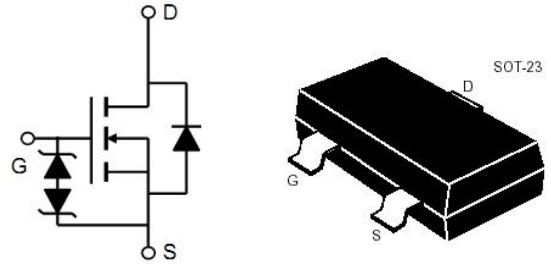




BSS138E

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 特性參數	Symbol 符號	Rat 額定值	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}	± 20	V
Drain Current (continuous) 漏極電流-連續	I_{DR}	220	mA
Drain Current (pulsed) 漏極電流-脈沖	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 $T_A=25^{\circ}C$ 環境溫度為 $25^{\circ}C$ Derate above $25^{\circ}C$ 超過 $25^{\circ}C$ 遞減	PD	225 1.8	mW mW/ $^{\circ}C$
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction and Storage Temperature 結溫和儲存溫度	T_J, T_{stg}	$150^{\circ}C, -55to+150^{\circ}C$	

BSS138E

■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}	60	—	—	V
Gate Threshold Voltage 柵極開啓電壓($I_D=250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	0.8	—	2.5	V
Drain-Source On Voltage 漏極-源極導通電壓($I_D=50\text{mA}, V_{GS}=5\text{V}$) ($I_D=500\text{mA}, V_{GS}=10\text{V}$)	$V_{DS(ON)}$	—	—	0.375 3.75	V
Diode Forward Voltage Drop 內附二極管正向壓降($I_{SD}=200\text{mA}, V_{GS}=0\text{V}$)	V_{SD}	—	—	1.3	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=BV_{DSS}$)	I_{DSS}	—	—	1	μA
Gate Body Leakage 柵極漏電流($V_{GS}=\pm 10\text{V}, V_{DS}=0\text{V}$) ($V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 1 ± 10	μA
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=500\text{mA}, V_{GS}=10\text{V}$)	$R_{DS(ON)}$	—	2	3	Ω
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=50\text{mA}, V_{GS}=5\text{V}$)	$R_{DS(ON)}$	—	3	4	Ω

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