Dual N-channel 20V, TSSOP-8 MOSFET 双 N-溝道場效應管

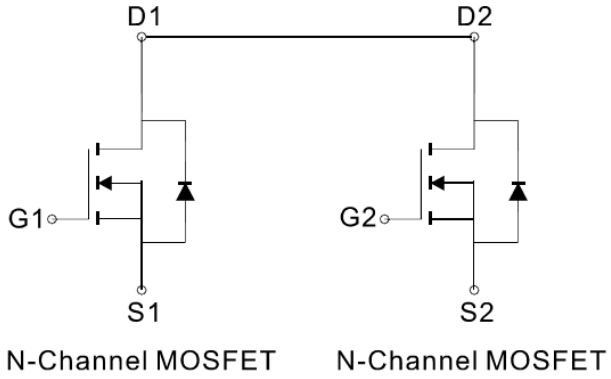
■Features 特點

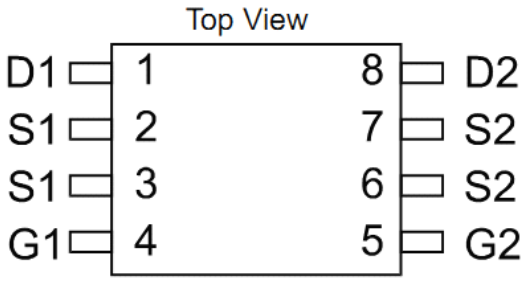
Low on-resistance and maximum DC current capability 低導通電阻和最大直流電流能力
Super high density cell design 超高元胞密度設計
$R_{DS(ON)}$≤25mΩ@VGS=4.5V
$R_{DS(ON)}$≤40mΩ@VGS=2.5V

■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/直流变换
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-脉冲	I_{DM}	20	A
Total Device Dissipation 總耗散功率	P_{TOT}(at TC = 25°C) (at TC = 70°C)	2 1.6	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\Theta JA}$	78	℃/W
Thermal Resistance Junction-Case 熱阻	$R_{\Theta JC}$	40	℃/W
Junction/Storage Temperature 結溫/儲存溫度	T_J,T_{stg}	-55~150	℃

■Electerical Characteristics 電特性

(T_A=25℃ unless otherwise noted 如無特殊說明，溫度爲 25℃)

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 柵極開启電壓(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 靜态漏源導通電阻(I_D=7A,V_{GS}=4.5V) (I_D=6A,V_{GS}=2.5V)	$R_{DS(ON)}$	—	20 35	25 40	mΩ
Diode Forward Voltage Drop 内附二極管正向壓降(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}	—	700	—	pF
Common Source Output Capacitance 共源輸出電容(V_{GS}=0V, V_{DS}=10V,f=1MHz)	C_{OSS}	—	175	—	pF
Reverse Transfer Capacitance 反向传輸電容 (V_{GS}=0V, V_{DS}=10V,f=1MHz)	C_{RSS}	—	85	—	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 開启延迟時間 (V_{DS}=10V, I_D=1A, R_{GEN}=6Ω,V_{GS}=4.5V)	$t_{d(on)}$	—	8	—	ns
Turn-On Rise Time 開启上升時間 (V_{DS}=10V, I_D=1A, R_{GEN}=6Ω,V_{GS}=4.5V)	t_r	—	10	—	ns
Turn-Off Delay Time 關断延迟時間 (V_{DS}=10V, I_D=1A, R_{GEN}=6Ω,V_{GS}=4.5V)	$t_{d(off)}$	—	18	—	ns
Turn-On Fall Time 開启下降時間 (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

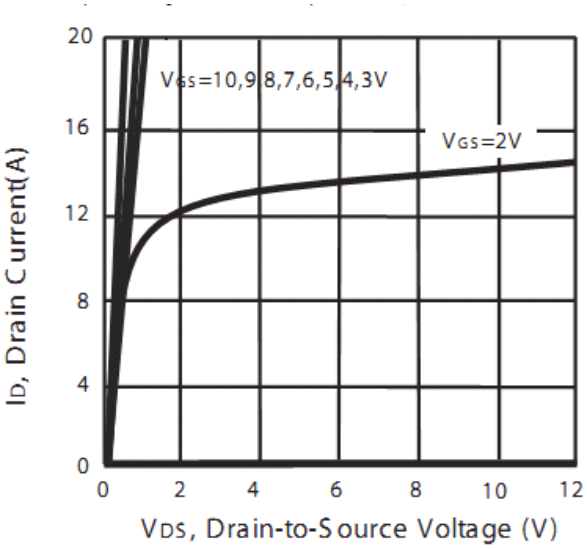


Figure 1. Output Characteristics

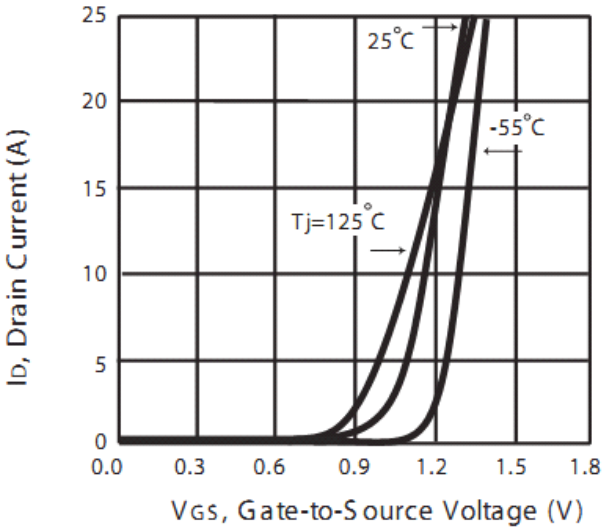


Figure 2. Transfer Characteristics

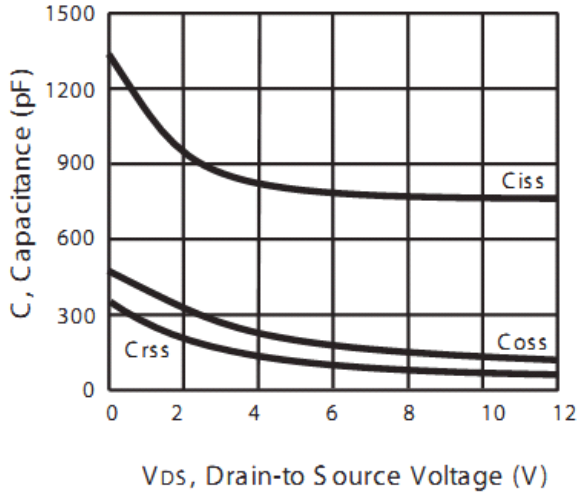


Figure 3. Capacitance

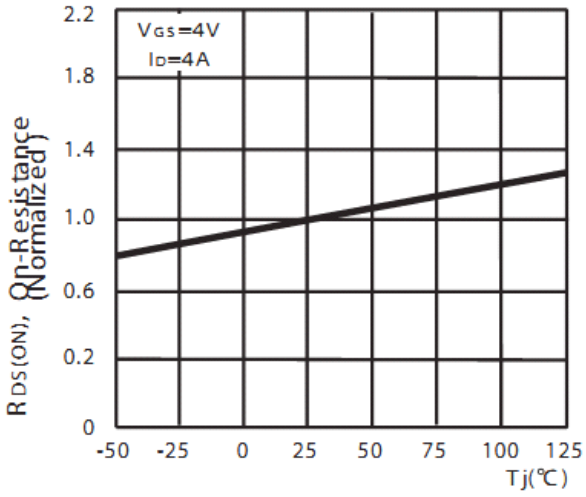
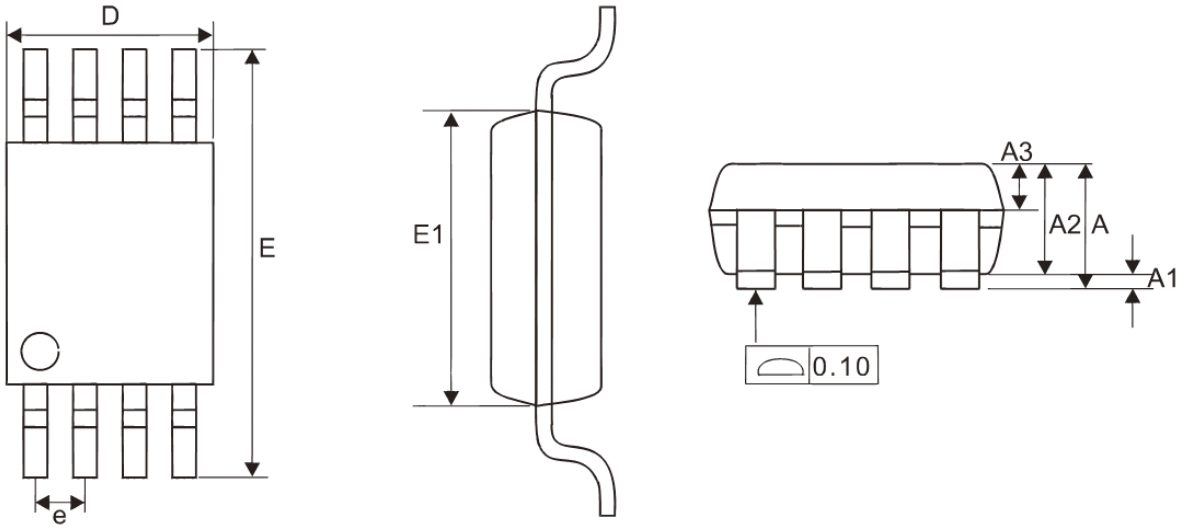
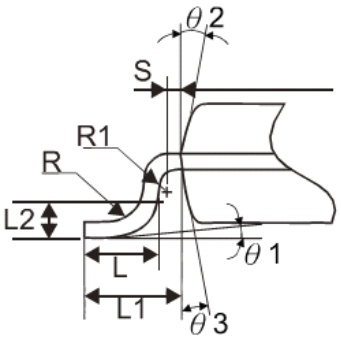


Figure 4. On-Resistance Variation with Temperature

■DIMENSION 外形封装尺寸





SYMBOL	MILLIMETERS	
	MIN	MAX
A	-	1.20
A1	0.05	0.15
A2	0.90	1.05
A3	0.34	0.54
D	2.90	3.10
E	6.20	6.60
E1	4.30	4.50
e	0.65BSC	
L	0.45	0.75
L1	1.00REF	
L2	0.25BSC	
R	0.09	-
R1	0.09	-
S	0.20	-
θ1	0”	8”
θ2	10”	14”
θ3	10”	14”

Note: 1. Refer to JEDEC MS-012AA.

2. Dimension “D” does not include mold flash, protrusions