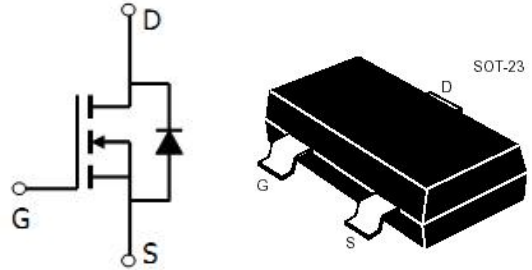




GM2300

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



N-Channel Enhancement-Mode MOS FETs

N 溝道增強型 MOS 場效應管

■ **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}	20	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	± 8	V
Drain Current (continuous) 漏極電流-連續	I_D	4.2	A
Drain Current (pulsed) 漏極電流-脈沖	I_{DM}	16	A
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 25°C	P_D	1200	mW
Junction 結溫	T_J	150	$^\circ\text{C}$
Storage Temperature 儲存溫度	T_{stg}	-55to+150	$^\circ\text{C}$

■ **DEVICE MARKING 打標**

GM2300=A00

GM2300

■ELECTRICAL CHARACTERISTICS 電特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如無特殊說明，溫度為 25°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}	20	—	—	V
Gate Threshold Voltage 柵極開啓電壓($I_D = 250\mu\text{A}, V_{GS} = V_{DS}$)	$V_{GS(th)}$	0.45	—	1.2	V
Diode Forward Voltage Drop 內附二極管正向壓降($I_S = 0.75\text{A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	1.3	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS} = 16\text{V}$) ($V_{GS}=0\text{V}, V_{DS} = 16\text{V}, T_A=55^{\circ}\text{C}$)	I_{DSS}	—	—	1 10	μA
Gate Body Leakage 柵極漏電流($V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=4.2\text{A}, V_{GS}=4.5\text{V}$) ($I_D=2\text{A}, V_{GS}=2.5\text{V}$) ($I_D=1\text{A}, V_{GS}=1.8\text{V}$)	$R_{DS(ON)}$	—	25 30 50	30 40 60	$\text{m}\Omega$
Input Capacitance 輸入電容 ($V_{GS}=0\text{V}, V_{DS} = 10\text{V}, f=1\text{MHz}$)	C_{ISS}	—	—	650	pF
Common Source Output Capacitance 共源輸出電容($V_{GS}=0\text{V}, V_{DS} = 10\text{V}, f=1\text{MHz}$)	C_{OSS}	—	—	150	pF
Turn-ON Time 開啓時間 ($V_{DS} = 10\text{V}, I_D = 3.5\text{A}, R_{GEN}=10\Omega$)	$t_{(on)}$	—	—	20	ns
Turn-OFF Time 關斷時間 ($V_{DS} = 10\text{V}, I_D = 3.5\text{A}, R_{GEN}=10\Omega$)	$t_{(off)}$	—	—	60	ns

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

GM2300

■ TYPICAL CHARACTERISTIC CURVE 典型特性

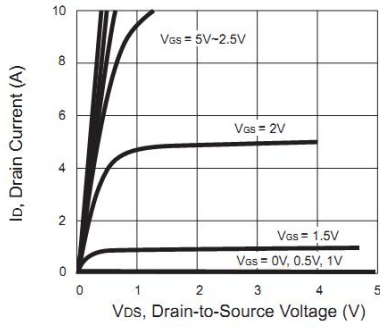


Figure 1. Output Characteristics

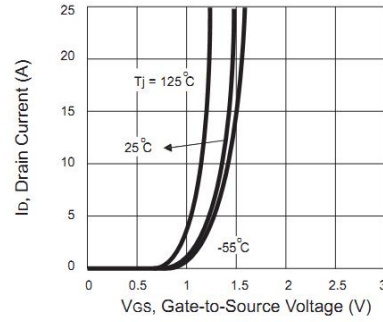


Figure 2. Transfer Characteristics

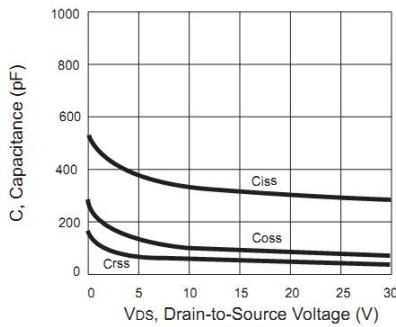


Figure 3. Capacitance

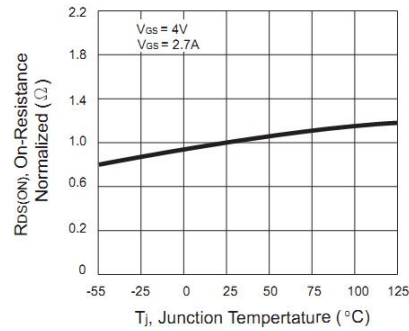


Figure 4. On-Resistance Variation with Temperature

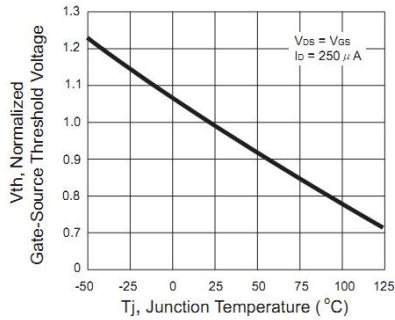


Figure 5. Gate Threshold Variation with Temperature

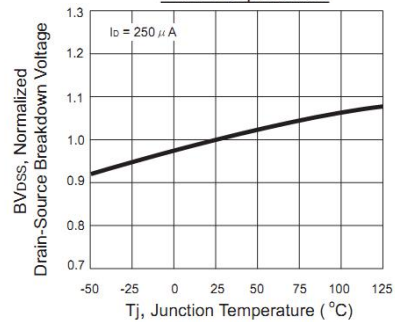


Figure 6. Breakdown Voltage Variation with Temperature

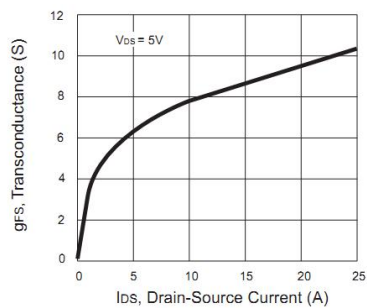


Figure 7. Transconductance Variation with Drain Current

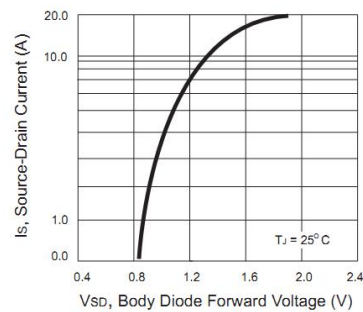


Figure 8. Body Diode Forward Voltage Variation with Source Current