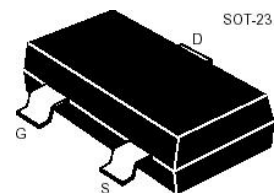


SOT-23 場效應晶體管(SOT-23 Field Effect Transistors)



## N-Channel Enhancement-Mode MOS FET With ESD

N 沟道增强型带静电保护 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 漏極-源極電壓	$BV_{DSS}$	60	V
Gate- Source Voltage 柵極-源極電壓	$V_{GS}$	$\pm 20$	V
Drain Current (continuous) 漏極電流-連續	$I_{DR}$	300	mA
Drain Current (pulsed) 漏極電流-脉冲	$I_{DRM}$	500	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 $T_A=25^\circ\text{C}$ 環境溫度為 $25^\circ\text{C}$ Derate above $25^\circ\text{C}$ 超過 $25^\circ\text{C}$ 遞減	PD	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 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

2N7002K=72K

**■ ELECTRICAL CHARACTERISTICS 電特性**

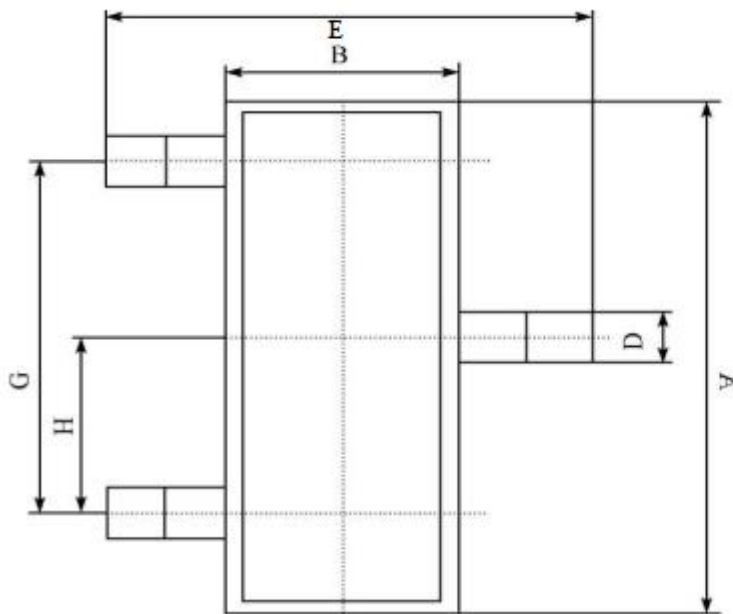
 (T<sub>A</sub>=25°C unless otherwise noted 如無特殊說明，溫度為 25°C)

Characteristic 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 <sub>D</sub> =250uA, V <sub>GS</sub> =0V)	BV <sub>DSS</sub>	60	—	—	V
Gate Threshold Voltage 柵極開啓電壓(I <sub>D</sub> =250uA, V <sub>GS</sub> = V <sub>DS</sub> )	V <sub>GS(th)</sub>	1.0	—	2.5	V
Drain-Source On Voltage 漏極-源極導通電壓(I <sub>D</sub> =50mA, V <sub>GS</sub> =5V) (I <sub>D</sub> =500mA, V <sub>GS</sub> =10V)	V <sub>DS(ON)</sub>	—	—	0.375 3.75	V
Diode Forward Voltage Drop 內附二極管正向壓降(I <sub>SD</sub> =200mA, V <sub>GS</sub> =0V)	V <sub>SD</sub>	—	—	1.5	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V <sub>GS</sub> =0V, V <sub>DS</sub> = BV <sub>DSS</sub> )	I <sub>DSS</sub>	—	—	1	uA
Gate Body Leakage 柵極漏電流(V <sub>GS</sub> =±10V, V <sub>DS</sub> =0V) (V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V)	I <sub>GSS</sub>	—	—	±1 ±10	uA
Static Drain-Source On-State Resistance 靜態漏源導通電阻(I <sub>D</sub> =500mA, V <sub>GS</sub> =10V) (I <sub>D</sub> =50mA, V <sub>GS</sub> =5V)	R <sub>DS(ON)</sub>	—	—	2.8 3.2	Ω
ESD Rating 靜電保護	ESD	2000V 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 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°

