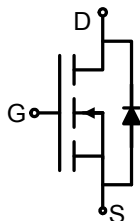


SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



N-Channel Enhancement-Mode MOS FET N 沟道增强型 MOS 场效应管

■ 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

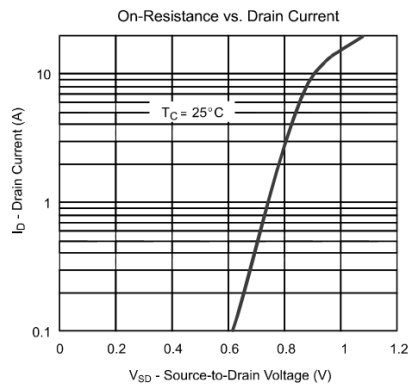
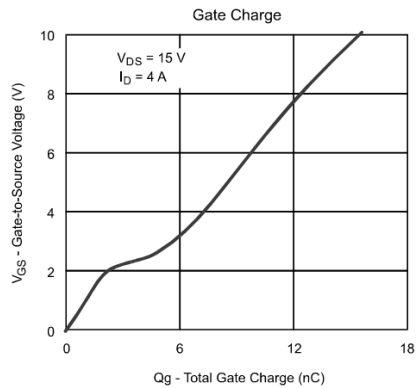
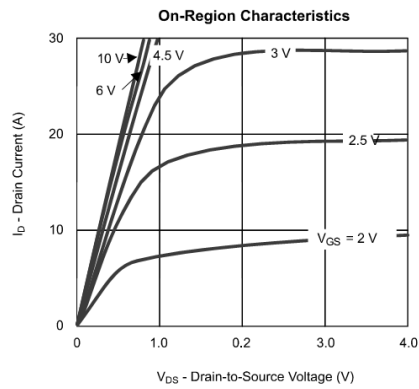
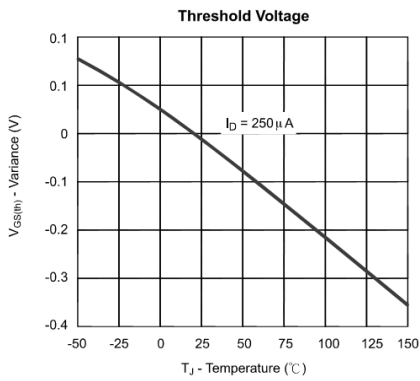
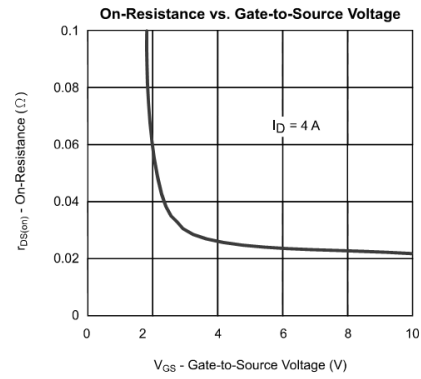
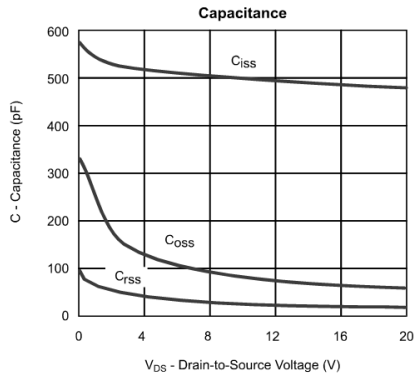
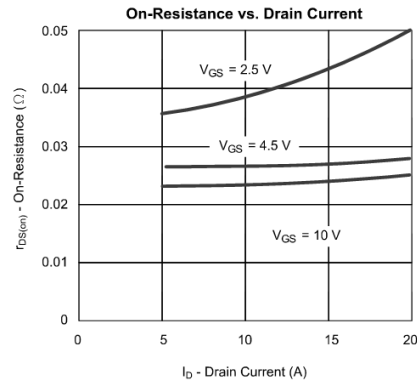
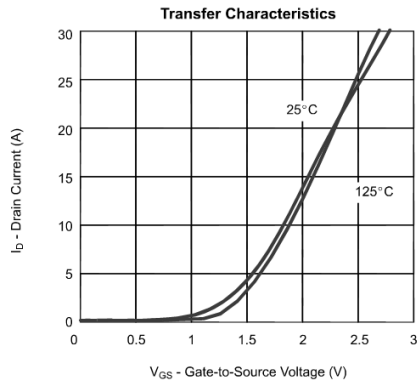
Characteristic 特性參數	Symbol 符號	Max 最大值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	BV_{DSS}	30	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	± 12	V
Drain Current (continuous) 漏極電流-連續	I_D	5	A
Drain Current (pulsed) 漏極電流-脈沖	I_{DM}	20	A
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 25°C	P_D	1380	mW
Junction 結溫	T_J	150	$^\circ\text{C}$
Storage Temperature 儲存溫度	T_{stg}	-55to+150	$^\circ\text{C}$

**■ELECTRICAL CHARACTERISTICS 電特性**(T_A=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}	30	—	—	V
Gate Threshold Voltage 柵極開啓電壓(I _D =250uA, 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 =1.25A, V _{GS} =0V)	V _{SD}	—	—	1.2	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V _{GS} =0V, V _{DS} =30V) (V _{GS} =0V, V _{DS} =24V, T _A =55°C)	I _{DSS}	—	—	1 10	uA
Gate Body Leakage 柵極漏電流(V _{GS} =±12V, V _{DS} =0V)	I _{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D =5A, V _{GS} =10V)	R _{DS(ON)}	—	25	30	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D =5A, V _{GS} =4.5V)	R _{DS(ON)}	—	30	35	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D =2.6A, V _{GS} =2.5V)	R _{DS(ON)}	—	40	50	mΩ
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I _D =1A, V _{GS} =2V)	R _{DS(ON)}	—	80	90	mΩ
Input Capacitance 輸入電容 (V _{GS} =10V, V _{DS} =15V, f=1MHz)	C _{ISS}	—	820	—	pF
Output Capacitance 輸出電容 (V _{GS} =10V, V _{DS} =15V, f=1MHz)	C _{OSS}	—	90	—	pF
Turn-ON Time 開啓時間 (V _{DS} =15V, V _{GS} =10V, R _{GEN} =6Ω)	t _(on)	—	8.5	—	ns
Turn-OFF Time 關斷時間 (V _{DS} =15V, V _{GS} =10V, R _{GEN} =6Ω)	t _(off)	—	31	—	ns

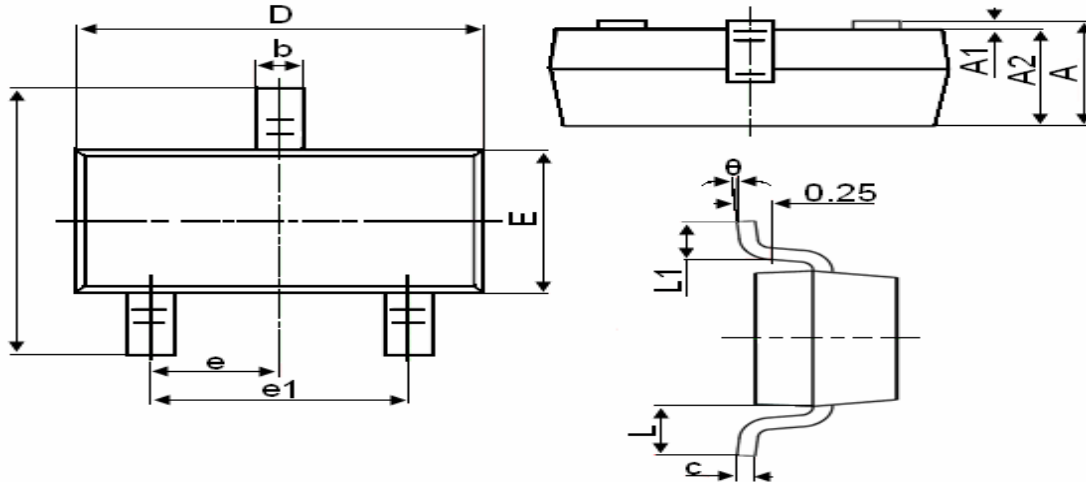
Pulse Width ≤ 300 μs; Duty Cycle ≤ 2.0%

■ TYPICAL CHARACTERISTIC CURVE 典型特性曲线





SOT-23 Package Information



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Notes

1. All dimensions are in millimeters.
2. Tolerance $\pm 0.10\text{mm}$ (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.

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