

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

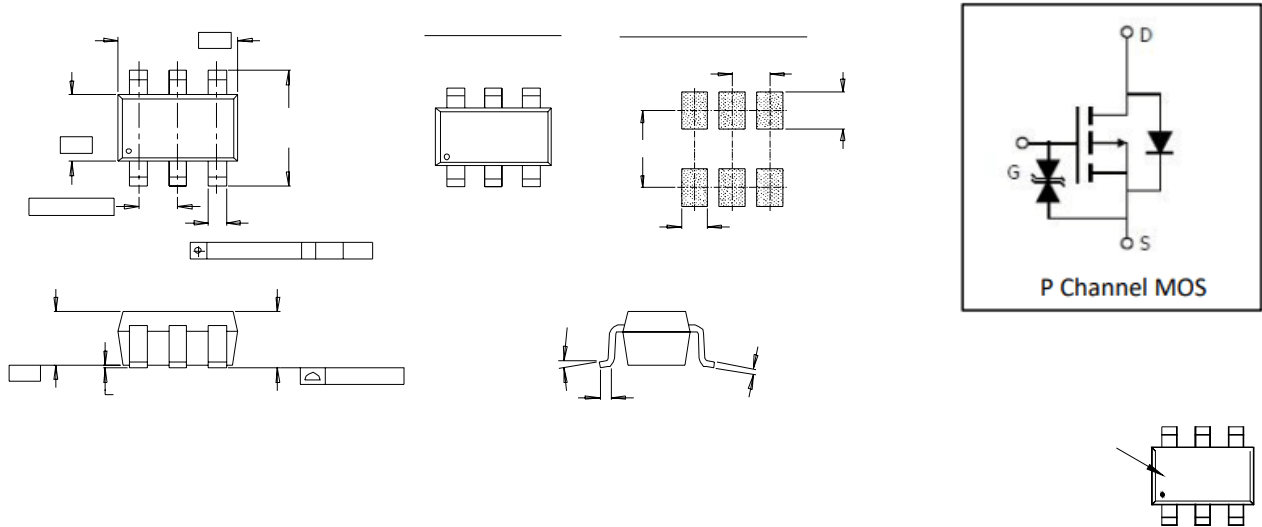
Advanced trench process technology

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



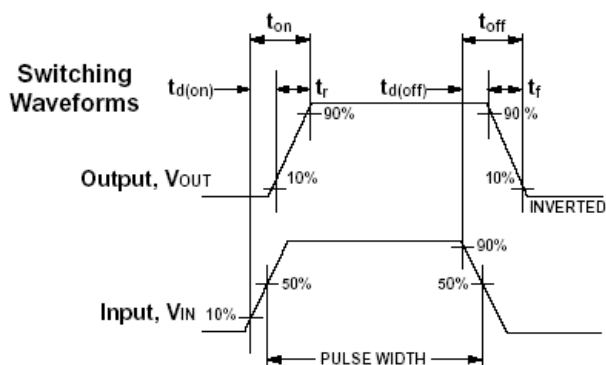
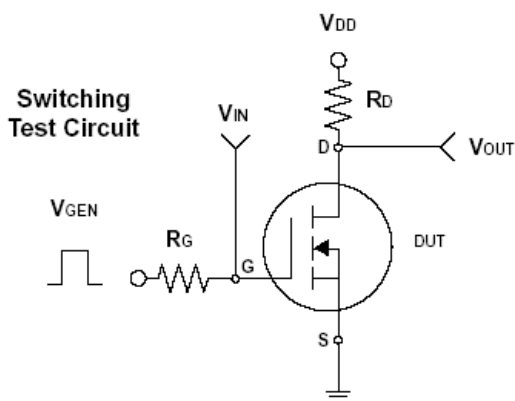
Maximum Ratings and Thermal Characteristics (TA = unless otherwise noted) 25°C 极限参数和热特性

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	$V_{GS}$	$\pm 8$	
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	$P_D$	1.4	W
		0.9	
Operating Junction and Storage Temperature Range 使用及储存温度	$T_J, T_{stg}$	-55 to 150	$^{\circ}C$
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻	$R_{\theta JA}$	140	$^{\circ}C/W$

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> = -1.8V, I <sub>D</sub> = -2.0 A		73.0	85.0	mΩ
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> = -4.0 A		54.0	65.0	
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> = -5.5 A		43.0	55.0	
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	-0.3		-1.0	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I <sub>DSS</sub>	V <sub>DS</sub> = -16V, 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> = ± 8V, V <sub>DS</sub> = 0V			± 10	uA
Gate Resistance G 极电阻	R <sub>g</sub>	V <sub>DS</sub> = 0V, f = 1.0MHz		6.5		Ω
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q <sub>g</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -5.5 A V <sub>GS</sub> = -4.5V		10.2		nC
Gate-Source Charge 栅-源极电荷	Q <sub>gs</sub>			0.84		
Gate-Drain Charge 栅-漏极电荷	Q <sub>gd</sub>			2.53		
Turn-On Delay Time 导通延迟时间	t <sub>d(on)</sub>	V <sub>DD</sub> = -10 V, R <sub>L</sub> =10Ω I <sub>D</sub> = -1 A, V <sub>GEN</sub> =- 4.5V R <sub>G</sub> = 3 Ω		300		ns
Turn-On Rise Time 导通上升时间	t <sub>r</sub>			780		
Turn-Off Delay Time 关断延迟时间	t <sub>d(off)</sub>			5073		
Turn-Off Fall Time 关断下降时间	t <sub>f</sub>			2157		
Input Capacitance 输入电容	C <sub>iss</sub>	V <sub>DS</sub> = -10 V, V <sub>GS</sub> = 0V f = 1.0 MHz		925		pF
Output Capacitance 输出电容	C <sub>oss</sub>			115		
Reverse Transfer Capacitance 反向传输电容	C <sub>rss</sub>			77.5		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I <sub>S</sub>				-2.2	A
Diode Forward Voltage 正向电压	V <sub>SD</sub>	I <sub>S</sub> = 1.0, V <sub>GS</sub> = 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<sub>J</sub> = 25°C Noted)

