

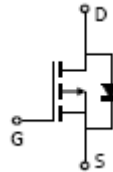
SOT-23 Plastic-Encapsulate MOSFETS

FEATURE

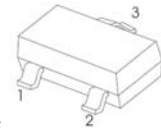
TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter



SOT-23



1. GATE
2. SOURCE
3. DRAIN

MARKING: B3

■ Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

| 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 | -2.6 | A |
| Drain Current (pulsed) 漏極電流-脈沖 | I_{DM} | -10 | A |
| Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 25°C | P_D | 1100 | mW |
| Junction 結溫 | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature 儲存溫度 | T_{stg} | -55to+150 | $^\circ\text{C}$ |

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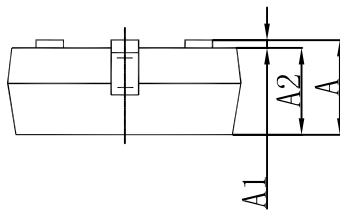
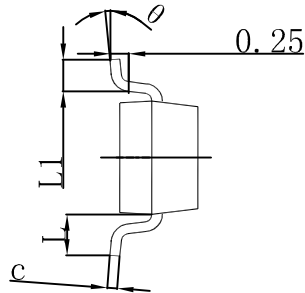
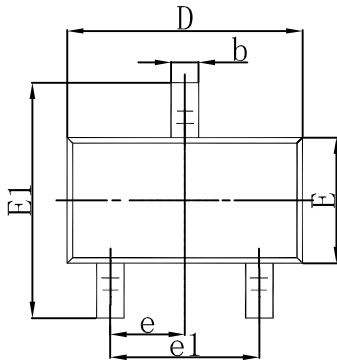
■ Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| 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} | -30 | — | — | V |
| Gate Threshold Voltage 柵極開啓電壓($I_D = -250\mu\text{A}, V_{GS} = V_{DS}$) | $V_{GS(th)}$ | -0.6 | -1 | -1.4 | V |
| Diode Forward Voltage Drop 內附二極管正向壓降($I_S = -1\text{A}, V_{GS}=0\text{V}$) | V_{SD} | — | — | -1 | V |
| Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS} = -24\text{V}$) ($V_{GS}=0\text{V}, V_{DS} = -24\text{V}, T_A=55^{\circ}\text{C}$) | I_{DSS} | — | — | -1 -5 | μA |
| Gate Body Leakage 柵極漏電流($V_{GS}=\pm 12\text{V}, V_{DS}=0\text{V}$) | I_{GSS} | — | — | ± 100 | nA |
| Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D = -2.6\text{A}, V_{GS} = -10\text{V}$) | $R_{DS(ON)}$ | — | — | 115 | $\text{m}\Omega$ |
| Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D = -2\text{A}, V_{GS} = -4.5\text{V}$) | $R_{DS(ON)}$ | — | — | 150 | $\text{m}\Omega$ |
| Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D = -1\text{A}, V_{GS} = -2.5\text{V}$) | $R_{DS(ON)}$ | — | — | 200 | $\text{m}\Omega$ |
| Input Capacitance 輸入電容 ($V_{GS}=0\text{V}, V_{DS} = -15\text{V}, f=1\text{MHz}$) | C_{ISS} | — | 260 | — | pF |
| Output Capacitance 輸出電容 ($V_{GS}=0\text{V}, V_{DS} = -15\text{V}, f=1\text{MHz}$) | C_{OSS} | — | 37 | — | pF |
| Turn-ON Time 開啓時間 ($V_{DS} = -15\text{V}, V_{GS} = -10\text{V}, R_{GEN}=6\Omega$) | $t_{(on)}$ | — | 6 | — | ns |
| Turn-OFF Time 關斷時間 ($V_{DS} = -15\text{V}, V_{GS} = -10\text{V}, R_{GEN}=6\Omega$) | $t_{(off)}$ | — | 20 | — | ns |

Pulse Width $\leq 300 \mu\text{s}$; Duty Cycle $\leq 2.0\%$

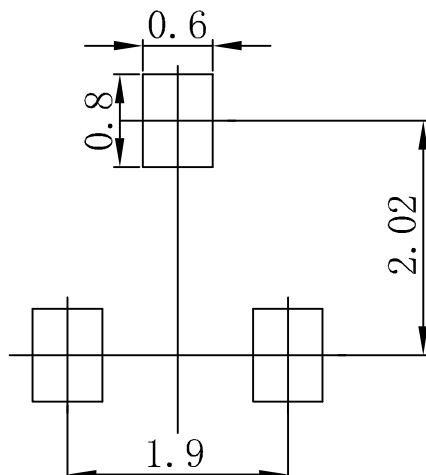
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SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 6° |

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.