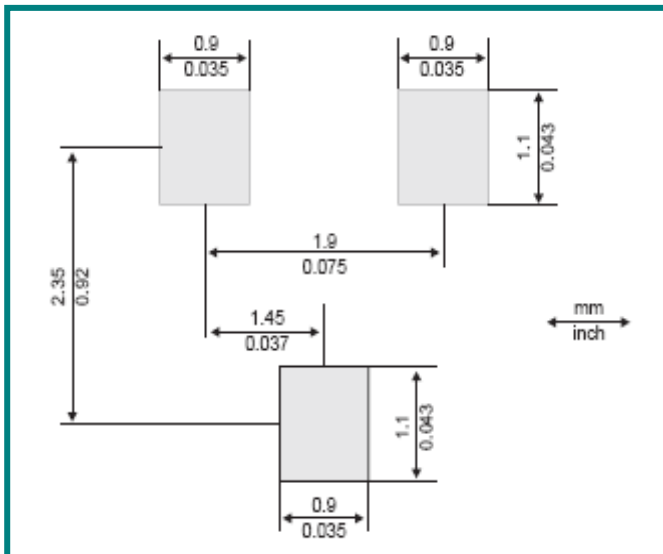
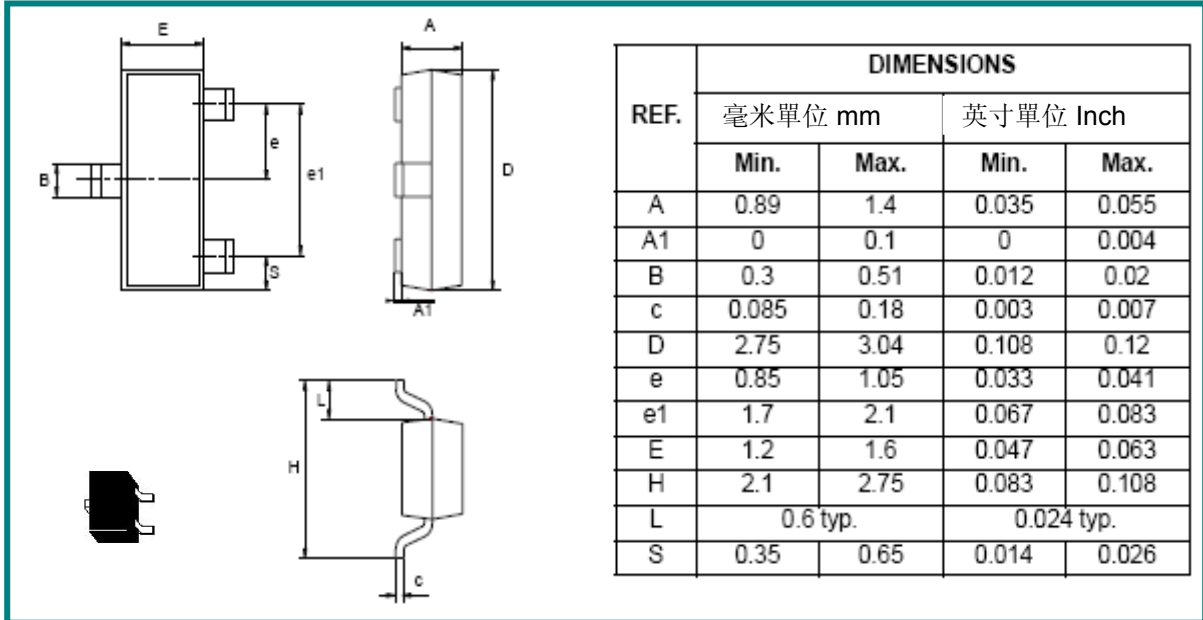
■ ABSOLUTE RATINGS (Limiting Values) 【額定值參數】

SYMBOL 符號表示	Parameter & 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 ( $T_c=80^\circ C$ ) 180° Conduction Angles	0.8	A
$I_{TSM}$	通態浪湧電流: 1/2周期, 60Hz, 正弦波, 不重複 Peak Non-Repetitive Surge Current (1/2 Cycle, Sine Wave, 60Hz, $T_j=25^\circ C$ )	8	
$I_{GM}$	正向門極最大電流: Forward Peak Gate Current (Pulse Width $\leq 1\mu s$ , $T_c=25^\circ C$ )	1	
$I^2t$	週期電流平方時間積: Circuit Fusing Consideration ( $t=8.3ms$ )	0.3	A <sup>2</sup> ses
$P_{GM}$	門極平均峰值功率: Forward Peak Gate Power (Pulse Width $\leq 1\mu s$ , $T_c=25^\circ C$ )	1	W
$P_{G(AV)}$	門極平均散耗功率: Forward Average Gate Power( $t=8.3ms$ , $T_c=80^\circ C$ )	0.05	
$V_{DRM}$ or $V_{RRM}$	斷態重復峰值電壓: Peak Repetitive Off-State Voltage ( $T_j=-40\sim 110^\circ C$ , Sine Wave, 50~60Hz; Gate Open) (見參考特性對應說明)	200~600	V
$T_j$	工作結溫: Operating Junction Temperature Range @ Rate $V_{RRM}$ and $V_{DRM}$	-40 ~ +125	°C
$T_{stg}$	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)	250	

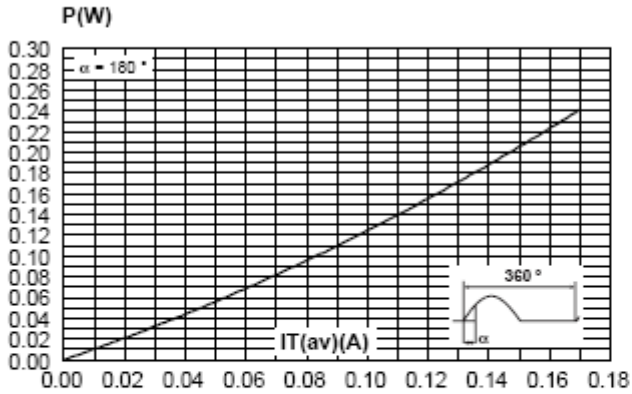
■ ELECTRICAL CHARACTERISTICS ( $T_j=25^\circ C$  Unless Otherwise Noted) 【電參數】

SYMBOL 符號表示	Parameter & 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: $V_D=12V_{DC}$ , $R_L=140\Omega$ ( $T_c=25^\circ C$ )	5	50	200	$\mu A$
$I_H$	維持電流: Holding Current ( $I_T=50mA$ , $V_D=12V_{DC}$ , $R_{GK}=1K\Omega$ , $T_c=25^\circ C$ )	→	2	5	mA
$I_L$	最大接入電流: Latching Current ( $V_D=12V$ , $I_{GT}=1mA$ , $R_{GK}=1K\Omega$ , $T_c=25^\circ C$ )	→	2	6	
$V_{GT}$	門極觸發電壓: $V_D=12V$ , $R_L=140\Omega$ ( $T_j=25^\circ C$ )	→	0.5	0.8	V
$V_{TM}$	峰值通態電壓: Peak Forward On-State Voltage ( $I_{TM}=0.4A$ , $t_p=380\mu s$ )	→	1.0	1.3	
$dv/dt$	斷態臨界電壓上升率: Critical Rate of Rise of Off-State Voltage ( $T_j=125^\circ C$ )	→	500	→	V/ $\mu s$
$di/dt$	通態臨界電流上升率: Critical Rate of Rise of On-State Current	→	→	50	A/ $\mu s$
$R_D$	通態輸出阻抗: Dynamic resistance slops Resistance	→	→	800	m $\Omega$
$R_{th(j-c)}$	熱阻-結到外殼: Thermal Resistance-Junction-to-Case	→	→	50	°C/W
$R_{th(j-a)}$	熱阻-結到環境: Thermal Resistance-Junction-to-Ambient	→	→	400	

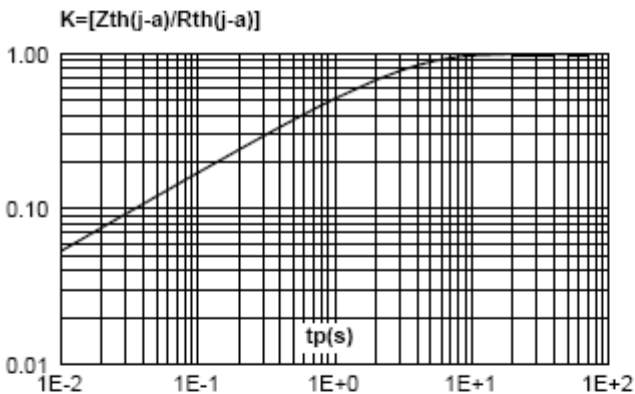
**PACKAGE MECHANICAL DATA SOT-23**



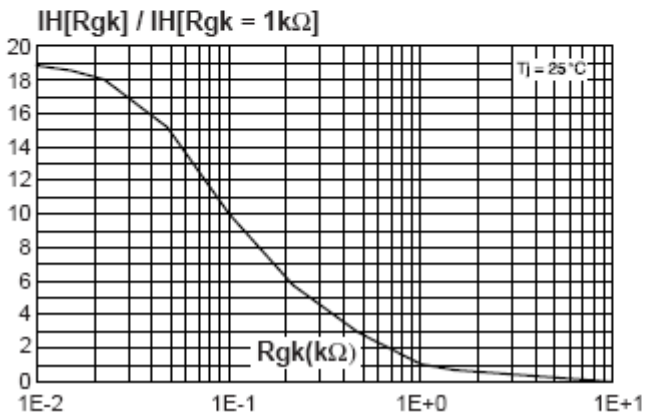
**Fig. 1:** Maximum average power dissipation versus average on-state current.



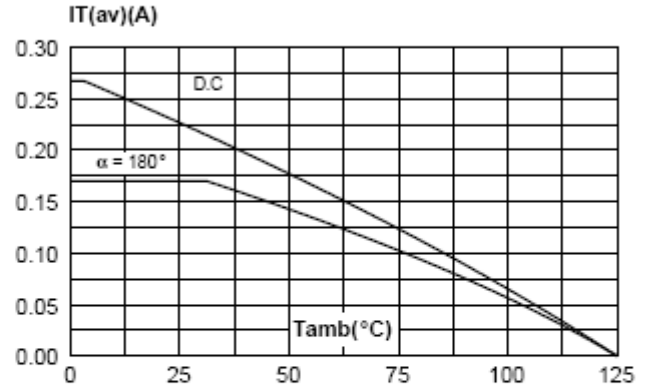
**Fig. 3:** Relative variation of thermal impedance junction to ambient versus pulse duration.



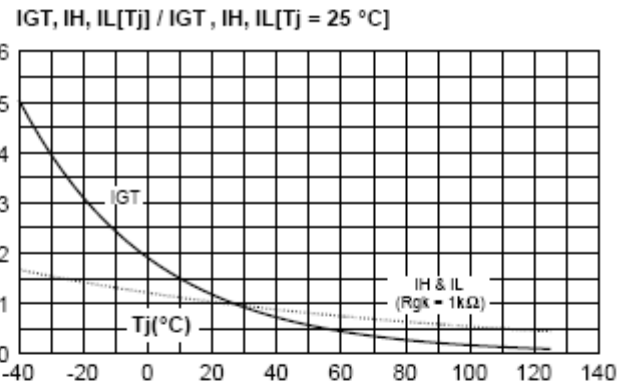
**Fig. 5:** Relative variation of holding current versus gate-cathode resistance (typical values).



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



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



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

