

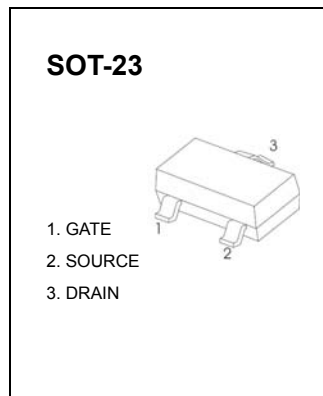
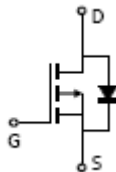
SOT-23 Plastic-Encapsulate MOSFETS

FEATURE

TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter



MARKING: B11

■ 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}	± 20	V
Drain Current (continuous)漏極電流-連續	I_D (at $T_A = 25^\circ\text{C}$)	-3	A
Drain Current (pulsed)漏極電流-脉冲	I_{DM}	-12	A
Total Device Dissipation 總耗散功率	P_{TOT} (at $T_A = 25^\circ\text{C}$ at $T_A = 70^\circ\text{C}$)	1.04 0.67	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\theta JA}$	120	$^\circ\text{C}/\text{W}$
Junction/Storage Temperature 結溫/儲存溫度	T_J, T_{stg}	-55~150	$^\circ\text{C}$

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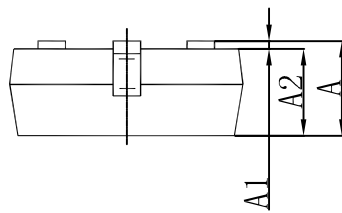
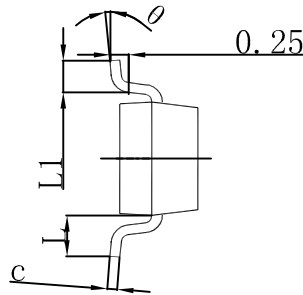
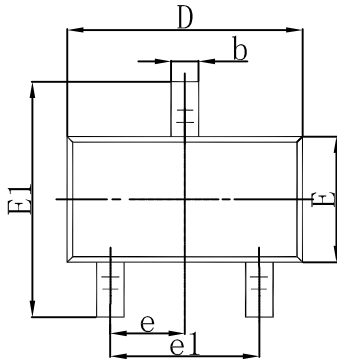
■ Maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

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($I_D=-250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	-1	—	-3	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=-30\text{V}$)	I_{DSS}	—	—	-1	μA
Gate Body Leakage 柵極漏電流($V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=-3.2\text{A}, V_{GS}=-10\text{V}$) ($I_D=-2.5\text{A}, V_{GS}=-4.5\text{V}$)	$R_{DS(on)}$	—	58 75	70 95	$\text{m}\Omega$
Diode Forward Voltage Drop 內附二極管正向壓降($I_{SD}=-1\text{A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	-1.2	V
Input Capacitance 輸入電容 ($V_{GS}=0\text{V}, V_{DS}=-15\text{V}, f=1\text{MHz}$)	C_{ISS}	—	460	—	pF
Common Source Output Capacitance 共源輸出電容($V_{GS}=0\text{V}, V_{DS}=-15\text{V}, f=1\text{MHz}$)	C_{OSS}	—	74	—	pF
Gate Source Charge 柵源電荷密度 ($V_{DS}=-15\text{V}, I_D=-1.7\text{A}, V_{GS}=-4.5\text{V}$)	Q_{gs}	—	2.8	—	nC
Gate Drain Charge 柵漏電荷密度 ($V_{DS}=-15\text{V}, I_D=-1.7\text{A}, V_{GS}=-4.5\text{V}$)	Q_{gd}	—	2.3	—	nC
Turn-On Delay Time 開啓延遲時間 ($V_{DS}=-15\text{V}, I_D=-1\text{A}, R_{GEN}=6\Omega, V_{GS}=-10\text{V}$)	$t_{d(on)}$	—	33	—	ns
Turn-On Rise Time 開啓上升時間 ($V_{DS}=-15\text{V}, I_D=-1\text{A}, R_{GEN}=6\Omega, V_{GS}=-10\text{V}$)	t_r	—	17	—	ns
Turn-Off Delay Time 關斷延遲時間 ($V_{DS}=-15\text{V}, I_D=-1\text{A}, R_{GEN}=6\Omega, V_{GS}=-10\text{V}$)	$t_{d(off)}$	—	39	—	ns
Turn-On Fall Time 開啓下降時間 ($V_{DS}=-15\text{V}, I_D=-1\text{A}, R_{GEN}=6\Omega, V_{GS}=-10\text{V}$)	t_f	—	5	—	ns

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

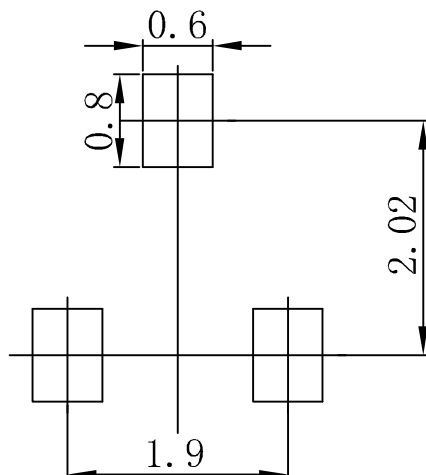
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SOT-23 Package Outline Dimensions



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.