# 桂林斯壯桂微電子有限責任公司
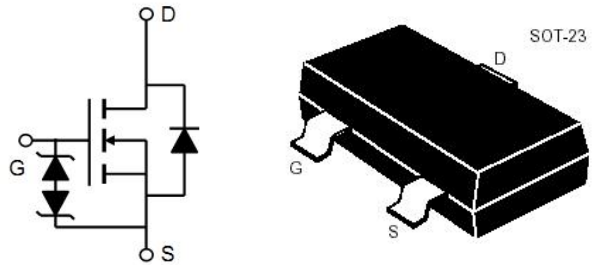## GSME Guilin Strong Micro-Electronics Co.,Ltd.

GM7002E(2N7002E)

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



**N-Channel Enhancement-Mode MOS FET With ESD**
**N 溝道增強型帶靜電保護 MOS 場效應管**

■**MAXIMUM RATINGS** 最大額定值

| Characteristic<br>特性參數 | Symbol<br>符號 | Rat<br>額定值 | Unit<br>單位 |
|---|---|---|---|
| Drain-Source Voltage<br>漏極-源極電壓 | $BV_{DSS}$ | 60 | V |
| Gate- Source Voltage<br>柵極-源極電壓 | $V_{GS}$ | $\pm20$ | V |
| Drain Current (continuous)<br>漏極電流-連續 | $I_{DR}$ | 300 | mA |
| Drain Current (pulsed)<br>漏極電流-脉冲 | $I_{DRM}$ | 500 | mA |

■**THERMAL CHARACTERISTICS** 熱特性

| Characteristic 特性 | Symbol<br>符號 | Max<br>最大值 | Unit<br>單位 |
|---|---|---|---|
| Total Device Dissipation 總耗散功率<br>$T_A$＝25℃ 環境溫度爲 25℃<br>Derate above25℃ 超過 25℃遞減 | $P_D$ | 225<br><br>1.8 | mW<br><br>mW/℃ |
| Thermal Resistance Junction to Ambient 熱阻 | $R_{\Theta JA}$ | 417 | ℃/W |
| Junction and Storage Temperature<br>結溫和儲存溫度 | $T_J, T_{stg}$ | 150℃, -55to+150℃ | |

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GM7002E(2N7002E)

■**DEVICE    MARKING 打標**

**GM7002E(2N7002E)=7002E**

■**ELECTRICAL CHARACTERISTICS 電特性**

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

| 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($I_D$ =250uA,$V_{GS}$=0V) | $BV_{DSS}$ | 60 | — | — | V |
| Gate Threshold Voltage<br>柵極開启電壓($I_D$ =250uA,$V_{GS}$= $V_{DS}$) | $V_{GS(th)}$ | 1.0 | — | 2.5 | V |
| Drain-Source On Voltage<br>漏極-源極導通電壓($I_D$=50mA,$V_{GS}$=5V)<br>($I_D$ =500mA,$V_{GS}$=10V) | $V_{DS(ON)}$ | — | — | 0.375<br>3.75 | V |
| Diode Forward Voltage Drop<br>内附二極管正向壓降($I_{SD}$=200mA,$V_{GS}$=0V) | $V_{SD}$ | — | — | 1.5 | V |
| Zero Gate Voltage Drain Current<br>零柵壓漏極電流($V_{GS}$=0V, $V_{DS}$= $BV_{DSS}$) | $I_{DSS}$ | — | — | 1 | uA |
| Gate Body Leakage<br>柵極漏電流($V_{GS}$=±10V, $V_{DS}$=0V)<br>($V_{GS}$=±20V, $V_{DS}$=0V) | $I_{GSS}$ | — | — | ±1<br>±10 | uA |
| Static Drain-Source On-State Resistance<br>静态漏源導通電阻($I_D$=500mA,$V_{GS}$=10V)<br>($I_D$=200mA,$V_{GS}$=5V) | $R_{DS(ON)}$ | — | 2<br>3 | 3<br>3.5 | Ω |
| ESD Rating<br>静电保护 | ESD | 1000V HBM | | | |

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