



N-channel 75V, 10mΩ, 80A, TO-220 Trench Power MOSFET 沟槽式功率场效应管

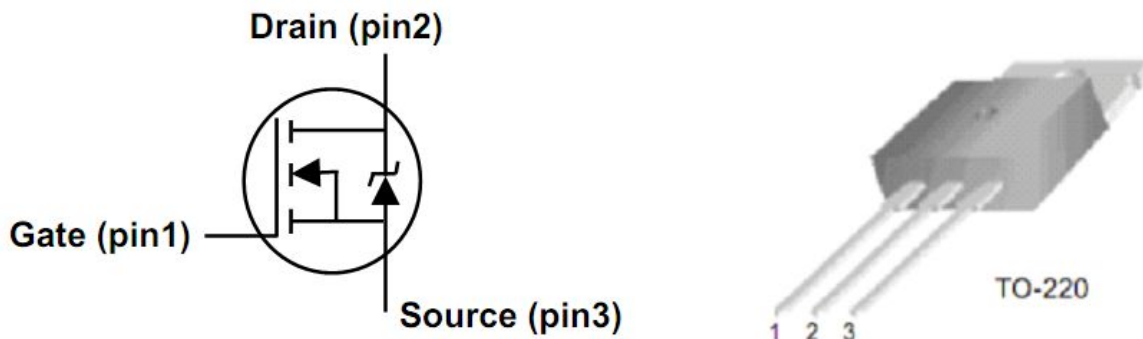
■ **Features 特點**

Advanced trench technology 优秀沟槽技术
Ultra low on-resistance 超低導通電阻
Low gate charge 低栅電荷密度
Fast switching 快速開關能力
High operating temperature 高工作温度范围

■ **Applications 应用**

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 脉宽调制电机控制
General switching applications 普通開關应用

■ **Internal Schematic Diagram 内部结构**



■ **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}	75	V
Gate- Source Voltage 栅極-源極電壓	V_{GS}	± 25	V
Drain Current (continuous)漏極電流-連續	I_D (at $T_C = 25^\circ C$ at $T_C = 70^\circ C$)	93 78	A
Drain Current (pulsed)漏極電流-脉冲	I_{DM}	372	A
Total Device Dissipation 總耗散功率	P_{TOT} (at $T_C = 25^\circ C$)	200	W
Thermal Resistance Junction-Case 熱阻	$R_{\theta JC}$	0.75	$^\circ C/W$
Junction/Storage Temperature 結溫/儲存溫度	T_J, T_{stg}	-55~175	$^\circ C$



■ 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}	75	—	—	V
Gate Threshold Voltage 柵極開啓電壓($I_D=250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	2	—	4	V
Zero Gate Voltage Drain Current 零柵壓漏極電流($V_{GS}=0\text{V}, V_{DS}=75\text{V}$)	I_{DSS}	—	—	1	μA
Gate Body Leakage 柵極漏電流($V_{GS}=\pm 25\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻($I_D=40\text{A}, V_{GS}=10\text{V}$)	$R_{DS(ON)}$	—	8	10	$\text{m}\Omega$
Source Drain Current 源極-漏極電流	I_{SD}	—	—	75	A
Source Drain Current (pulsed) 源極-漏極電流(脈沖)	I_{SDM}	—	—	380	A
Diode Forward Voltage Drop 內附二極管正向壓降($I_{SD}=40\text{A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	1.2	V
Input Capacitance 輸入電容 ($V_{GS}=0\text{V}, V_{DS}=20\text{V}, f=1\text{MHz}$)	C_{ISS}	—	—	6200	pF
Common Source Output Capacitance 共源輸出電容($V_{GS}=0\text{V}, V_{DS}=20\text{V}, f=1\text{MHz}$)	C_{OSS}	—	—	437	pF
Gate Source Charge 柵源電荷密度 ($V_{DS}=60\text{V}, I_D=75\text{A}, V_{GS}=4.5\text{V}$)	Q_{gs}	—	36	—	nC
Gate Drain Charge 柵漏電荷密度 ($V_{DS}=60\text{V}, I_D=75\text{A}, V_{GS}=4.5\text{V}$)	Q_{gd}	—	50	—	nC
Turn-ON Time 開啓時間 ($V_{DS}=30\text{V}, I_D=45\text{A}, R_{GEN}=4.7\Omega, V_{GS}=10\text{V}$)	$t_{(on)}$	—	60	—	ns
Turn-OFF Time 關斷時間 ($V_{DS}=30\text{V}, I_D=45\text{A}, R_{GEN}=4.7\Omega, V_{GS}=10\text{V}$)	$t_{(off)}$	—	159	—	ns