



宇芯微
YSMICRO

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GM8205D

Dual N-channel 20V, SOT-26 MOSFET 双 N-溝道場效應管

■ 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

$R_{DS(ON)} \leq 25m\Omega @ V_{GS}=4.5V$

$R_{DS(ON)} \leq 40m\Omega @ V_{GS}=2.5V$

■ Applications 應用

Power Management in Note book 筆記本電源管理

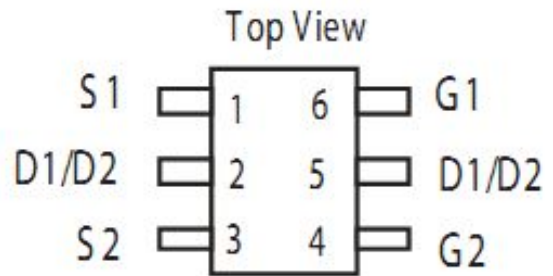
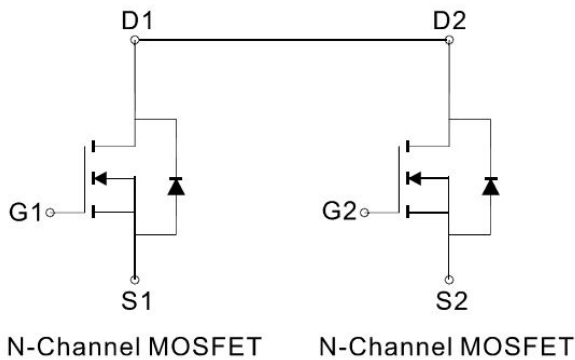
Portable Equipment 便攜式設備

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

■ Internal Schematic Diagram 內部結構



■ Absolute 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}	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	5.0	A
Drain Current (pulsed) 漏極電流-脈沖	I_{DM}	20	A
Total Device Dissipation 總耗散功率	P_{TOT}	1.25	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\theta JA}$	100	$^{\circ}C/W$
Junction/Storage Temperature 結溫/儲存溫度	T_J, T_{stg}	-55~150	$^{\circ}C$

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}	20	—	—	V
Gate Threshold Voltage 柵極開啓電壓(I _D =250uA, V _{GS} =V _{DS})	V _{GS(th)}	0.5	—	1.0	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V _{GS} =0V, V _{DS} =20V)	I _{DSS}	—	—	1	uA
Gate Body Leakage 柵極漏電流(V _{GS} =±8V, 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} =4.5V) (I _D =4A, V _{GS} =2.5V)	R _{DS(ON)}	—	20 35	25 40	mΩ
Diode Forward Voltage Drop 內附二極管正向壓降(I _{SD} =1.7A, V _{GS} =0V)	V _{SD}	—	—	1.2	V
Input Capacitance 輸入電容 (V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{ISS}	—	800	—	pF
Common Source Output Capacitance 共源輸出電容(V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{OSS}	—	155	—	pF
Reverse Transfer Capacitance 反向傳輸電容 (V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{RSS}	—	125	—	pF
Gate Source Charge 柵源電荷密度 (V _{DS} =10V, I _D =3A, V _{GS} =4.5V)	Q _{gs}	—	1.2	—	nC
Gate Drain Charge 柵漏電荷密度 (V _{DS} =10V, I _D =3A, V _{GS} =4.5V)	Q _{gd}	—	1.9	—	nC
Turn-On Delay Time 開啓延遲時間 (V _{DS} =10V, I _D =1A, R _{GEN} =6Ω, V _{GS} =4.5V)	t _{d(on)}	—	8	—	ns
Turn-On Rise Time 開啓上升時間 (V _{DS} =10V, I _D =1A, R _{GEN} =6Ω, V _{GS} =4.5V)	t _r	—	10	—	ns
Turn-Off Delay Time 關斷延遲時間 (V _{DS} =10V, I _D =1A, R _{GEN} =6Ω, V _{GS} =4.5V)	t _{d(off)}	—	18	—	ns
Turn-On Fall Time 開啓下降時間 (V _{DS} =10V, I _D =1A, R _{GEN} =6Ω, V _{GS} =4.5V)	t _f	—	5	—	ns



■ TYPICAL CHARACTERISTIC CURVE

典型特性曲线

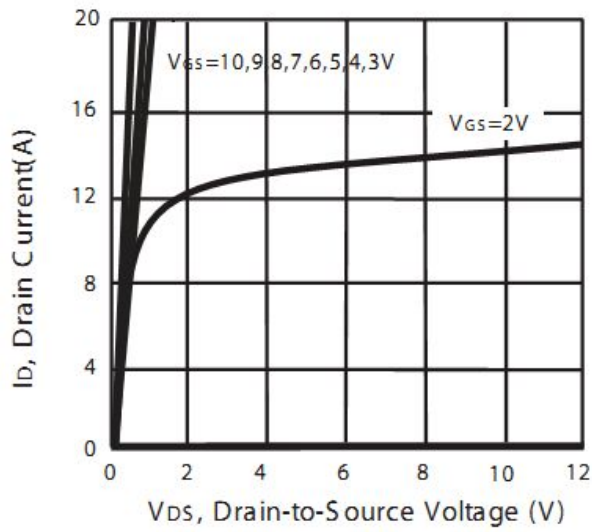


Figure 1. Output Characteristics

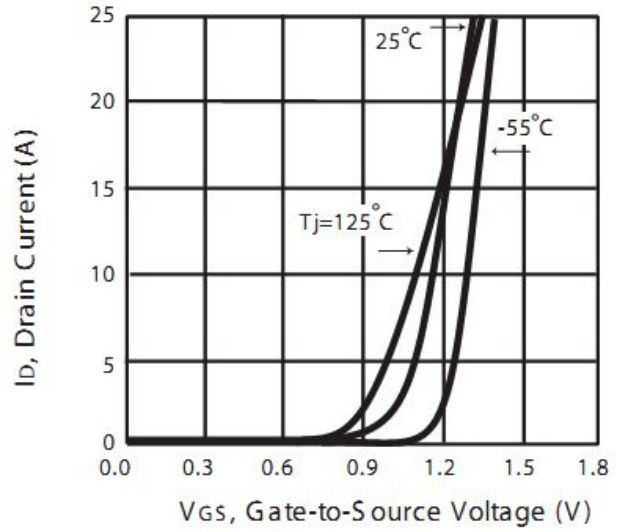


Figure 2. Transfer Characteristics

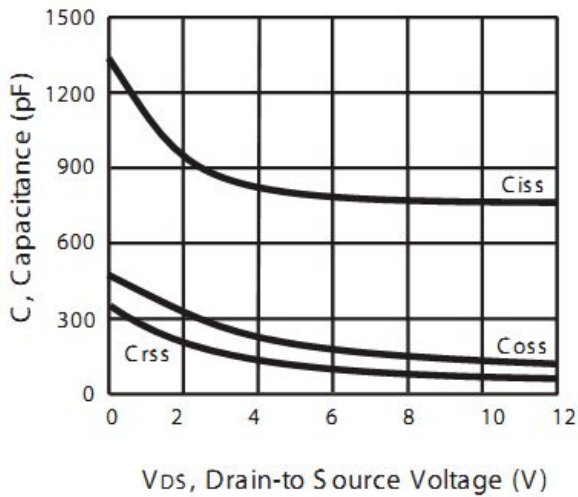


Figure 3. Capacitance

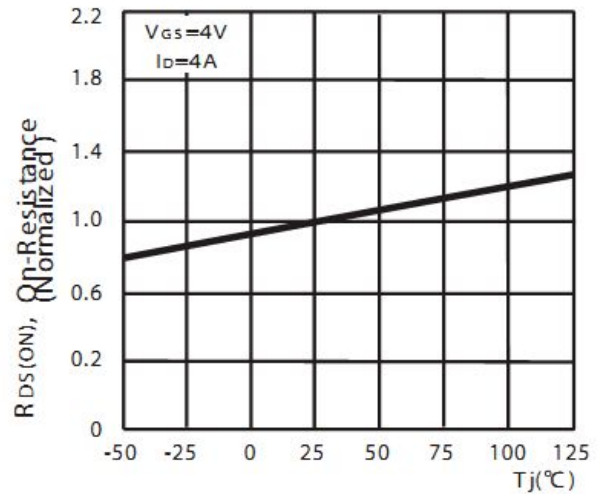
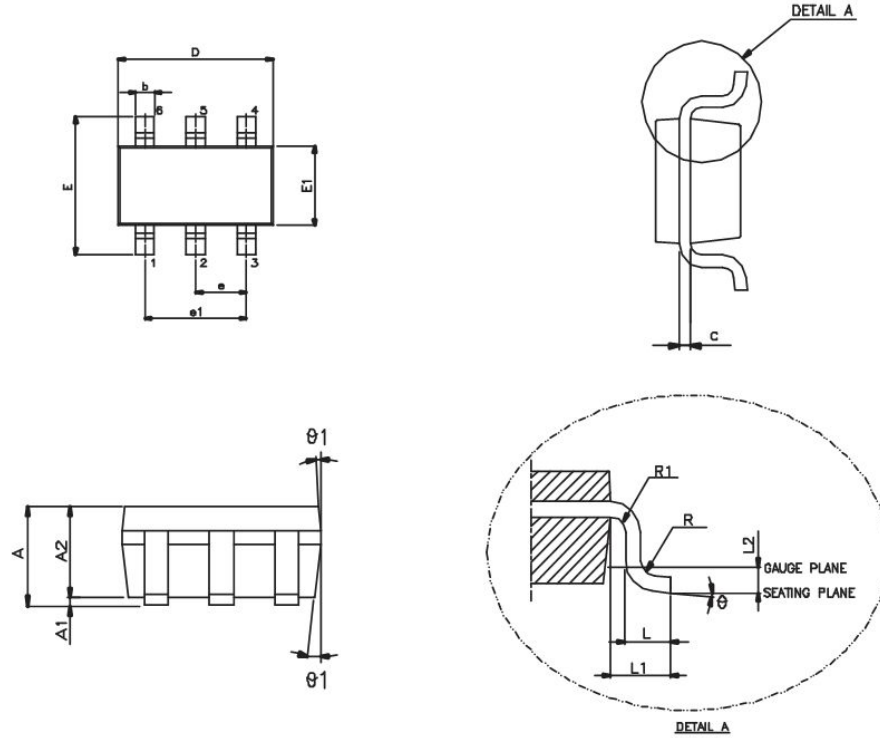


Figure 4. On-Resistance Variation with Temperature



■ DIMENSION 外形封装尺寸



SYMBOL	MIN.	NOM.	MAX.
A	—	—	1.45
A1	—	—	0.15
A2	0.90	1.15	1.30
b	0.30	—	0.50
c	0.08	—	0.22
D	2.90 BSC.		
E	2.80 BSC.		
E1	1.60 BSC.		
e	0.95 BSC		
e1	1.90 BSC.		
L	0.30	0.45	0.60
L1	0.60 REF.		
L2	0.25 BSC.		
R	0.10	—	—
R1	0.10	—	0.25
θ	0°	4°	8°
$\theta1$	5°	10°	15°