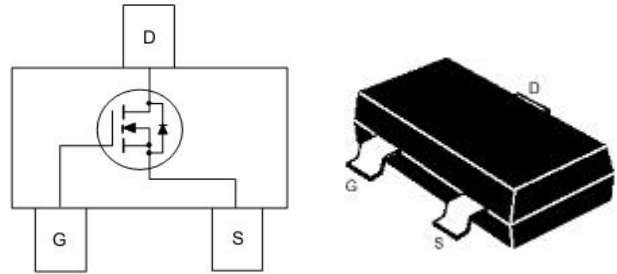




GM3402A

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	$BV_{DSS}$	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	$I_D$	4.5	A
Drain Current (pulsed) 漏極電流 - 脈沖	$I_{DM}$	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<sub>A</sub>=25°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 <sub>D</sub> =250uA, V <sub>GS</sub> =0V)	BV <sub>DSS</sub>	30	—	—	V
Gate Threshold Voltage 柵極開啓電壓(I <sub>D</sub> =250uA, V <sub>GS</sub> =V <sub>DS</sub> )	V <sub>GS(th)</sub>	0.6	—	2	V
Diode Forward Voltage Drop 內附二極管正向壓降(I <sub>S</sub> =1A, V <sub>GS</sub> =0V)	V <sub>SD</sub>	—	—	1	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V <sub>GS</sub> =0V, V <sub>DS</sub> =24V) (V <sub>GS</sub> =0V, V <sub>DS</sub> =24V, T <sub>A</sub> =55°C)	I <sub>DSS</sub>	—	—	1 5	uA
Gate Body Leakage 柵極漏電流(V <sub>GS</sub> =±12V, V <sub>DS</sub> =0V)	I <sub>GSS</sub>	—	—	±100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I <sub>D</sub> =4.5A, V <sub>GS</sub> =10V)	R <sub>DS(ON)</sub>	—	40	50	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I <sub>D</sub> =3A, V <sub>GS</sub> =4.5V)	R <sub>DS(ON)</sub>	—	50	60	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I <sub>D</sub> =2A, V <sub>GS</sub> =2.5V)	R <sub>DS(ON)</sub>	—	80	100	mΩ
Input Capacitance 輸入電容 (V <sub>GS</sub> =10V, V <sub>DS</sub> =15V, f=1MHz)	C <sub>ISS</sub>	—	390	—	pF
Output Capacitance 輸出電容 (V <sub>GS</sub> =10V, V <sub>DS</sub> =15V, f=1MHz)	C <sub>OSS</sub>	—	55	—	pF
Turn-ON Time 開啓時間 (V <sub>DS</sub> =15V, V <sub>GS</sub> =10V, R <sub>GEN</sub> =6Ω)	t <sub>(on)</sub>	—	3	—	ns
Turn-OFF Time 關斷時間 (V <sub>DS</sub> =15V, V <sub>GS</sub> =10V, R <sub>GEN</sub> =6Ω)	t <sub>(off)</sub>	—	22	—	ns

Pulse Width≤300 μs; Duty Cycle≤2.0%



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■ TYPICAL CHARACTERISTIC CURVE

典型特性曲线

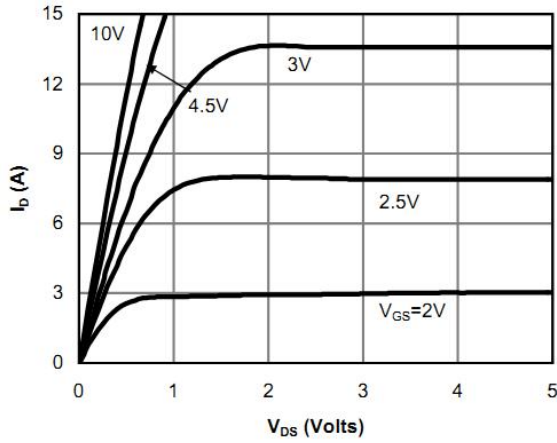


Figure 1: Output Characteristics

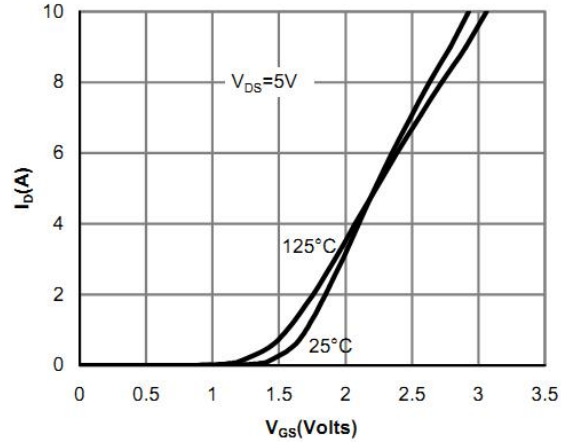


Figure 2: Transfer Characteristics

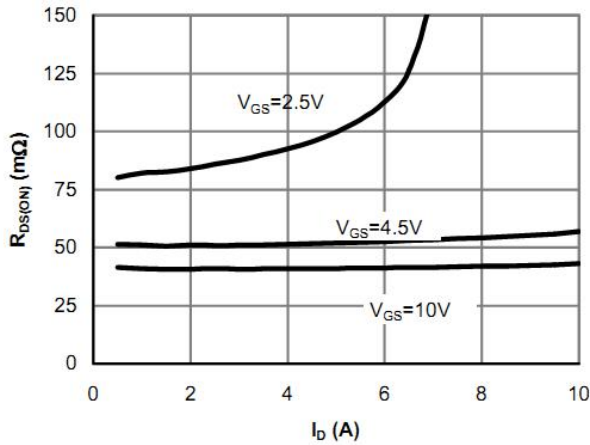


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

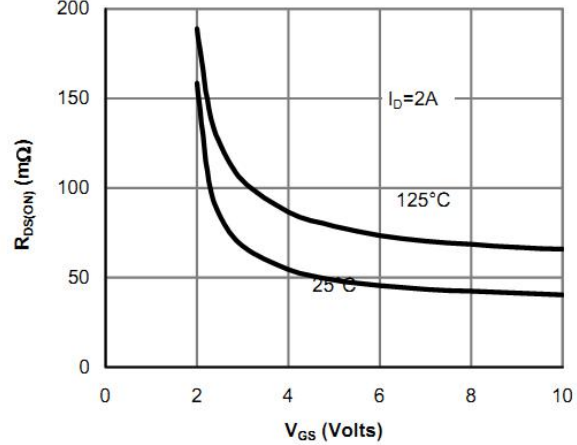


Figure 4: On-Resistance vs. Gate-Source Voltage

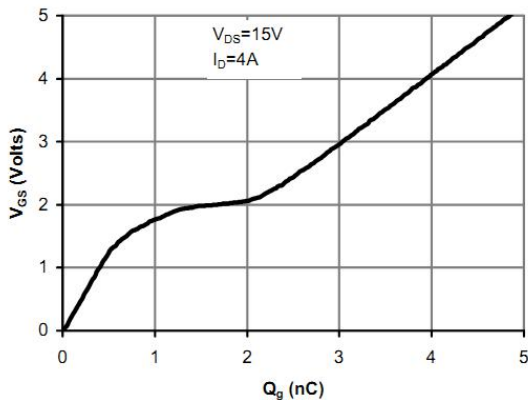


Figure 5: Gate-Charge Characteristics

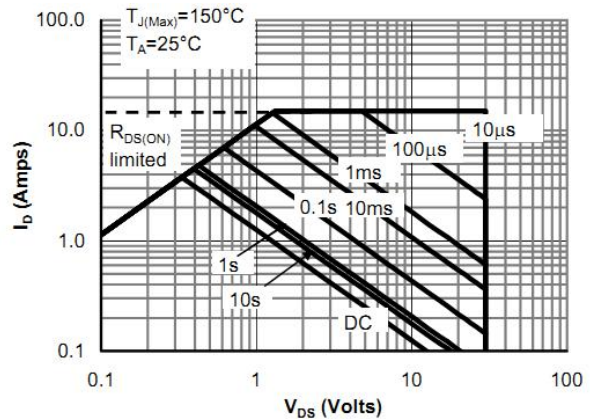


Figure 6: Safe Operating Area