桂林斯壯桂微電子有限責任公司
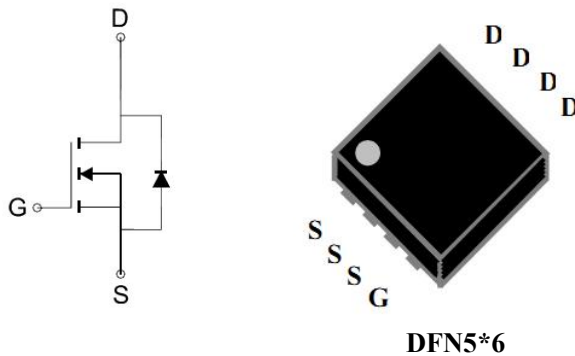## GSME Guilin Strong Micro-Electronics Co.,Ltd.

P-channel -40V, DFN5*6 MOSFET P-溝道場效應管

■Features 特點

Low on-resistance 低導通電阻
Advanced trench technology 優秀溝槽技術
Backside heat sink 背面熱沈
$R_{DS(ON)} \leq 13m\Omega@VGS=-10V$
$R_{DS(ON)} \leq 22m\Omega@VGS=-4.5V$

■Applications 應用

DC/DC Converter 直流/直流变换
Ideal for high-frequency switching Synchronous rectification 高频开关同步整流的理想选择

■Internal Schematic Diagram 內部結構

DFN5*6

■Absolute Maximum Ratings 最大額定值

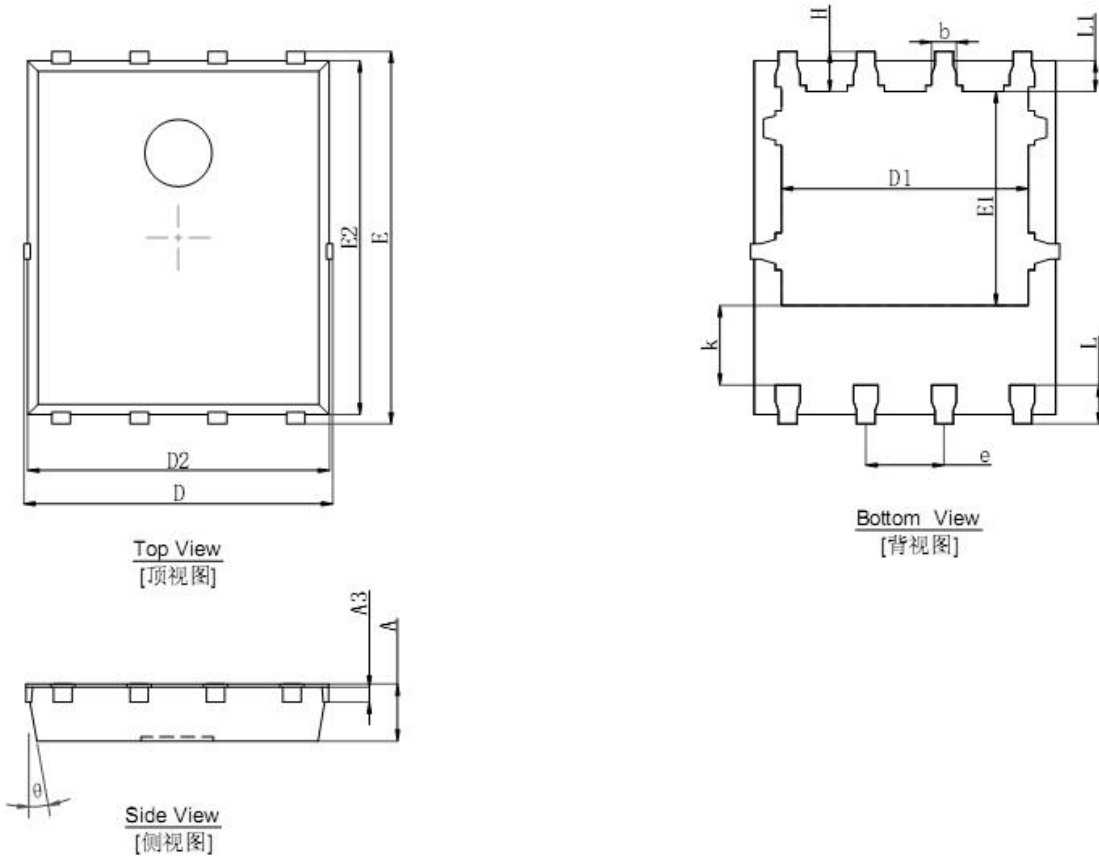| Characteristic 特性參數	Symbol 符號	Rat 額定值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	BV_{DSS}	-40	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	±20	V
Drain Current (continuous)漏極電流-連續	I_D	-40	A
Drain Current (pulsed)漏極電流-脉冲	I_{DM}	-100	A
Total Device Dissipation 總耗散功率	P_{TOT}(at $T_C = 25°C$)	35	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\theta JA}$	3.6	$°C/W$
Junction/Storage Temperature 結溫/儲存溫度	T_J, T_{stg}	-55~150	$°C$

■**Electrical Characteristics** 電特性

(T_A=25℃ unless otherwise noted 如無特殊說明，溫度爲 25℃)

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 =-250uA,V_{GS}=0V)	BV_{DSS}	-40	—	—	V
Gate Threshold Voltage 栅極開启電壓(I_D =-250uA,V_{GS}= V_{DS})	$V_{GS(th)}$	-1.0	-1.7	-2.5	V
Zero Gate Voltage Drain Current 零栅壓漏極電流(V_{GS}=0V, V_{DS}=-40V)	I_{DSS}	—	—	-1	uA
Gate Body Leakage 栅極漏電流(V_{GS}=±20V, V_{DS}=0V)	I_{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance 静态漏源導通電阻(I_D=-20A,V_{GS}=-10V) (I_D=-10A,V_{GS}=-4.5V)	$R_{DS(ON)}$	—	10 15	13 22	mΩ
Diode Forward Voltage Drop 内附二極管正向壓降(I_{SD}=-20A,V_{GS}=0V)	V_{SD}	—	—	-1.2	V
Input Capacitance 輸入電容 (V_{GS}=0V, V_{DS}=-20V,f=1MHz)	C_{ISS}	—	3030	—	pF
Common Source Output Capacitance 共源輸出電容(V_{GS}=0V, V_{DS}=-20V,f=1MHz)	C_{OSS}	—	362	—	pF
Reverse Transfer Capacitance 反向传輸電容 (V_{GS}=0V, V_{DS}=-20V,f=1MHz)	C_{RSS}	—	315	—	pF
Gate Source Charge 栅源電荷密度 (V_{DS}=-20V, I_D=-20A, V_{GS}=-10V)	Q_{gs}	—	7.8	—	nC
Gate Drain Charge 栅漏電荷密度 (V_{DS}=-20V, I_D=-20A, V_{GS}=-10V)	Q_{gd}	—	10.3	—	nC
Turn-On Delay Time 開启延迟時間 (V_{DS}=-20V, I_D=-20A, R_{GEN}=3Ω,V_{GS}=-10V)	$t_{d(on)}$	—	13	—	ns
Turn-On Rise Time 開启上升時間 (V_{DS}=-20V, I_D=-20A, R_{GEN}=3Ω,V_{GS}=-10V)	t_r	—	22	—	ns
Turn-Off Delay Time 關斷延迟時間 (V_{DS}=-20V, I_D=-20A, R_{GEN}=3Ω,V_{GS}=-10V)	$t_{d(off)}$	—	39	—	ns
Turn-On Fall Time 開启下降時間 (V_{DS}=-20V, I_D=-20A, R_{GEN}=3Ω,V_{GS}=-10V)	t_f	—	29.8	—	ns

■**DIMENSION 外形封裝尺寸**

Top View
[顶视图]

Bottom View
[背视图]

Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°