

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

**VDS= -20V**

**RDS(ON), Vgs@- 4.5V, Ids@- 4.7A = 60mΩ**

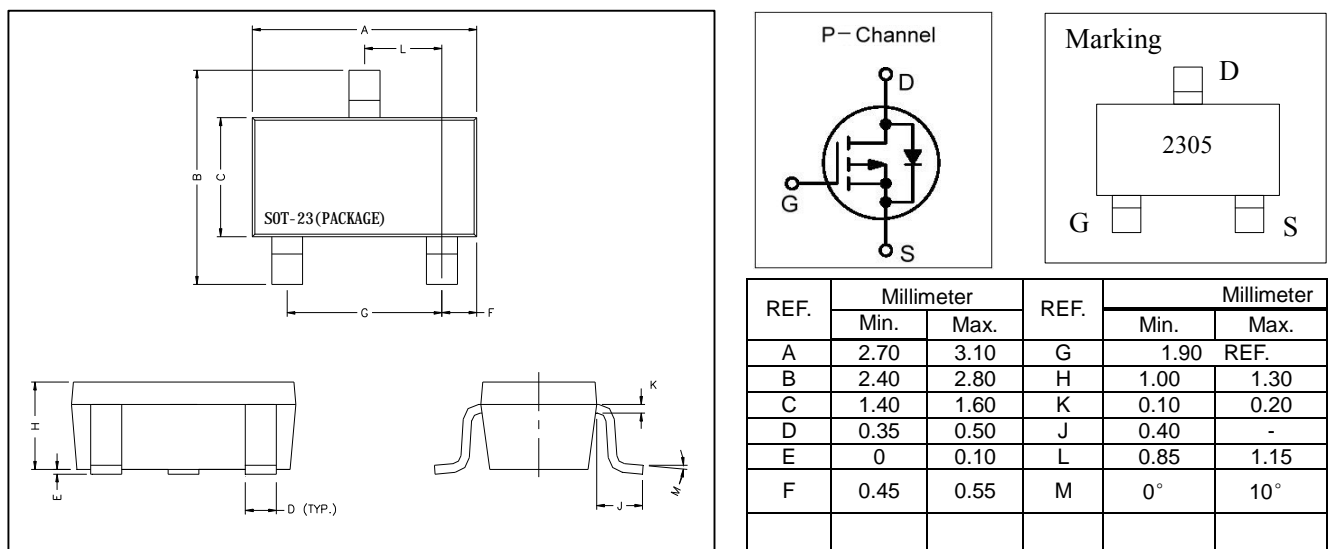
**RDS(ON), Vgs@- 2.5V, Ids@- 1.0A = 80mΩ**

## 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



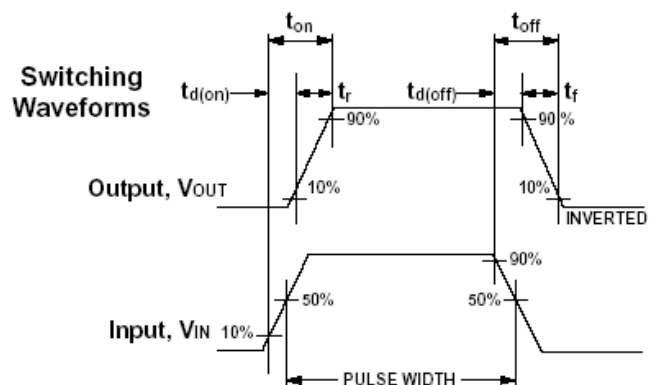
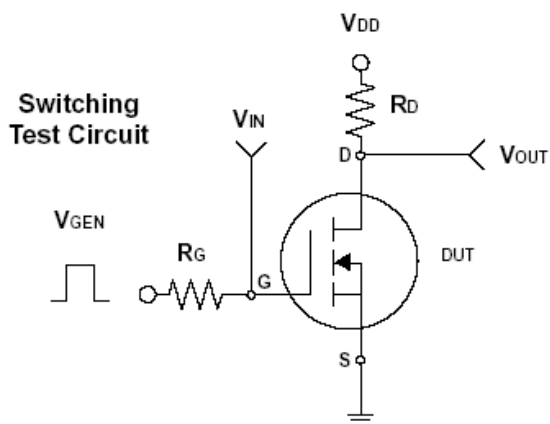
Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted) 25°C 极限参数和热特性

Parameter 极限参数		Symbol 符号	Limit 范围	Unit 单位
Drain-Source Voltage 漏源电压		V <sub>DS</sub>	-20	V
Gate-Source Voltage 栅源电压		V <sub>GS</sub>	± 12	
Continuous Drain Current 连续漏极电流		I <sub>D</sub>	-4.7	A
Pulsed Drain Current 脉冲漏极电流		I <sub>DM</sub>	-20	
Maximum Power Dissipation 最大耗散功率	TA = 25°C	P <sub>D</sub>	1.1	W
	TA = 75°C		0.7	
Operating Junction and Storage Temperature Range 使用及储存温度		T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻		R <sub>θJA</sub>	110	°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 <sub>DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250uA	-20			V
Drain-Source On-State Resistance 漏源导通电阻	R <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -4.7A		48.0	60.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	R <sub>DS(on)</sub>	V <sub>GS</sub> = -2.7V, I <sub>D</sub> = -3.8A		66.0	78.0	
Drain-Source On-State Resistance 漏源导通电阻	R <sub>DS(on)</sub>	V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -1.0A		68.0	80.0	
Gate Threshold Voltage 开启电压	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> = -250uA	-0.6	-0.85	-1.4	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I <sub>DSS</sub>	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0V			-1	uA
Gate Body Leakage 漏极短路时截止栅电流	I <sub>GSS</sub>	V <sub>GS</sub> = ± 12V, V <sub>DS</sub> = 0V			±100	nA
Forward Transconductance 正向跨导	g <sub>fs</sub>	V <sub>DS</sub> = -10V, I <sub>D</sub> = -4.7A		8.0	—	S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q <sub>g</sub>	V <sub>DS</sub> = -10V, I <sub>D</sub> = -4.7A V <sub>GS</sub> = -4.5V		24	36	nC
Gate-Source Charge 栅-源极电荷	Q <sub>gs</sub>			18		
Gate-Drain Charge 栅-漏极电荷	Q <sub>gd</sub>			2.7		
Turn-On Delay Time 导通延迟时间	t <sub>d(on)</sub>	V <sub>DD</sub> = -10V, R <sub>L</sub> =10Ω I <sub>D</sub> = -1A, V <sub>GEN</sub> = -4.5V R <sub>G</sub> = 6Ω		22	35	ns
Turn-On Rise Time 导通上升时间	t <sub>r</sub>			35	55	
Turn-Off Delay Time 关断延迟时间	t <sub>d(off)</sub>			45	70	
Turn-Off Fall Time 关断下降时间	t <sub>f</sub>			25	40	
Input Capacitance 输入电容	C <sub>iss</sub>	V <sub>DS</sub> = -6V, V <sub>GS</sub> = 0V f = 1.0 MHz		837		pF
Output Capacitance 输出电容	C <sub>oss</sub>			223		
Reverse Transfer Capacitance 反向传输电容	C <sub>rss</sub>			87		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I <sub>S</sub>				-1.7	A
Diode Forward Voltage 正向电压	V <sub>SD</sub>	I <sub>S</sub> = -1.7A, V <sub>GS</sub> = 0V			-1.2	V

Note: Pulse test: pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$  注意: 脉冲测试: 脉冲宽度  $\leq 300\mu s$  死区  $\leq 2\%$



Characteristics Curve 电气性能特征曲线

Typical Characteristics (TJ = 25°C •Noted)

