



**N-channel 100V, SOP-8 MOSFET N-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

$R_{DS(ON)}=11m\Omega(TYP)@V_{GS}=10V$

$R_{DS(ON)}=14m\Omega(TYP)@V_{GS}=4.5V$

■ **Applications 應用**

Fast Switching 高速開關應用

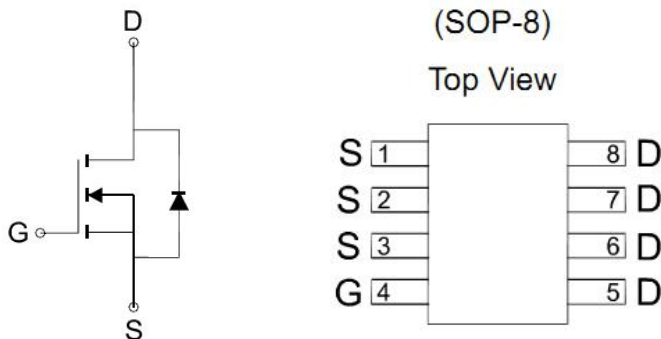
Synchronus Rectification 同步整流應用

Industrial and Motor Drive applications 工業及马达驱动應用

AC/DC、DC/DC Converter 交流/直流、直流/直流变换

UPS (Uninterruptible Power Supplies)不間斷電源應用

■ **Internal Schematic Diagram 內部結構**



■ **Absolute 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	$BV_{DSS}$	100	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 $T_C = 25^\circ C$ )	12	A
Drain Current (pulsed)漏極電流-脈沖	$I_{DM}$	46	A
Total Device Dissipation 總耗散功率	$P_{TOT}(at\ T_C = 25^\circ C)$	3.1	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\theta JA}$	40	$^\circ C/W$
Junction/Storage Temperature 結溫/儲存溫度	$T_J, T_{stg}$	-55~150	$^\circ C$



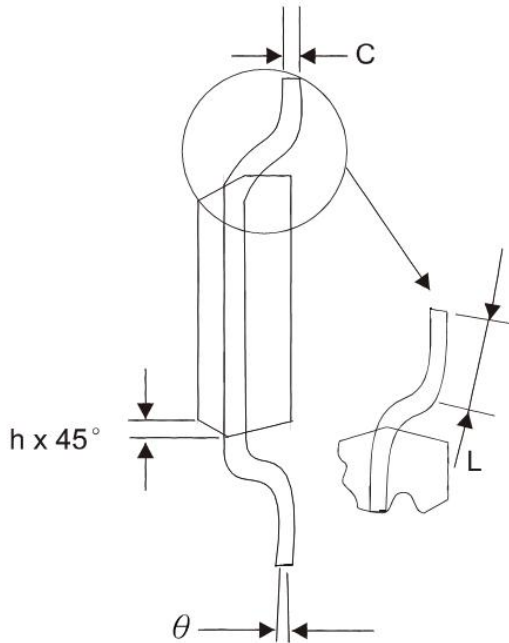
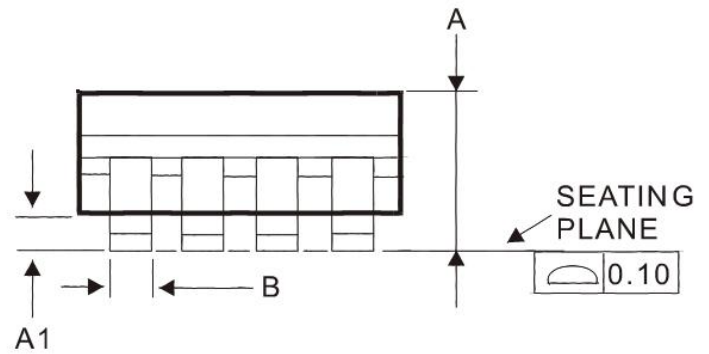
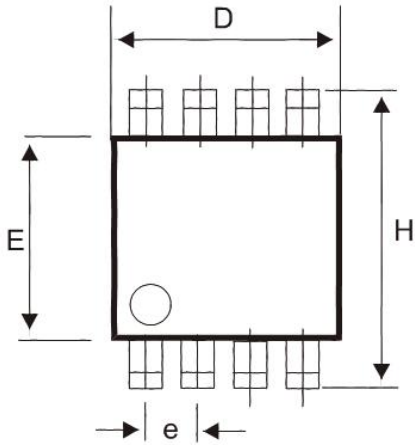
■ Electrical Characteristics 電特性

( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如無特殊說明，溫度為  $25^{\circ}\text{C}$ )

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( $I_D=250\mu\text{A}, V_{GS}=0\text{V}$ )	$BV_{DSS}$	107	—	—	V
Gate Threshold Voltage 柵極開啓電壓( $I_D=250\mu\text{A}, V_{GS}=V_{DS}$ )	$V_{GS(th)}$	1.4	1.8	2.2	V
Zero Gate Voltage Drain Current 零柵壓漏極電流( $V_{GS}=0\text{V}, V_{DS}=100\text{V}$ )	$I_{DSS}$	—	—	1	$\mu\text{A}$
Gate Body Leakage 柵極漏電流( $V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$ )	$I_{GSS}$	—	—	$\pm 100$	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=10\text{A}, V_{GS}=10\text{V}$ ) ( $I_D=4\text{A}, V_{GS}=4.5\text{V}$ )	$R_{DS(ON)}$	—	11 14	13 17	$\text{m}\Omega$
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	V
Input Capacitance 輸入電容 ( $V_{GS}=0\text{V}, V_{DS}=50\text{V}, f=1\text{MHz}$ )	$C_{ISS}$	—	2420	—	pF
Common Source Output Capacitance 共源輸出電容( $V_{GS}=0\text{V}, V_{DS}=50\text{V}, f=1\text{MHz}$ )	$C_{OSS}$	—	170	—	pF
Reverse Transfer Capacitance 反向傳輸電容 ( $V_{GS}=0\text{V}, V_{DS}=50\text{V}, f=1\text{MHz}$ )	$C_{RSS}$	—	11	—	pF
Total Gate Charge 總柵極電荷密度 ( $V_{DS}=50\text{V}, I_D=10\text{A}, V_{GS}=10\text{V}$ )	$Q_g$	—	33	—	nC
Gate Source Charge 柵源電荷密度 ( $V_{DS}=50\text{V}, I_D=10\text{A}, V_{GS}=10\text{V}$ )	$Q_{gs}$	—	7	—	nC
Gate Drain Charge 柵漏電荷密度 ( $V_{DS}=50\text{V}, I_D=10\text{A}, V_{GS}=10\text{V}$ )	$Q_{gd}$	—	4	—	nC
Turn-On Delay Time 開啓延遲時間 ( $V_{DS}=50\text{V}, I_D=2\text{A}, R_{GEN}=3\Omega, V_{GS}=10\text{V}$ )	$t_{d(on)}$	—	8	—	ns
Turn-On Rise Time 開啓上升時間 ( $V_{DS}=50\text{V}, I_D=2\text{A}, R_{GEN}=3\Omega, V_{GS}=10\text{V}$ )	$t_r$	—	3	—	ns
Turn-Off Delay Time 關斷延遲時間 ( $V_{DS}=50\text{V}, I_D=2\text{A}, R_{GEN}=3\Omega, V_{GS}=10\text{V}$ )	$t_{d(off)}$	—	25	—	ns
Turn-On Fall Time 開啓下降時間 ( $V_{DS}=50\text{V}, I_D=2\text{A}, R_{GEN}=3\Omega, V_{GS}=10\text{V}$ )	$t_f$	—	4	—	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°