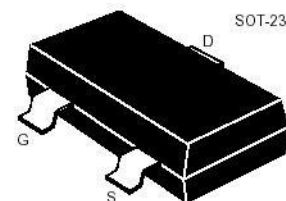


SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



## N-Channel Enhancement-Mode MOS FETs

### N 沟道增强型 MOS 场效应管

#### ■ 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<br>漏極-源極電壓       | $BV_{DSS}$ | 50       | V       |
| Gate- Source Voltage<br>柵極-源極電壓       | $V_{GS}$   | $\pm 20$ | V       |
| Drain Current (continuous)<br>漏極電流-連續 | $I_{DR}$   | 220      | mA      |
| Drain Current (pulsed)<br>漏極電流-脉冲     | $I_{DRM}$  | 880      | mA      |

#### ■ THERMAL CHARACTERISTICS 熱特性

| Characteristic 特性                                                                                                                                     | Symbol 符號       | Max 最大值                                                 | Unit 單位                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------|------------------------------|
| Total Device Dissipation 總耗散功率<br>$T_A=25^{\circ}\text{C}$ 環境溫度為 $25^{\circ}\text{C}$<br>Derate above $25^{\circ}\text{C}$ 超過 $25^{\circ}\text{C}$ 遞減 | $P_D$           | 225<br>1.8                                              | mW<br>mW/ $^{\circ}\text{C}$ |
| Thermal Resistance Junction to Ambient 熱阻                                                                                                             | $R_{\theta JA}$ | 350                                                     | $^{\circ}\text{C}/\text{W}$  |
| Junction and Storage Temperature<br>結溫和儲存溫度                                                                                                           | $T_J, T_{stg}$  | $150^{\circ}\text{C}, -55\text{to}+150^{\circ}\text{C}$ |                              |

#### ■ DEVICE MARKING 打標

BSS138=SS

### ■ ELECTRICAL CHARACTERISTICS 電特性

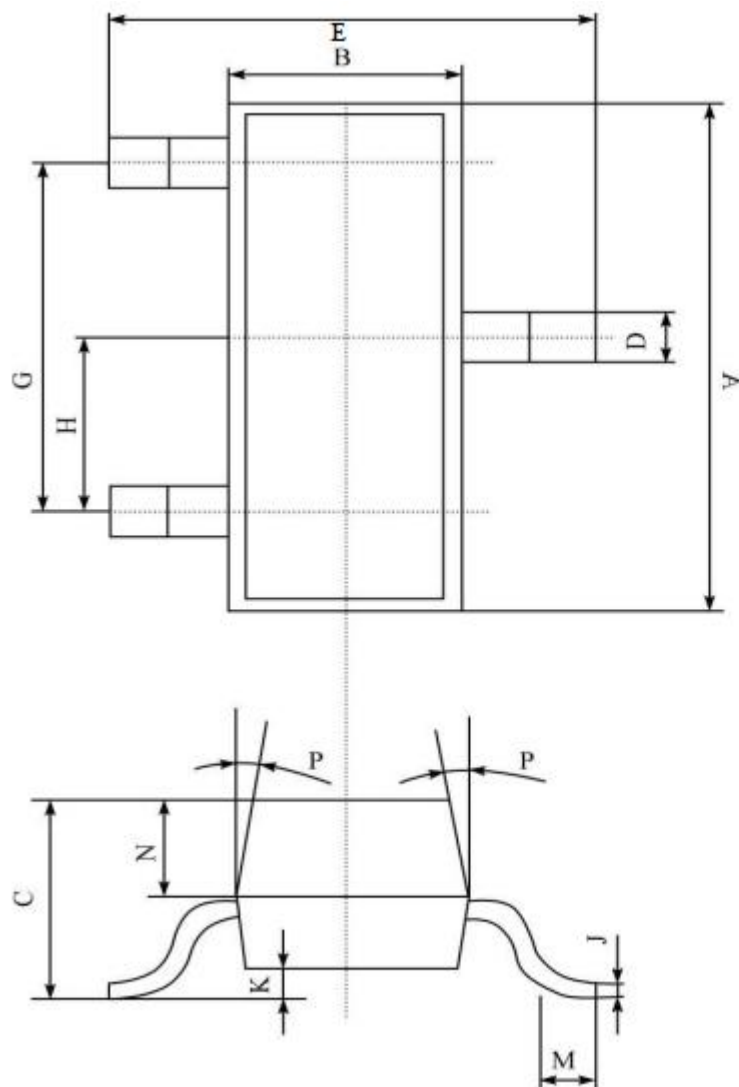
(T<sub>A</sub>=25°C unless otherwise noted 如無特殊說明，溫度為 25°C)

| Characteristic<br>特性參數                                                                                                                                                 | Symbol<br>符號        | Min<br>最小值 | Typ<br>典型值 | Max<br>最大值 | Unit<br>單位 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------|------------|------------|------------|
| Drain-Source Breakdown Voltage<br>漏極-源極擊穿電壓(I <sub>D</sub> =250uA, V <sub>GS</sub> =0V)                                                                                | BV <sub>DSS</sub>   | 50         | —          | —          | V          |
| Gate Threshold Voltage<br>柵極開啟電壓(I <sub>D</sub> =1mA, V <sub>GS</sub> = V <sub>DS</sub> )                                                                              | V <sub>GS(th)</sub> | 0.8        | —          | 1.6        | V          |
| Diode Forward Voltage Drop<br>內附二極管正向壓降(I <sub>SD</sub> =220mA, V <sub>GS</sub> =0V)                                                                                   | V <sub>SD</sub>     | —          | —          | 1.4        | V          |
| Zero Gate Voltage Drain Current<br>零柵壓漏極電流(V <sub>GS</sub> =0V, V <sub>DS</sub> = BV <sub>DSS</sub> )<br>(V <sub>GS</sub> =0V, V <sub>DS</sub> =0.6BV <sub>DSS</sub> ) | I <sub>DSS</sub>    | —          | —          | 0.5<br>100 | uA<br>nA   |
| Gate Body Leakage<br>柵極漏電流(V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V)                                                                                                 | I <sub>GSS</sub>    | —          | —          | ±100       | nA         |
| Static Drain-Source On-State Resistance<br>靜態漏源導通電阻(I <sub>D</sub> =220mA, V <sub>GS</sub> =10V)<br>(I <sub>D</sub> =220mA, V <sub>GS</sub> =4.5V)                     | R <sub>DS(ON)</sub> | —          | —          | 3.5<br>6   | Ω          |
| Input Capacitance 輸入電容<br>(V <sub>GS</sub> =0V, V <sub>DS</sub> =25V, f=1MHz)                                                                                          | C <sub>ISS</sub>    | —          | —          | 50         | pF         |
| Common Source Output Capacitance<br>共源輸出電容(V <sub>GS</sub> =0V, V <sub>DS</sub> =25V, f=1MHz)                                                                          | C <sub>OSS</sub>    | —          | —          | 25         | pF         |
| Turn-ON Time 開啟時間<br>(V <sub>DS</sub> =30V, I <sub>D</sub> =200mA, R <sub>GEN</sub> =25 Ω)                                                                             | t <sub>(on)</sub>   | —          | —          | 20         | ns         |
| Turn-OFF Time 關斷時間<br>(V <sub>DS</sub> =30V, I <sub>D</sub> =200mA, R <sub>GEN</sub> =25 Ω)                                                                            | t <sub>(off)</sub>  | —          | —          | 20         | ns         |

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.
3. Pulse Width≤300 μ s; Duty Cycle≤2.0%.

■ DIMENSION 外形封裝尺寸

單位(UNIT): mm



| 代碼 | 範圍(單位:mm) |
|----|-----------|
| A  | 2.80~3.00 |
| B  | 1.20~1.40 |
| C  | 0.90~1.10 |
| D  | 0.30~0.50 |
| E  | 2.20~2.60 |
| G  | 1.80~2.00 |
| H  | 0.90~1.00 |
| J  | 0.08~0.18 |
| K  | 0.02~0.12 |
| M  | ≥0.22     |
| N  | 0.50~0.70 |
| P  | 6°~10°    |