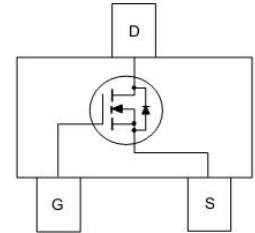




GM2306A

SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



**N-Channel Enhancement-Mode MOS FET N 溝道增強型 MOS 場效應管**

**■ Features 特點**

Low on-resistance and maximum DC current capability 低導通電阻和最大直流電流能力  
Super high density cell design 超高元胞密度設計

**■ Applications 應用**

Power Management in Note book 筆記本電源管理  
Portable Equipment 便攜式設備  
Battery Powered System 電池電源系統  
DC/DC Converter 直流/直流變換  
Load Switch 負載開關應用

**■ MAXIMUM RATINGS 最大額定值**

Characteristic 特性參數	Symbol 符號	Rat 額定值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	$BV_{DSS}$	30	V
Gate- Source Voltage 柵極-源極電壓	$V_{GS}$	$\pm 12$	V
Drain Current (continuous)漏極電流-連續	$I_D$	5	A
Drain Current (pulsed)漏極電流-脈沖	$I_{DM}$	20	A
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 $25^\circ\text{C}$	$P_D$	1380	mW
Junction 結溫	$T_J$	150	$^\circ\text{C}$
Solder Temperature/Solder Time 焊接溫度/焊接時間	T/t	260/10	$^\circ\text{C}/\text{S}$
Storage Temperature 儲存溫度	$T_{stg}$	-55to+150	$^\circ\text{C}$

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■ELECTRICAL CHARACTERISTICS 電特性

( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如無特殊說明，溫度為  $25^{\circ}\text{C}$ )

Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
Drain-Source Breakdown Voltage 漏極-源極擊穿電壓( $I_D=250\mu\text{A}, V_{GS}=0\text{V}$ )	$BV_{DSS}$	30	—	—	V
Gate Threshold Voltage 柵極開啓電壓( $I_D=250\mu\text{A}, V_{GS}=V_{DS}$ )	$V_{GS(th)}$	0.5	0.8	1	V
Diode Forward Voltage Drop 內附二極管正向壓降( $I_S=1.25\text{A}, V_{GS}=0\text{V}$ )	$V_{SD}$	—	—	1.2	V
Zero Gate Voltage Drain Current 零柵壓漏極電流( $V_{GS}=0\text{V}, V_{DS}=30\text{V}$ ) ( $V_{GS}=0\text{V}, V_{DS}=24\text{V}, T_A=55^{\circ}\text{C}$ )	$I_{DSS}$	—	—	1 10	$\mu\text{A}$
Gate Body Leakage 柵極漏電流( $V_{GS}=\pm 12\text{V}, V_{DS}=0\text{V}$ )	$I_{GSS}$	—	—	$\pm 100$	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=5\text{A}, V_{GS}=10\text{V}$ )	$R_{DS(ON)}$	—	25	30	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=5\text{A}, V_{GS}=4.5\text{V}$ )	$R_{DS(ON)}$	—	30	35	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=2.6\text{A}, V_{GS}=2.5\text{V}$ )	$R_{DS(ON)}$	—	40	50	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=1\text{A}, V_{GS}=2\text{V}$ )	$R_{DS(ON)}$	—	80	90	$\text{m}\Omega$
Input Capacitance 輸入電容 ( $V_{GS}=10\text{V}, V_{DS}=15\text{V}, f=1\text{MHz}$ )	$C_{ISS}$	—	820	—	pF
Output Capacitance 輸出電容 ( $V_{GS}=10\text{V}, V_{DS}=15\text{V}, f=1\text{MHz}$ )	$C_{OSS}$	—	90	—	pF
Reverse Transfer Capacitance 回饋電容 ( $V_{GS}=0\text{V}, V_{DS}=15\text{V}, f=1\text{MHz}$ )	$C_{RSS}$	—	30	—	pF
Gate Charge 柵極電荷密度 ( $V_{DS}=15\text{V}, V_{GS}=10\text{V}, I_D=2\text{A}$ )	$Q_g$	—	4	—	nC
Turn-ON Time 開啓時間 ( $V_{DS}=15\text{V}, V_{GS}=10\text{V}, R_{GEN}=6\Omega$ )	$t_{(on)}$	—	8.5	—	ns
Turn-OFF Time 關斷時間 ( $V_{DS}=15\text{V}, V_{GS}=10\text{V}, R_{GEN}=6\Omega$ )	$t_{(off)}$	—	31	—	ns

Pulse Width $\leq 300\mu\text{s}$ ; Duty Cycle $\leq 2.0\%$



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■ TYPICAL CHARACTERISTIC CURVE 典型特性曲线

