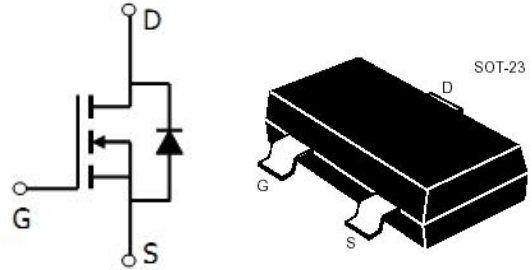




SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



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}	200	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	± 20	V
Drain Current (continuous) 漏極電流-連續	I_D	0.4	A
Drain Current (pulsed) 漏極電流-脉冲	I_{DM}	3	A
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 25°C	P_D	1300	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

GM2042=2042

■ ELECTRICAL CHARACTERISTICS 電特性

(TA=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 _D = 250uA, V _{GS} =0V)	BV _{DSS}	200	—	—	V
Gate Threshold Voltage 柵極開啓電壓(I _D =250uA, V _{GS} = V _{DS})	V _{GS(th)}	1	—	3	V
Diode Forward Voltage Drop 內附二極管正向壓降(I _S =1A, V _{GS} =0V)	V _{SD}	—	—	1	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V _{GS} =0V, V _{DS} =200V)	I _{DSS}	—	—	1	uA
Gate Body Leakage 柵極漏電流(V _{GS} =±20V, V _{DS} =0V)	I _{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D = 0.4A, V _{GS} =10V)	R _{DS(ON)}	—	3500	4250	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D = 0.25A, V _{GS} = 4.5V)	R _{DS(ON)}	—	3600	4350	mΩ
Input Capacitance 輸入電容 (V _{GS} =0V, V _{DS} = 15V, f=1MHz)	C _{ISS}	—	370	—	pF
Output Capacitance 輸出電容 (V _{GS} =0V, V _{DS} = 15V, f=1MHz)	C _{OSS}	—	23	—	pF
Turn-ON Time 開啓時間 (V _{DS} =25V, V _{GS} = 10V, R _{GEN} =25Ω)	t _(on)	—	11	—	ns
Turn-OFF Time 關斷時間 (V _{DS} =25V, V _{GS} = 10V, R _{GEN} =25Ω)	t _(off)	—	32	—	ns

Pulse Width ≤ 300 μs; Duty Cycle ≤ 2.0%



TYPICAL CHARACTERISTIC CURVE

典型特性曲线

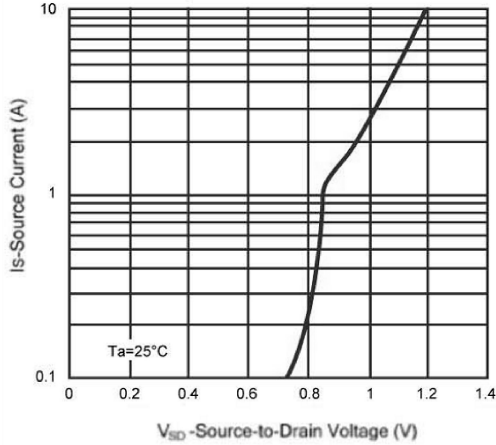


Figure 1: Body Diode Characteristics

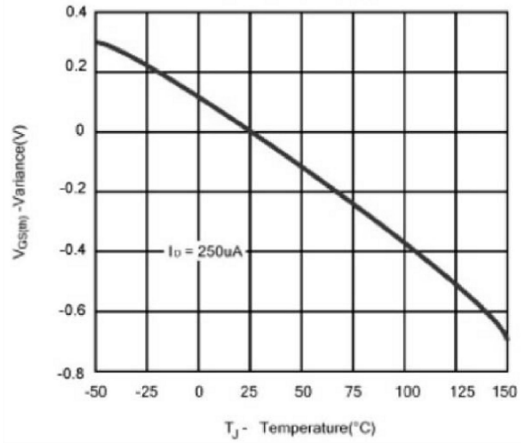


Figure 2: Threshold Voltage

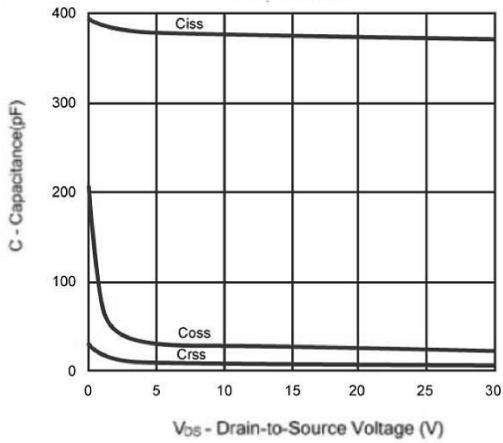


Figure 3: Capacitance

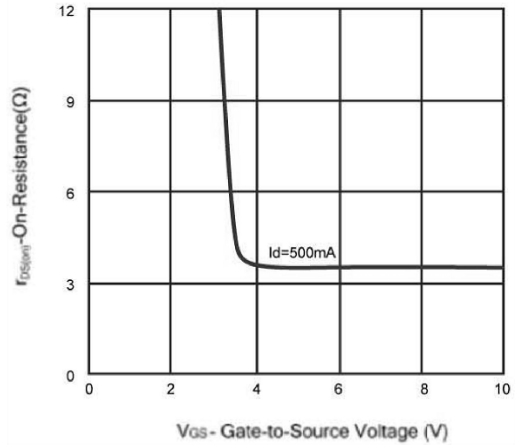


Figure 4: On-Resistance vs. Gate-Source Voltage

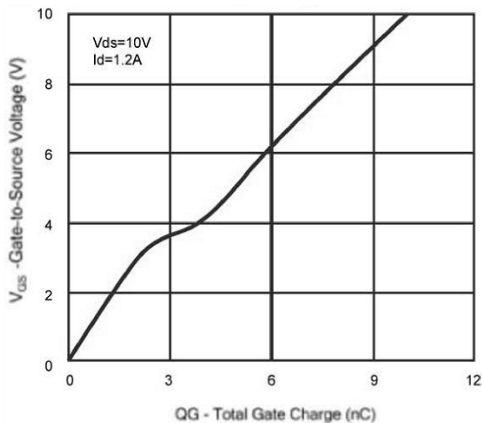


Figure 5: Gate-Charge Characteristics

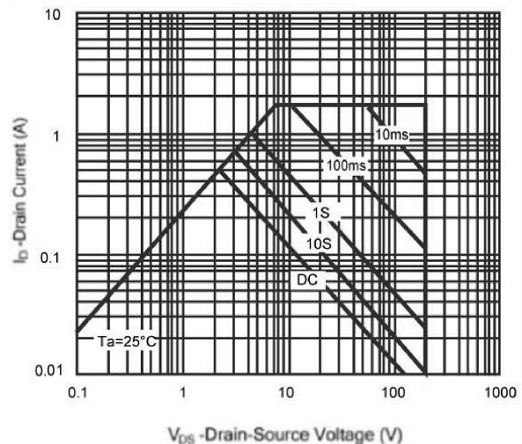


Figure 6: Safe Operating Area