

YGMOS Technology Crop.

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

$V_{DS} = -20V$

$R_{DS(ON)}, V_{GS} @ -10V, I_{ds} @ -5.3A = 60m\Omega$

$R_{DS(ON)}, V_{GS} @ -4.5V, I_{ds} @ -4.2A = 90m\Omega$

Features 特性

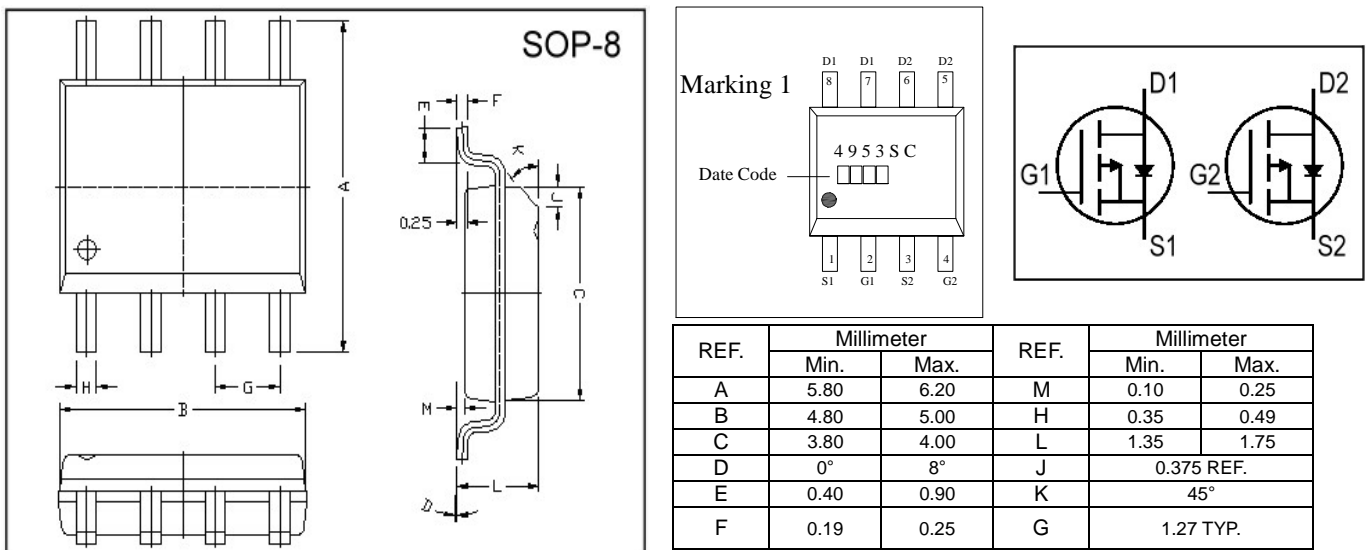
Advanced trench process technology 高级的加工技术

High Density Cell Design For Ultra Low On-Resistance

极低的导通电阻高密度的单元设计

Improved Shoot-Through FOM 改进的成型工艺

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

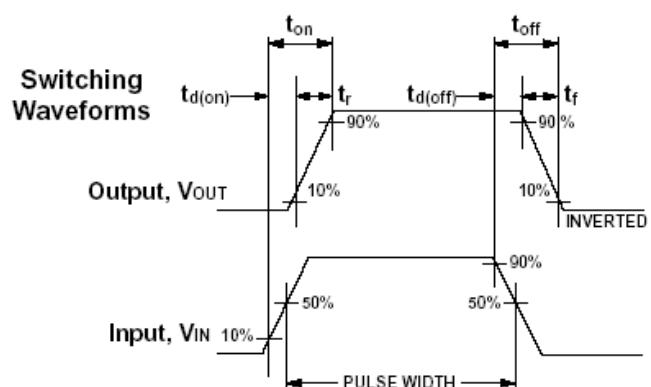
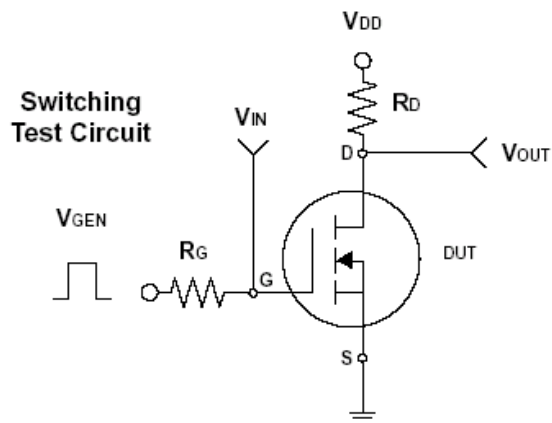
Parameter 极限参数	Symbol 符号	Limit 范围	Unit 单位	
Drain-Source Voltage 漏源电压	V_{DS}	- 20	V	
Gate-Source Voltage 栅源电压	V_{GS}	± 20		
Continuous Drain Current 连续漏极电流	I_D	-4.2	A	
Pulsed Drain Current 脉冲漏极电流	I_{DM}	-20		
Maximum Power Dissipation 最大耗散功率	P_D	TA = 25°C	2.5	W
		TA = 75°C	1.2	
Operating Junction and Storage Temperature Range 使用及储存温度	T_J, T_{stg}	-55 to 150	°C	
Junction-to-Case Thermal Resistance 结壳热阻	$R_{\theta JC}$	24	°C/W	
Junction-to-Ambient Thermal Resistance (PCB mounted) 结环热阻	$R_{\theta JA}$	62.5		

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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	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -4.2A$		70.0	90.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -5.3A$		49.0	60.0	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-3	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			1	uA
Gate Body Leakage 漏极短路时截止栅电流	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			±100	nA
Forward Transconductance 正向跨导	g_{fs}	$V_{DS} = -10V, I_D = -5.3A$		10	—	S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	$V_{DS} = -15V, I_D = -1.5A$ $V_{GS} = -10V$		0.4		nC
Gate-Source Charge 栅-源极电荷	Q_{gs}			2.3		
Gate-Drain Charge 栅-漏极电荷	Q_{gd}			3.47		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	$V_{DD} = -15V, R_L = 5\ \Omega$ $I_D = -1A, V_{GEN} = -4.5V$ $R_G = 6\ \Omega$		6.75		ns
Turn-On Rise Time 导通上升时间	t_r			3.57		
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			63.2		
Turn-Off Fall Time 关断下降时间	t_f			53.3		
Input Capacitance 输入电容	C_{iss}	$V_{DS} = -6V, V_{GS} = 0V$ $f = 1.0\ MHz$		302		pF
Output Capacitance 输出电容	C_{oss}			73		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			63		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I_S				-2.6	A
Diode Forward Voltage 正向电压	V_{SD}	$I_S = -2.6A, V_{GS} = 0V$		-0.73	-1.3	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 $\leq 2\%$



YGMOS Technology Corp.

Characteristics Curve 电性能特征曲线

Typical Characteristics ($T_J = 25^\circ\text{C}$ Noted)

