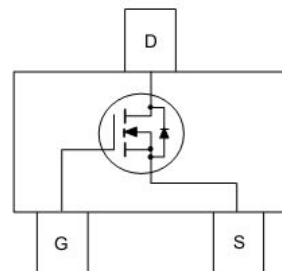


GM3402A

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


N-Channel Enhancement-Mode MOS FETs

N 沟道增强型 MOS 场效应管

■MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	Max 最大值	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}	± 12	V
Drain Current (continuous) 漏極電流 - 連續	I_D	4.5	A
Drain Current (pulsed) 漏極電流 - 脉冲	I_{DM}	18	A
Total Device Dissipation 總耗散功率 $T_A=25^{\circ}C$ 環境溫度為 $25^{\circ}C$	P_D	1400	mW
Junction 結溫	T_J	150	$^{\circ}C$
Storage Temperature 儲存溫度	T_{stg}	-55to+150	$^{\circ}C$

■DEVICE MARKING 打標
GM3402A=X2



GM3402A

■ 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}	30	—	—	V
Gate Threshold Voltage 柵極開啓電壓($I_D=250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	0.6	—	2	V
Diode Forward Voltage Drop 內附二極管正向壓降($I_S=1\text{A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	1	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=24\text{V}$) ($V_{GS}=0\text{V}, V_{DS}=24\text{V}, T_A=55^{\circ}\text{C}$)	I_{DSS}	—	—	1 5	μA
Gate Body Leakage 柵極漏電流($V_{GS}=\pm 12\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=4.5\text{A}, V_{GS}=10\text{V}$)	$R_{DS(ON)}$	—	40	50	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=3\text{A}, V_{GS}=4.5\text{V}$)	$R_{DS(ON)}$	—	50	60	$\text{m}\Omega$
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=2\text{A}, V_{GS}=2.5\text{V}$)	$R_{DS(ON)}$	—	80	100	$\text{m}\Omega$
Input Capacitance 輸入電容 ($V_{GS}=10\text{V}, V_{DS}=15\text{V}, f=1\text{MHz}$)	C_{ISS}	—	390	—	pF
Output Capacitance 輸出電容 ($V_{GS}=10\text{V}, V_{DS}=15\text{V}, f=1\text{MHz}$)	C_{OSS}	—	55	—	pF
Turn-ON Time 開啓時間 ($V_{DS}=15\text{V}, V_{GS}=10\text{V}, R_{GEN}=6\Omega$)	$t_{(on)}$	—	3	—	ns
Turn-OFF Time 關斷時間 ($V_{DS}=15\text{V}, V_{GS}=10\text{V}, R_{GEN}=6\Omega$)	$t_{(off)}$	—	22	—	ns

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



GM3402A

■ TYPICAL CHARACTERISTIC CURVE

典型特性曲线

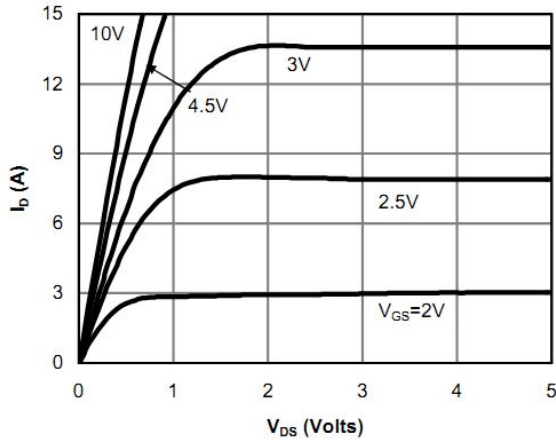


Figure 1: Output Characteristics

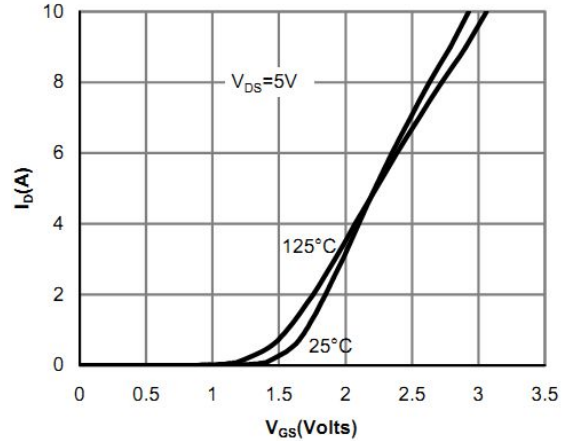


Figure 2: Transfer Characteristics

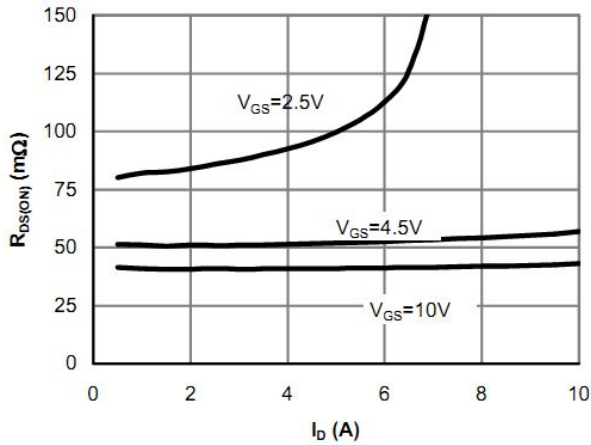


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

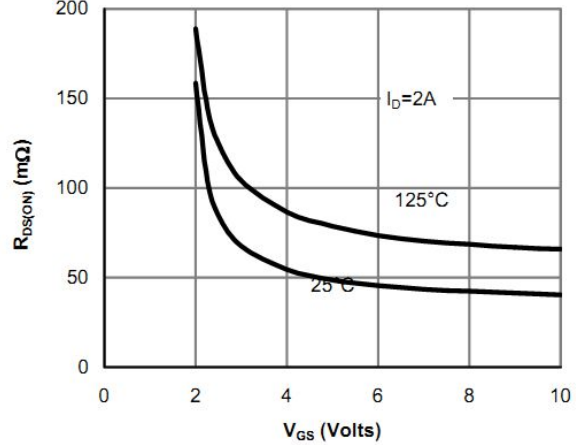


Figure 4: On-Resistance vs. Gate-Source Voltage

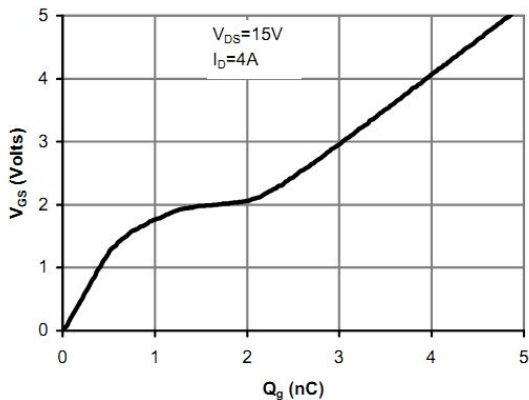


Figure 5: Gate-Charge Characteristics

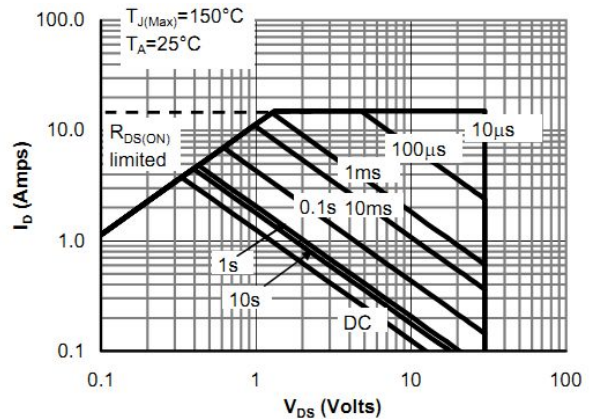


Figure 6: Safe Operating Area