



Dual N-channel 20V, SOT-26 MOSFET 雙 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

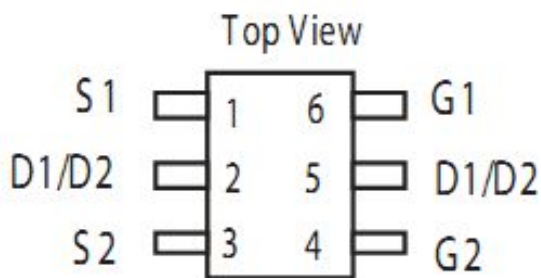
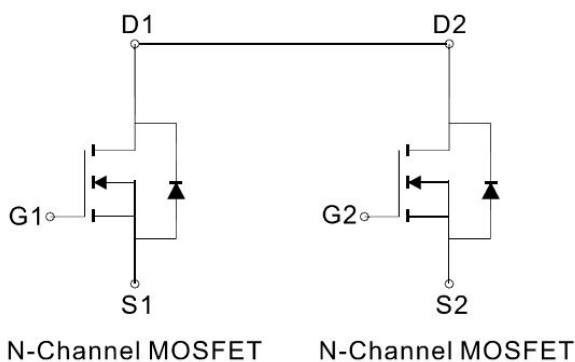
Portable Equipment 便攜式設備

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

($T_A=25^{\circ}\text{C}$ 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($I_D=250\mu\text{A}, V_{GS}=0\text{V}$) | BV_{DSS} | 20 | — | — | V |
| Gate Threshold Voltage 柵極開啓電壓($I_D=250\mu\text{A}, V_{GS}=V_{DS}$) | $V_{GS(th)}$ | 0.5 | — | 1.0 | V |
| Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=20\text{V}$) | I_{DSS} | — | — | 1 | μA |
| Gate Body Leakage 柵極漏電流($V_{GS}=\pm 8\text{V}, V_{DS}=0\text{V}$) | I_{GSS} | — | — | ± 100 | nA |
| Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=5\text{A}, V_{GS}=4.5\text{V}$) ($I_D=4\text{A}, V_{GS}=2.5\text{V}$) | $R_{DS(ON)}$ | — | 20 35 | 25 40 | $\text{m}\Omega$ |
| Diode Forward Voltage Drop 內附二極管正向壓降($I_{SD}=1.7\text{A}, V_{GS}=0\text{V}$) | V_{SD} | — | — | 1.2 | V |
| Input Capacitance 輸入電容 ($V_{GS}=0\text{V}, V_{DS}=10\text{V}, f=1\text{MHz}$) | C_{ISS} | — | 800 | — | pF |
| Common Source Output Capacitance 共源輸出電容($V_{GS}=0\text{V}, V_{DS}=10\text{V}, f=1\text{MHz}$) | C_{OSS} | — | 155 | — | pF |
| Reverse Transfer Capacitance 反向傳輸電容 ($V_{GS}=0\text{V}, V_{DS}=10\text{V}, f=1\text{MHz}$) | C_{RSS} | — | 125 | — | pF |
| Gate Source Charge 柵源電荷密度 ($V_{DS}=10\text{V}, I_D=3\text{A}, V_{GS}=4.5\text{V}$) | Q_{gs} | — | 1.2 | — | nC |
| Gate Drain Charge 柵漏電荷密度 ($V_{DS}=10\text{V}, I_D=3\text{A}, V_{GS}=4.5\text{V}$) | Q_{gd} | — | 1.9 | — | nC |
| Turn-On Delay Time 開啓延遲時間 ($V_{DS}=10\text{V}, I_D=1\text{A}, R_{GEN}=6\Omega, V_{GS}=4.5\text{V}$) | $t_{d(on)}$ | — | 8 | — | ns |
| Turn-On Rise Time 開啓上升時間 ($V_{DS}=10\text{V}, I_D=1\text{A}, R_{GEN}=6\Omega, V_{GS}=4.5\text{V}$) | t_r | — | 10 | — | ns |
| Turn-Off Delay Time 關斷延遲時間 ($V_{DS}=10\text{V}, I_D=1\text{A}, R_{GEN}=6\Omega, V_{GS}=4.5\text{V}$) | $t_{d(off)}$ | — | 18 | — | ns |
| Turn-On Fall Time 開啓下降時間 ($V_{DS}=10\text{V}, I_D=1\text{A}, R_{GEN}=6\Omega, V_{GS}=4.5\text{V}$) | t_f | — | 5 | — | ns |



■ TYPICAL CHARACTERISTIC CURVE

典型特性曲线

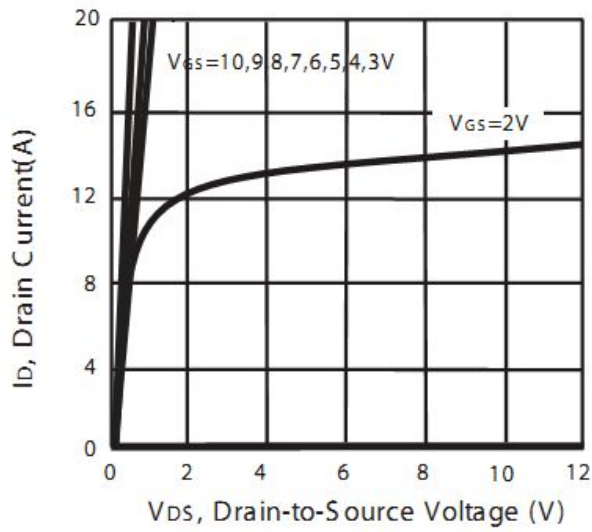


Figure 1. Output Characteristics

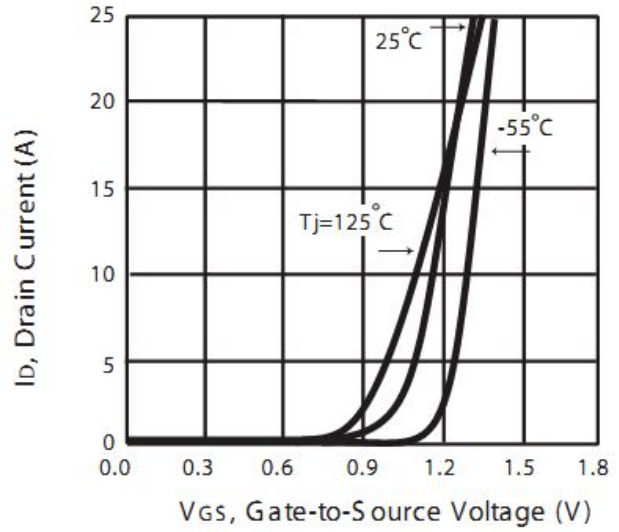


Figure 2. Transfer Characteristics

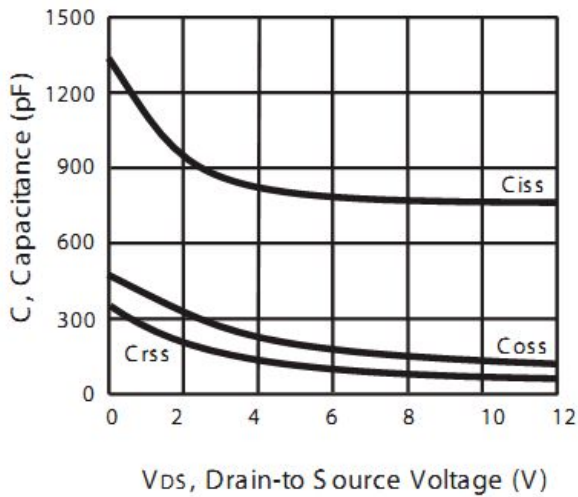


Figure 3. Capacitance

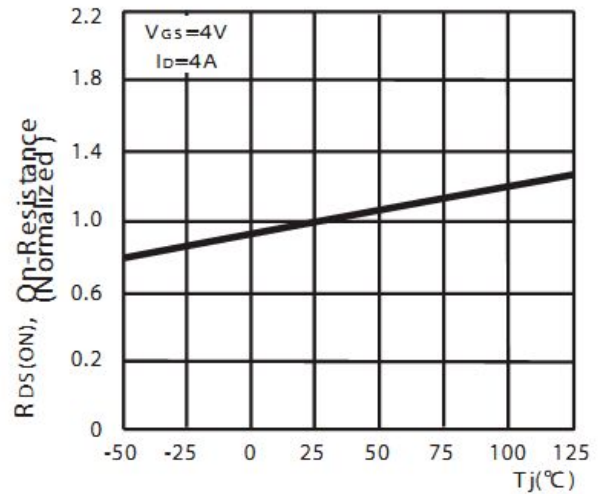
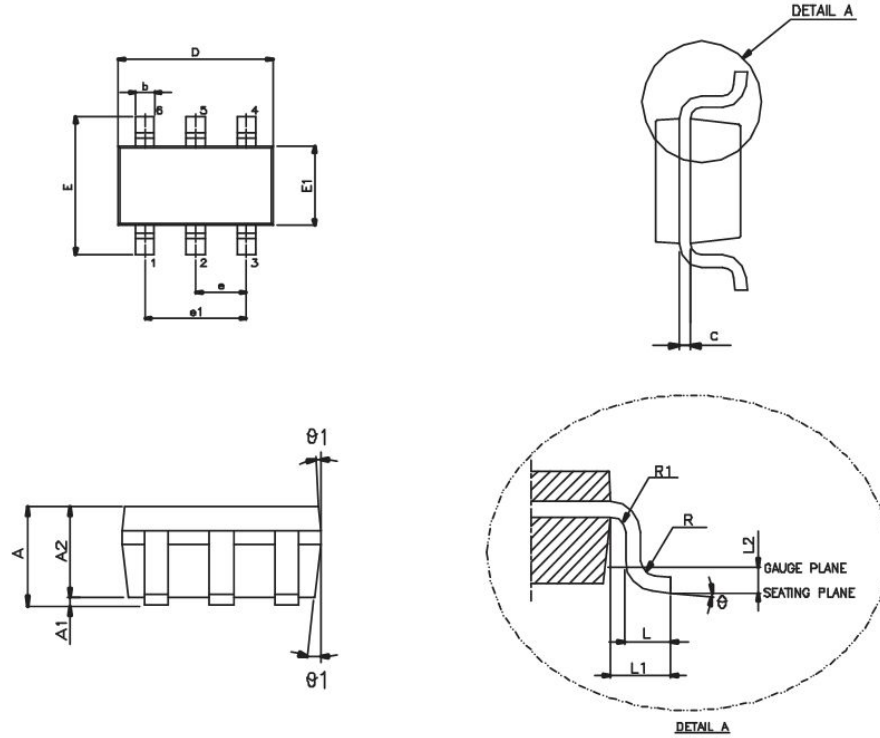


Figure 4. On-Resistance Variation with Temperature



■ DIMENSION 外形封裝尺寸



| 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° |
| θ_1 | 5° | 10° | 15° |