



P-channel 60V, SOP-8 MOSFET P-溝道場效應管

■ **Features 特點**

Low on-resistance and maximum DC current capability 低導通電阻和最大直流電流能力

Super high density cell design 超高元胞密度設計

$R_{DS(ON)} \leq 72m\Omega @ V_{GS} = -10V$

$R_{DS(ON)} \leq 94m\Omega @ V_{GS} = -4.5V$

■ **Applications 應用**

Power Management in Note book 筆記本電源管理

Portable Equipment 便攜式設備

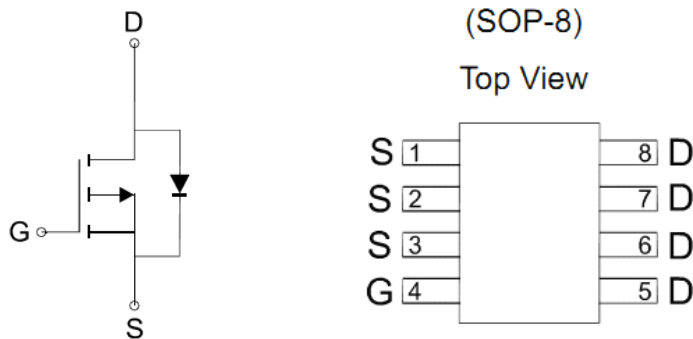
Battery Powered System 電池電源系統

DC/DC Converter 直流/直流變換

Load Switch 負載開關應用

LCD Display inverter 液晶顯示控制

■ **Internal Schematic Diagram 內部結構**



■ **Absolute 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}	± 20	V
Drain Current (continuous)漏極電流-連續	I_D (at $T_C = 25^\circ C$ at $T_C = 70^\circ C$)	-4.4 -3.5	A
Drain Current (pulsed)漏極電流-脈沖	I_{DM}	-18	A
Total Device Dissipation 總耗散功率	P_{TOT} (at $T_C = 25^\circ C$)	2.5	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\theta JA}$	50	$^\circ C/W$
Junction/Storage Temperature 結溫/儲存溫度	T_J, T_{stg}	-55~150	$^\circ C$



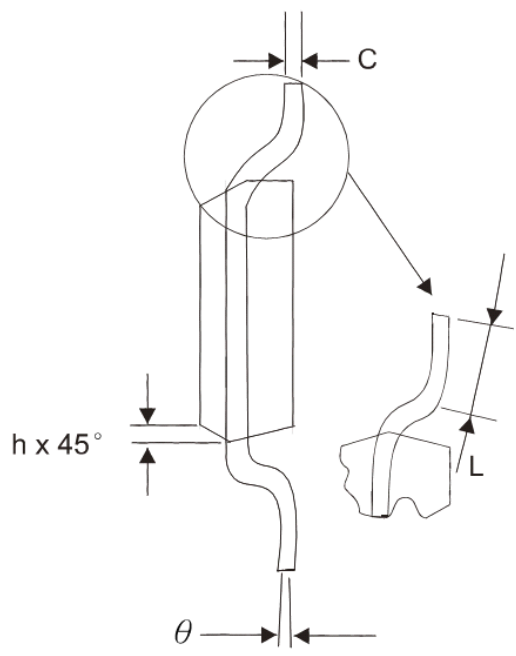
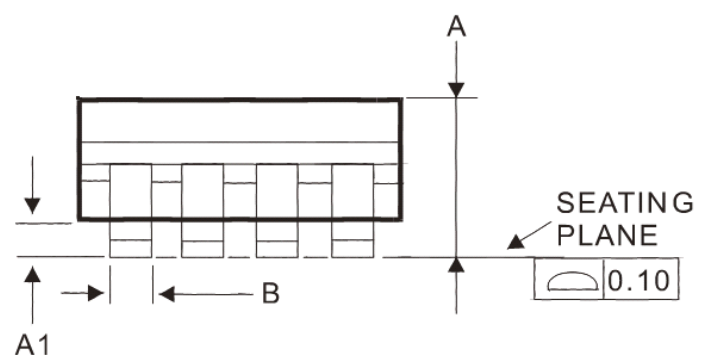
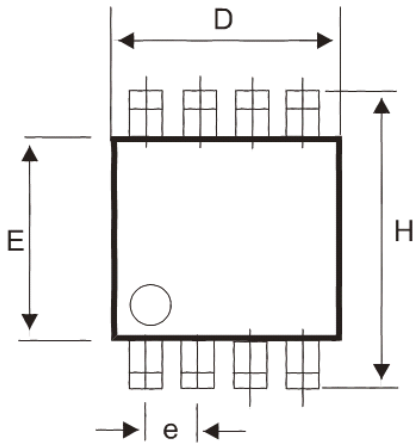
■ **Electrical Characteristics** 電特性

($T_A=25^{\circ}\text{C}$ 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($I_D=-250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	-1	—	-3	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=-60\text{V}$)	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($I_D=-5\text{A}, V_{GS}=-10\text{V}$) ($I_D=-4\text{A}, V_{GS}=-4.5\text{V}$)	$R_{DS(ON)}$	—	60 73	72 94	$\text{m}\Omega$
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}	—	-0.8	-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}	—	962	—	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}	—	100	—	pF
Reverse Transfer Capacitance 反向傳輸電容 ($V_{GS}=0\text{V}, V_{DS}=-15\text{V}, f=1\text{MHz}$)	C_{RSS}	—	33	—	pF
Gate Source Charge 柵源電荷密度 ($V_{DS}=-30\text{V}, I_D=-4\text{A}, V_{GS}=-4.5\text{V}$)	Q_{gs}	—	5.1	—	nC
Gate Drain Charge 柵漏電荷密度 ($V_{DS}=-30\text{V}, I_D=-4\text{A}, V_{GS}=-4.5\text{V}$)	Q_{gd}	—	4.9	—	nC
Turn-On Delay Time 開啓延遲時間 ($V_{DS}=-30\text{V}, I_D=-1\text{A}, R_{GEN}=3\Omega, V_{GS}=-10\text{V}$)	$t_{d(on)}$	—	38	—	ns
Turn-On Rise Time 開啓上升時間 ($V_{DS}=-30\text{V}, I_D=-1\text{A}, R_{GEN}=3\Omega, V_{GS}=-10\text{V}$)	t_r	—	18	—	ns
Turn-Off Delay Time 關斷延遲時間 ($V_{DS}=-30\text{V}, I_D=-1\text{A}, R_{GEN}=3\Omega, V_{GS}=-10\text{V}$)	$t_{d(off)}$	—	51	—	ns
Turn-On Fall Time 開啓下降時間 ($V_{DS}=-30\text{V}, I_D=-1\text{A}, R_{GEN}=3\Omega, V_{GS}=-10\text{V}$)	t_f	—	6	—	ns



■ DIMENSION 外形封裝尺寸



DIM	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.35	0.49
C	0.18	0.25
D	4.80	5.00
E	3.80	4.00
e	1.27 BSC	
H	5.80	6.20
h	0.25	0.50
L	0.40	1.25
θ	0°	7°