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

GMP630

N-channel 200V, 9A, TO-220　Power MOSFET 功率場效應管

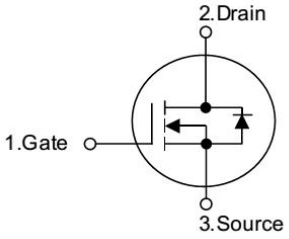
■Features 特點

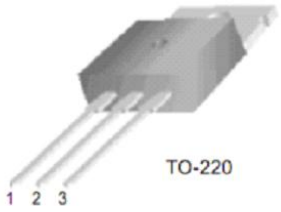
Fast switching 快速開關
Improved dv/dt Capability 優化電壓變率能力
100% Avalanche Tested 雪崩測試

■Applications 應用

Switch mode power supplies 開關電源
DC-DC converters and UPS 直流直流变换和不间断電源
PWM motor controls 脉宽调制電机控制
Power Factor Correction 功率因數校正

■Internal Schematic Diagram 內部結構





■Absolute Maximum Ratings 最大額定值

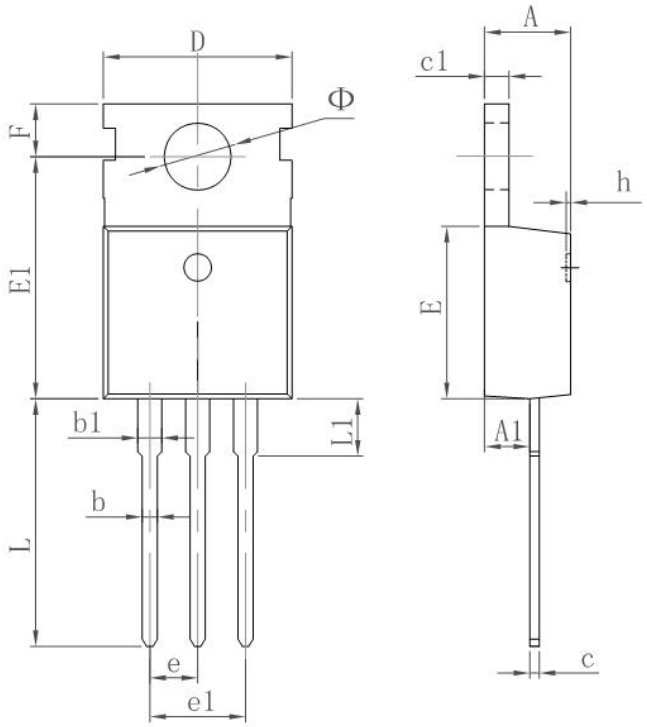
Characteristic 特性參數	Symbol 符號	Rat 額定值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	BV_{DSS}	200	V
Gate- Source Voltage 柵極-源極電壓	V_{GS}	±20	V
Drain Current (continuous)漏極電流-連續	I_D（at TC = 25°C）	9	A
Drain Current (pulsed)漏極電流-脉冲	I_{DM}	36	A
Total Device Dissipation 總耗散功率	P_{TOT}(at TC = 25°C)	96	W
Avalanche Energy, Single Pulsed 單脉冲雪崩能量	E_{AS}	100	mJ
Thermal Resistance Junction-Case 熱阻	$R_{\Theta JC}$	1.3	℃/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}	200	—	—	V
Gate Threshold Voltage 柵極開启電壓(I_D =250uA,V_{GS}= V_{DS})	$V_{GS(th)}$	2	3	4	V
Zero Gate Voltage Drain Current 零柵壓漏極電流(V_{GS}=0V, V_{DS}= 200V)	I_{DSS}	—	—	5	uA
Gate Body Leakage 柵極漏電流(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=4.5A,V_{GS}=10V)	$R_{DS(ON)}$	—	0.25	0.3	Ω
Source Drain Current 源極-漏極電流	I_{SD}	—	—	9	A
Diode Forward Voltage Drop 内附二極管正向壓降(I_{SD}=9A,V_{GS}=0V)	V_{SD}	—	—	1.4	V
Input Capacitance 輸入電容 (V_{GS}=0V, V_{DS}=25V,f=1MHz)	C_{ISS}	—	684	—	pF
Common Source Output Capacitance 共源輸出電容(V_{GS}=0V, V_{DS}=25V,f=1MHz)	C_{OSS}	—	103	—	pF
Reverse Transfer Capacitance 反向傳輸電容(V_{GS}=0V, V_{DS}=25V,f=1MHz)	C_{RSS}	—	37	—	pF
Total Gate Charge 柵極電荷密度 (V_{DS}=160V, I_D=9A, V_{GS}=10V)	Q_g	—	13.5	—	nC
Gate Source Charge 柵源電荷密度 (V_{DS}=160V, I_D=9A, V_{GS}=10V)	Q_{gs}	—	2	—	nC
Gate Drain Charge 柵漏電荷密度 (V_{DS}=160V, I_D=9A, V_{GS}=10V)	Q_{gd}	—	6	—	nC
Turn-On Delay Time 開启延迟時間 (V_{DS}=100V, I_D=9A, R_{GEN}=25Ω,V_{GS}=10V)	$t_{d(on)}$	—	12	—	ns
Turn-On Rise Time 開启上升時間 (V_{DS}=100V, I_D=9A, R_{GEN}=25Ω,V_{GS}=10V)	t_r	—	22	—	ns
Turn-Off Delay Time 關断延迟時間 (V_{DS}=100V, I_D=9A, R_{GEN}=25Ω,V_{GS}=10V)	$t_{d(off)}$	—	50	—	ns
Turn-On Fall Time 開启下降時間 (V_{DS}=100V, I_D=9A, R_{GEN}=25Ω,V_{GS}=10V)	t_f	—	48	—	ns

■DIMENSION 外形封裝尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540TYPE		0.100TYPE	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155