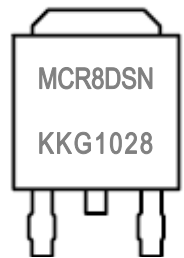
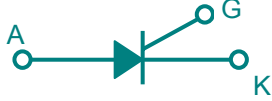


■ QUICK REFERENCE 【參考特性】

產品型號 Part Number	工業型號 Industry Part №	通態電流均方值 I _{T(RMS)} (A)	斷態重複峰值電壓 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	元件標識 Marking
MCR8DSM	MCR8DSM	8A	600 V	型號中"S" ≤200μA ≤0.2mA	DPAK TO-252 SOT428	80Pcs/Tube 4Kpcs/Box 每管80只 每盒4000只 或 載帶卷盤包裝 2.5K/Reel 每卷2500只	
MCR8DSN	MCR8DSN		800 V				
MCR8DSH	MCR8DSH		1000 V				
MCR8DSG	MCR8DSG		1200 V				
可代替型號	見第5頁						
應用範圍	見第5頁						

■ PINNING: TO-252 (SOT428, DPAK) 【TO-252表面貼半塑封】

◆ TO-252非絕緣型: 中間管腳2 與 散熱片4 導通

Pin 管腳排列	Symbol 對應極性	Description 極性名詞	Description 極性含義	Practicity in Pin Arrange 元件實物與管腳排列對照	Pin Polarity Circuit diagram 腳位與極性之電路符號表示
1	K	Cathode	陰極		1=K 2=A 3=G 4=A=Tab 
2	A	Anode	陽極		
3	G	Gate	門-控制極		
4	A	Tab	散熱片		

■ 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 ($T_c=90^\circ C$) 180° Conduction Angles	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)	90	
I_{GM}	正向門極最大電流: Forward Peak Gate Current Pulse Width $\leq 1\mu s, T_c=90^\circ C$	2.0	
I^2t	週期電流平方時間積: Circuit Fusing Consideration t=8.3mS	34	A ² ses
P_{GM}	門極平均峰值功率: Forward Peak Gate Power Pulse Width $\leq 1\mu s, T_c=90^\circ C$	5.0	W
$P_{G(AV)}$	門極平均散耗功率: Forward Average Gate Power t=8.3mS, $T_c=90^\circ C$	0.5	
V_{DRM} or V_{RRM}	斷態重複峰值電壓: Peak Repetitive Off-State Voltage ($T_j=-40\sim 125^\circ C$, Sine Wave, 50~60Hz; Gate Open) 見參考特性對應說明	600~1200	V
T_j	工作結溫: Operating Junction Temperature Range @ Rate VRRM and VDRM	-40 ~ +110	°C
T_{stg}	貯存溫度: Storage Temperature Range	-40 ~ +150	
T_L	引腳承受焊錫極限溫度: Maximum Lead Temperature for Soldering Purposes 1/8, from Case for 10 Seconds	260	

■ 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: $V_D=12V, R_L=100\Omega$ ($T_j=25^\circ C$) ($T_j=-40^\circ C: I_{GT}<300\mu A$)	5.0	12	200	μA
I_{DRM}	正向關斷峰值電流: Peak Forward Blocking Current ($T_j=25^\circ C$)	→	→	10	
I_{RRM}	反向關斷峰值電流: Peak Reverse Blocking Current ($T_j=110^\circ C$)	→	→	500	
I_{RGM}	反向關斷峰值電流: Peak Reverse Blocking Current ($V_{GR}=10V$)	→	→	1.2	mA
I_H	維持電流: Holding Current ($I_T=200mA, V_D=12V_{DC}, T_c=25^\circ C$)	0.5	1.0	6.0	
I_L	最大接入電流: Latching Current ($V_D=12V, I_G=2.0mA, T_c=25^\circ C$)	0.5	1.0	6.0	V
V_{GT}	門極觸發電壓: Gate Trigger Voltage ($V_D=12V, R_L=100\Omega, T_j=25^\circ C$)	0.45	0.65	1.0	
V_{GT}	門極觸發電壓: Gate Trigger Voltage ($V_D=12V, R_L=100\Omega, T_j=-40^\circ C$)	→	→	1.5	
V_{GRM}	門極反向閘斷電壓: Peak Reverse Gate Blocking Voltage ($I_{GR}=10\mu A$)	10	12.5	18	V/μs
V_{TM}	峰值通態電壓: Peak Forward On-State Voltage ($I_{TM}=16A$ Peak@ $T_j=25^\circ C$)	→	1.4	1.8	
dv / dt	斷態臨界電壓上升率: Critical Rate of Rise of Off-State Voltage ($T_j=110^\circ C$)	2.0	10	→	μs
tgt	全部導通時間: Total Turn-On Time (Source Voltage=12V, $R_S=6.0K\Omega, I_T=16A(pk), R_{GK}=1.0K\Omega$)	→	2.0	5.0	°C/W
Rth(j-c)	熱阻-結到外殼: Thermal Resistance-Junction-to-Case	→	→	2.20	°C/W
Rth(j-a)	熱阻-結到環境: Thermal Resistance-Junction-to-Ambient	→	→	88	

支持綠色環保!

該產品已實行無鉛制程封裝, 符合RoHS環保標準。

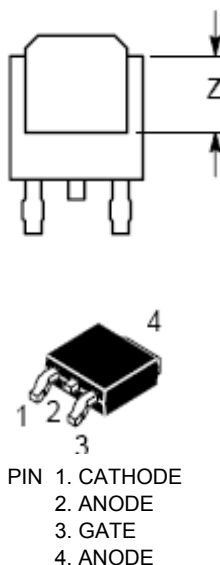
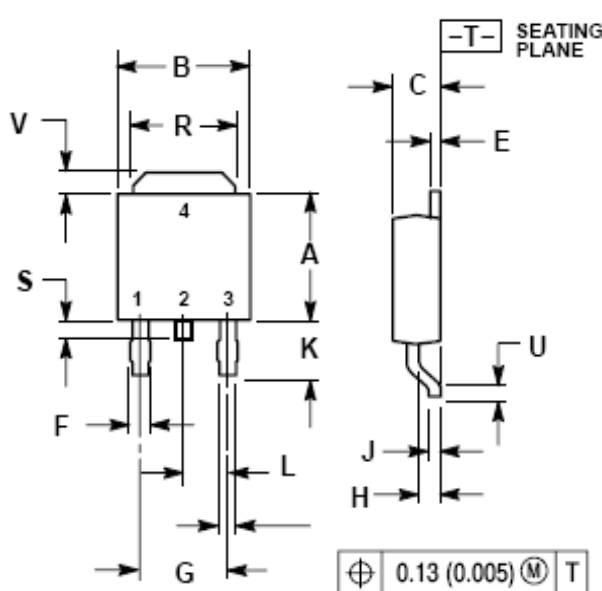
RoHS



SGS

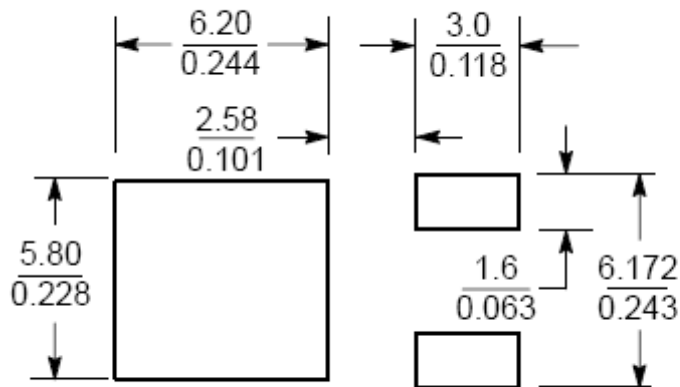
MECHANICAL DATA TO-252 or DPAK 封裝尺寸

單位: 英寸与毫米对照



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.245	5.97	6.22
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.018	0.023	0.46	0.58
F	0.037	0.045	0.94	1.14
G	0.180 BSC		4.58 BSC	
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090 BSC		2.29 BSC	
R	0.180	0.215	4.57	5.45
S	0.025	0.040	0.63	1.01
U	0.020	---	0.51	---
V	0.035	0.050	0.89	1.27
Z	0.155	---	3.93	---

SOLDERING FOOTPRINT*

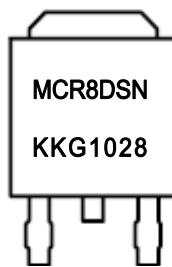


元件尺寸與元件在PCB上的
的焊接腳位、數據參考

SCALE 3:1 (mm / inches)

元件打印標識及批號說明

MCR: 單向可控矽
8: 電流8A
D: DPAK、TO-252
S: 觸發電流<200uA
N: 電壓800V



KKG: 註冊的商標、即品牌
10: 生產年份, 即2010年
28: 出廠日期, 28自然周

MCR8DSM, MCR8DSN

Voltage Current Characteristic of SCR

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

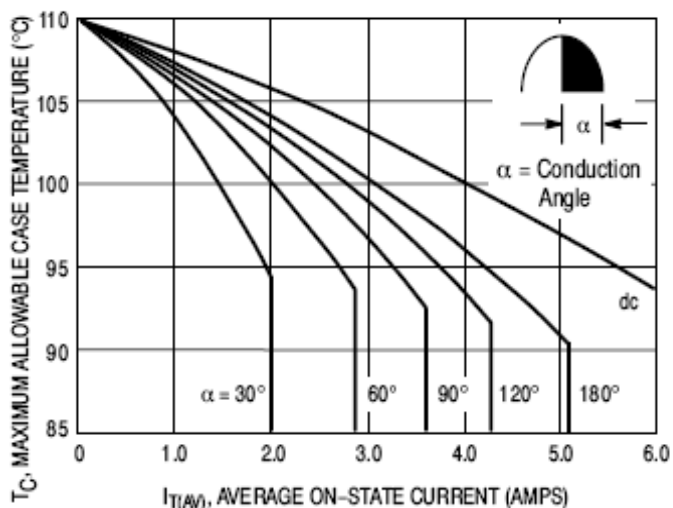
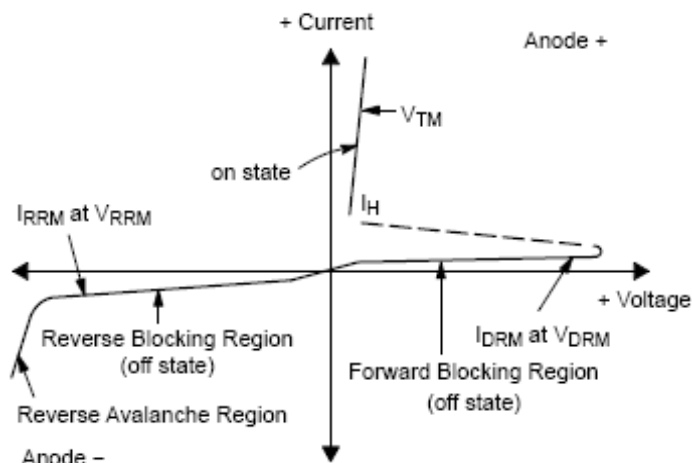


Figure 1. Average Current Derating

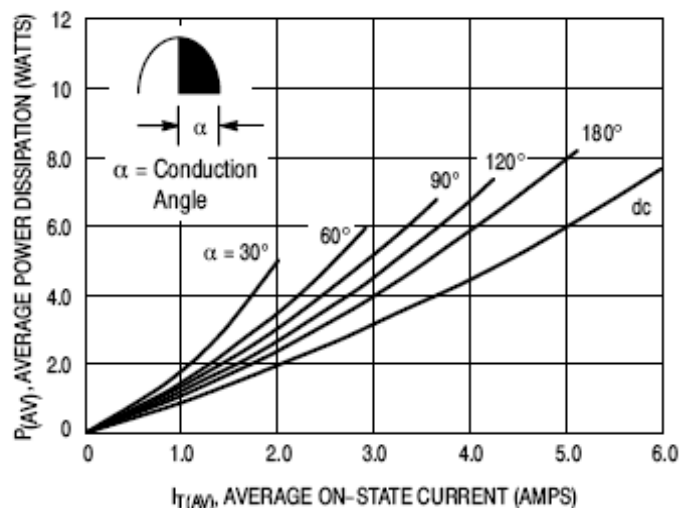


Figure 2. On-State Power Dissipation

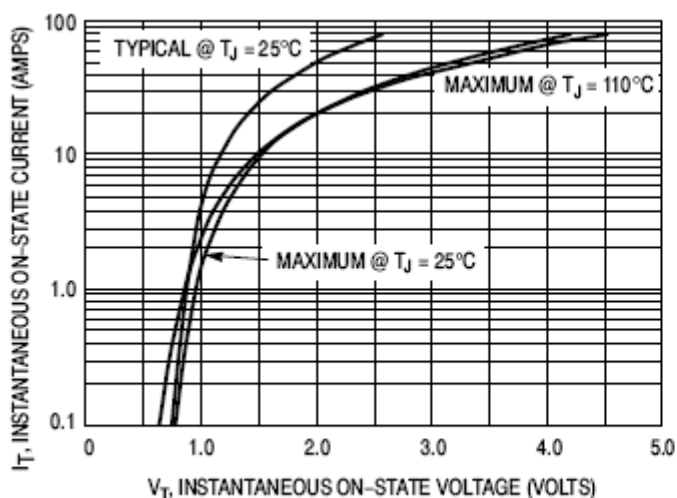


Figure 3. On-State Characteristics

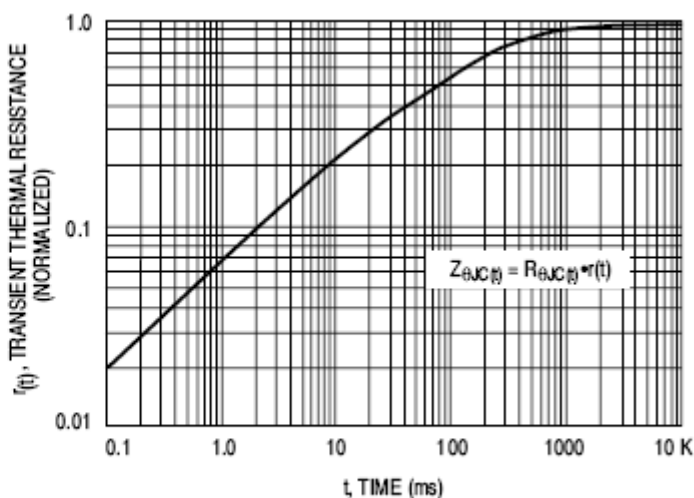


Figure 4. Transient Thermal Response

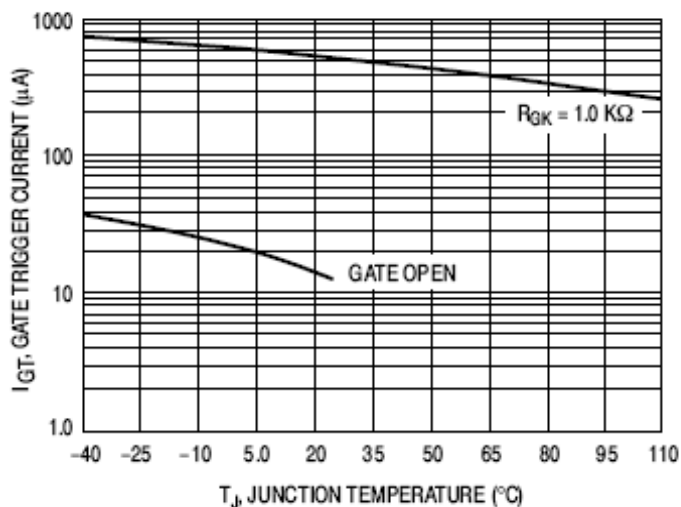


Figure 5. Typical Gate Trigger Current versus Junction Temperature

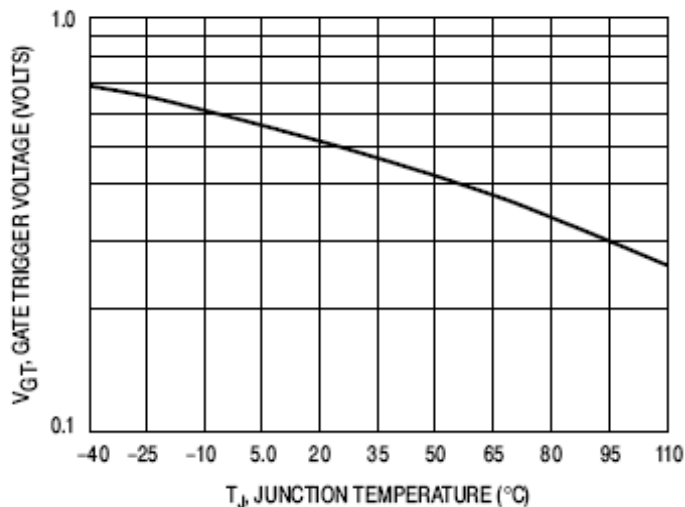


Figure 6. Typical Gate Trigger Voltage versus Junction Temperature

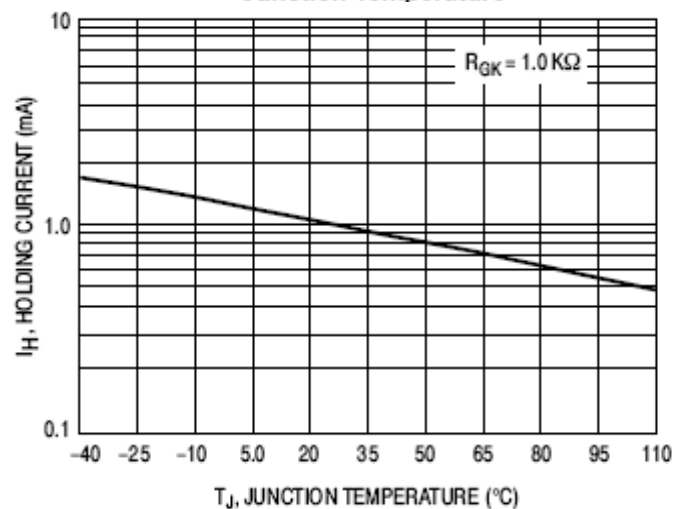


Figure 7. Typical Holding Current versus Junction Temperature

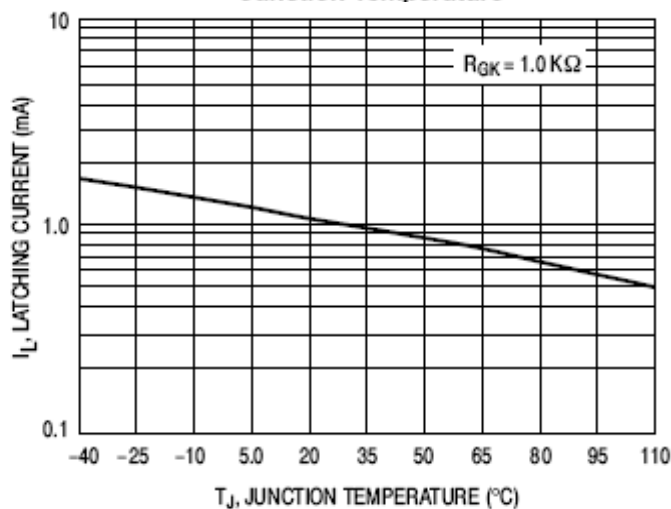


Figure 8. Typical Latching Current versus Junction Temperature

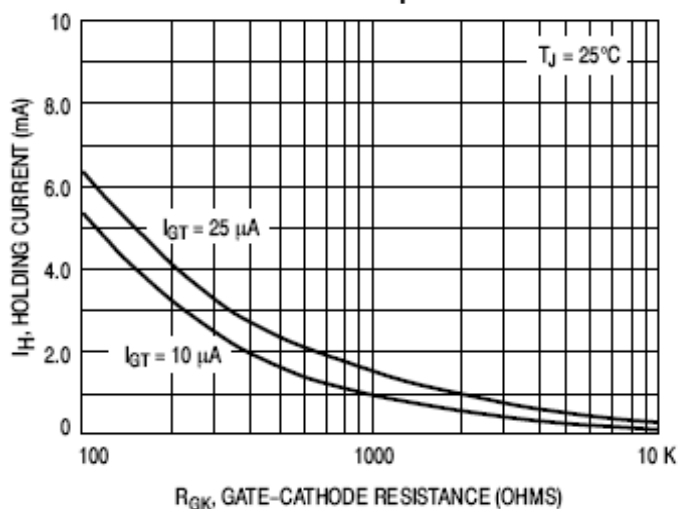


Figure 9. Holding Current versus Gate-Cathode Resistance

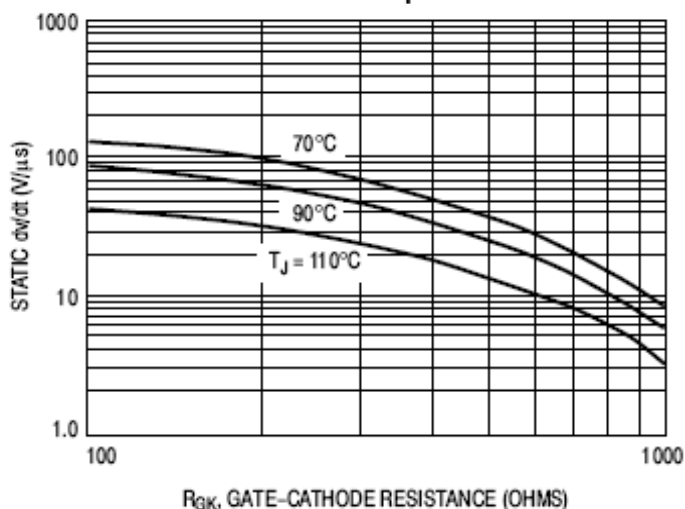


Figure 10. Exponential Static dv/dt versus Gate-Cathode Resistance and Junction Temperature

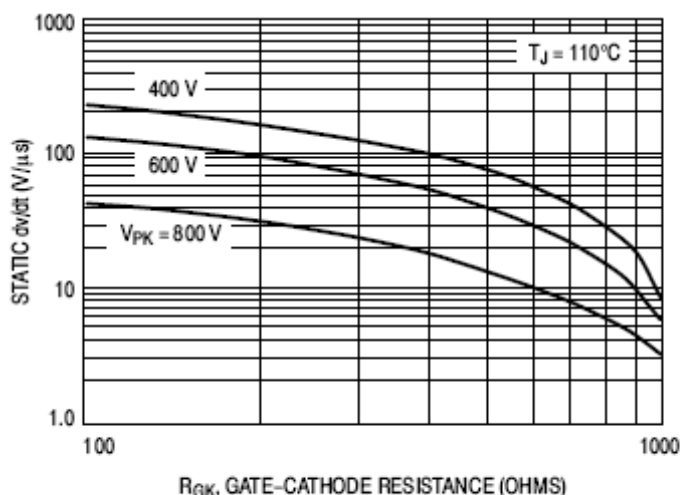


Figure 11. Exponential Static dv/dt versus Gate-Cathode Resistance and Peak Voltage

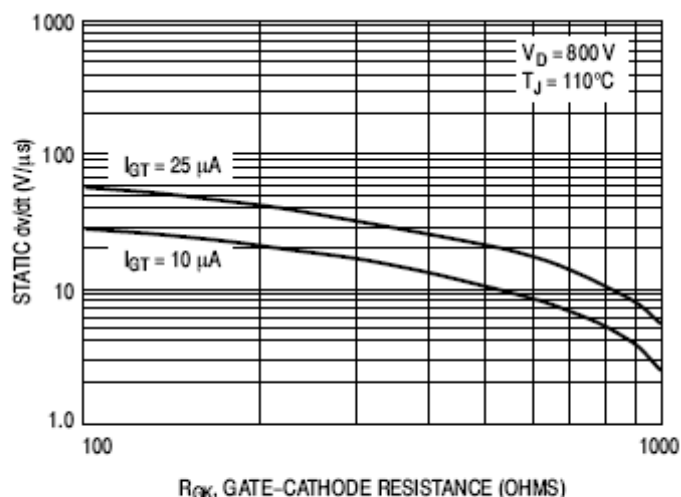


Figure 12. Exponential Static dv/dt versus Gate-Cathode Resistance and Gate Trigger Current Sensitivity

MCR8DSM、MCR8DSN 可代替以下產品型號:

ST系列: TS420-600B、TS420-700B、TS820-600B、TS820-700B、TS820-800B;
 TN805-600B、TN805-800B、TN815-600B、TN815-800B;
 TIC系列: TIC106D、TIC106M、TIC106S、TIC106N;
 NXP系列: BT150S-600R、BT150M-600R、BT150M-800R、BT150S-800R;
 BT258S-600R、BT258S-800R、BT300S-600R、BT300S-800R;
 BT300M-600R、BT300M-800R;
 ON系列: MCR8DSM、MCR8DSMT4、MCR8DSMT4G、
 MCR8DSN、MCR8DSNT4、MCR8DSNT4G;
 TECCOR系列: S5C6D、SMG5C60D、S2D6D、SMG2D60D、SMG3D60D、
 S4004DS2、S4006DS2; S6004DS2、S6006DS2、S8006D、S2008D、S2008DS2、
 S4008D、S4008DS2、S6008D、S6008DS2、S8008D、S8008DS2、SK008D; SCD6C60.....
 以及貼片8A單向系列、8A以下全部。此器件專為大容量、低成本、工業和電機控制等消費類產品
 應用, 適用於過壓控制、溫度、光照和速度控制、過壓保護電路、開關電路、各種電源控制電路。

声明

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