GM2007

P-channel 20V, DFN2*2-6 MOSFET P-溝道場效應管

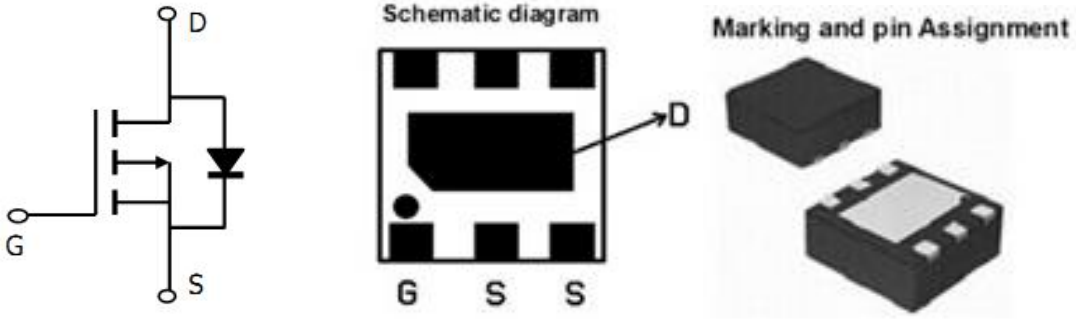
■Features 特點

Low gate charge 低柵極電荷密度
Advanced trench technology 優秀溝槽技術
Backside heat sink 背面熱沈
$R_{DS(ON)}$≤45mΩ@VGS=-4.5V
$R_{DS(ON)}$≤60mΩ@VGS=-2.5V

■Applications 應用

Load Switch 負載開關
PWM 脈寬調制應用
Power Management 電源管理

■Internal Schematic Diagram 內部結構



■Absolute Maximum Ratings 最大額定值

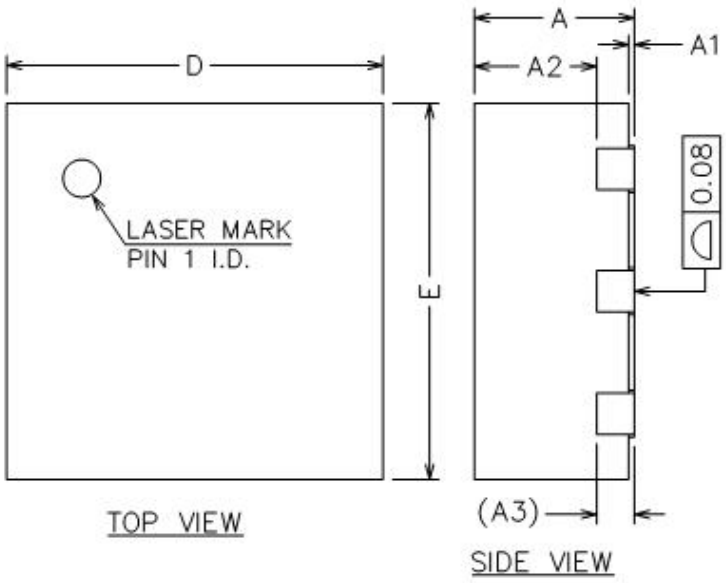
Characteristic 特性參數	Symbol 符號	Rating 額定值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	BV_{DSS}	-20	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	±10	V
Drain Current (continuous)漏極電流-連續	I_D	-7	A
Drain Current (pulsed)漏極電流-脉冲	I_{DM}	-15	A
Total Device Dissipation 總耗散功率	P_{TOT}(at T_C = 25°C)	2.7	W
Thermal Resistance Junction-Ambient 熱阻	$R_{\Theta JA}$	25	℃/W
Junction/Storage Temperature 結溫/儲存溫度	T_J,T_{stg}	-55~150	℃

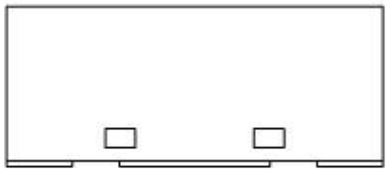
■Electrical Characteristics 電特性

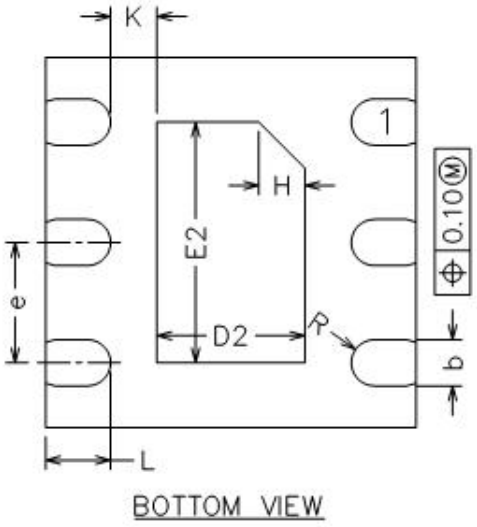
(T_A=25℃ unless otherwise noted 如無特殊說明，溫度爲 25℃)

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}	-20	—	—	V
Gate Threshold Voltage 柵極開启電壓(I_D =-250uA,V_{GS}= V_{DS})	$V_{GS(th)}$	-0.5	—	-1.5	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V_{GS}=0V, V_{DS}= -16V)	I_{DSS}	—	—	-1	uA
Gate Body Leakage 柵極漏電流(V_{GS}=±8V, V_{DS}=0V)	I_{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance 静态漏源導通電阻(I_D=-5A,V_{GS}=-4.5V) (I_D=-3A,V_{GS}=-2.5V)	$R_{DS(ON)}$	—	—	45 60	mΩ
Diode Forward Voltage Drop 内附二極管正向壓降(I_{SD}=-1A,V_{GS}=0V)	V_{SD}	—	—	-1	V
Forward Transfer Admittance 正向傳輸導納(V_{DS}=-5V, I_D=-3.5A)	g_{FS}	—	8	—	S
Input Capacitance 輸入電容 (V_{GS}=0V, V_{DS}=-10V,f=1MHz)	C_{ISS}	—	600	—	pF
Common Source Output Capacitance 共源輸出電容(V_{GS}=0V, V_{DS}=-10V,f=1MHz)	C_{OSS}	—	120	—	pF
Reverse Transfer Capacitance 反向传輸電容 (V_{GS}=0V, V_{DS}=-10V,f=1MHz)	C_{RSS}	—	80	—	pF
Gate Source Charge 柵源電荷密度 (V_{DS}=-10V, I_D=-3A, V_{GS}=-4.5V)	Q_{gs}	—	5.5	—	nC
Gate Drain Charge 柵漏電荷密度 (V_{DS}=-10V, I_D=-3A, V_{GS}=-4.5V)	Q_{gd}	—	3.3	—	nC
Turn-On Delay Time 開启延迟時間 (V_{DS}=-10V, R_L=1.8Ω, R_{GEN}=3Ω,V_{GS}=-4.5V)	$t_{d(on)}$	—	5	—	ns
Turn-On Rise Time 開启上升時間 (V_{DS}=-10V, R_L=1.8Ω, R_{GEN}=3Ω,V_{GS}=-4.5V)	t_r	—	2	—	ns
Turn-Off Delay Time 關断延迟時間 (V_{DS}=-10V, R_L=1.8Ω, R_{GEN}=3Ω,V_{GS}=-4.5V)	$t_{d(off)}$	—	16	—	ns
Turn-On Fall Time 開启下降時間 (V_{DS}=-10V, R_L=1.8Ω, R_{GEN}=3Ω,V_{GS}=-4.5V)	t_f	—	2	—	ns

■DIMENSION 外形封裝尺寸







COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
A2	0.60	0.65	0.70
A3		0.20REF	
b	0.18	0.25	0.30
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.70	0.80	0.90
E2	1.20	1.30	1.40
e	0.55	0.65	0.75
H		0.25REF	
K	0.20	–	–
L	0.30	0.35	0.40
R	0.11	–	–