

20V P-Channel Enhancement-Mode MOSFET 20 V P 沟道增强型 MOS 管

$V_{DS} = -20V$

ESD Protected: 3000V

$R_{DS(ON)}, V_{GS} @ -1.8V, I_{ds} @ -2.0A = 73m\Omega$

$R_{DS(ON)}, V_{GS} @ -2.5V, I_{ds} @ -4.0A = 54m\Omega$

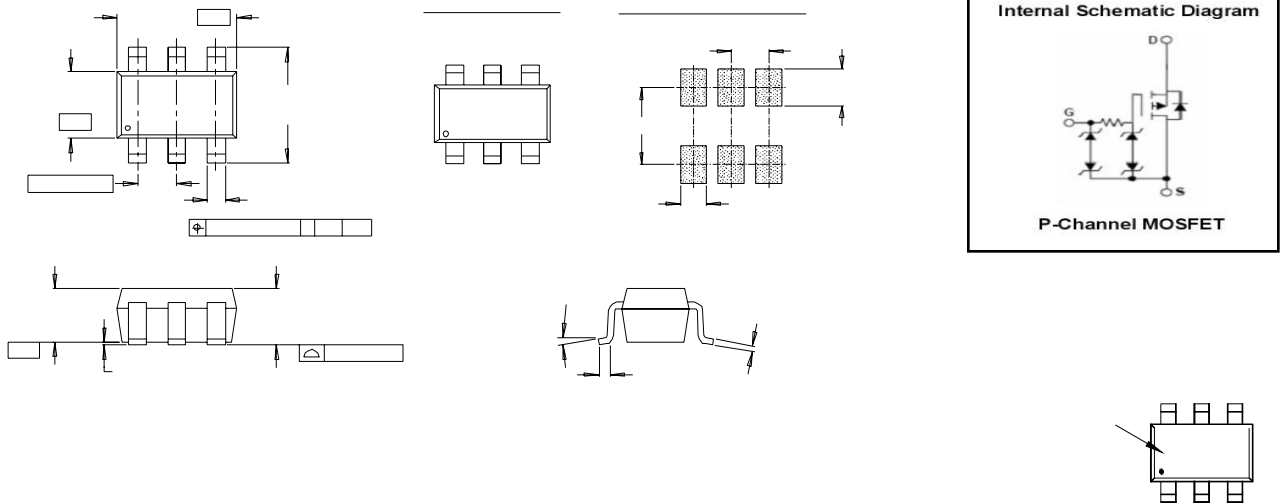
$R_{DS(ON)}, V_{GS} @ -4.5V, I_{ds} @ -5.5A = 43m\Omega$

Features 特性

Advanced trench process technology 高级的加工技术

High Density Cell Design For Ultra Low On-Resistance 极低的导通电阻高密度的单元设计

Package Dimensions 封装尺寸及外形图



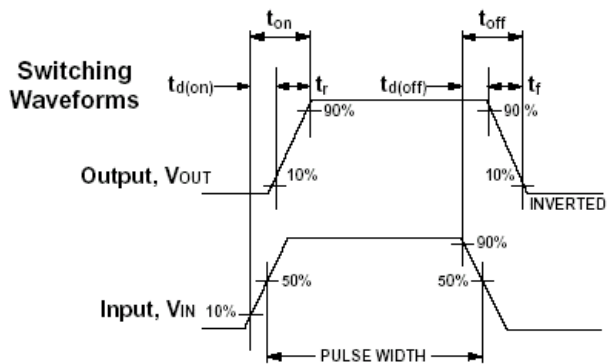
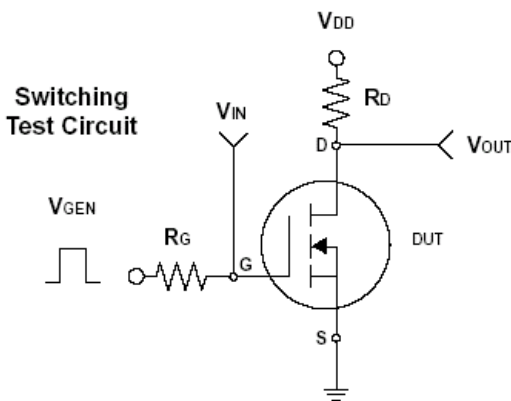
Maximum Ratings and Thermal Characteristics (TA = unless otherwise noted) 25 °C 极限参数和热特性

Parameter 极限参数	Symbol 符号	Limit 范围	Unit 单位	
Drain-Source Voltage 漏源电压	V_{DS}	-20	V	
Gate-Source Voltage 栅源电压	V_{GS}	± 8		
Continuous Drain Current 连续漏极电流	I_D	-5.5	A	
Pulsed Drain Current 脉冲漏极电流	I_{DM}	-30		
Maximum Power Dissipation 最大耗散功率	P_D	TA = 25°C	1.4	W
		TA = 75°C	0.9	
Operating Junction and Storage Temperature Range 使用及储存温度	T_J, T_{stg}	-55 to 150	°C	
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻	$R_{\theta JA}$	140	°C/W	

ELECTRICAL CHARACTERISTICS 一般电气特性

Parameter 参数	符号	Test Condition 测试条件	最小值	典型值	最大值	单位
Static 静态参数						
Drain-Source Breakdown Voltage 漏源击穿电压	BV_{DSS}	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -1.8V, I_D = -2.0A$		73.0	85.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -2.5V, I_D = -4.0A$		54.0	65.0	
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -5.5A$		43.0	55.0	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.3		-1.0	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1	μA
Gate Body Leakage 漏极短路时截止栅电流	I_{GSS}	$V_{GS} = \pm 8V, V_{DS} = 0V$			± 10	μA
Gate Resistance G 极电阻	R_g	$V_{DS} = 0V, f = 1.0MHz$		6.5		Ω
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	$V_{DS} = -10V, I_D = -5.5A$ $V_{GS} = -4.5V$		10.2		nC
Gate-Source Charge 栅-源极电荷	Q_{gs}			0.84		
Gate-Drain Charge 栅-漏极电荷	Q_{gd}			2.53		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	$V_{DD} = -10V, R_L = 10\Omega$ $I_D = -1A, V_{GEN} = -4.5V$ $R_G = 3\Omega$		300		ns
Turn-On Rise Time 导通上升时间	t_r			780		
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			5073		
Turn-Off Fall Time 关断下降时间	t_f			2157		
Input Capacitance 输入电容	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V$ $f = 1.0MHz$		925		pF
Output Capacitance 输出电容	C_{oss}			115		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			77.5		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I_S				-2.2	A
Diode Forward Voltage 正向电压	V_{SD}	$I_S = 1.0, V_{GS} = 0V$			-1.0	V

Note: Pulse test: pulse width ≤ 300us, duty cycle ≤ 2% 注意: 脉冲测试: 脉冲宽度 ≤ 300us 死区 ≤ 2%



P-Channel Enhancement Mode Mosfet

Typical Characteristics (T_J = 25°C Noted)

