

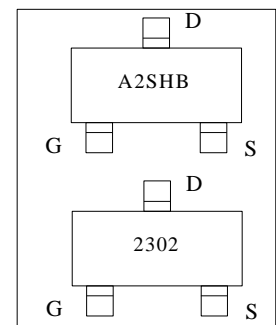
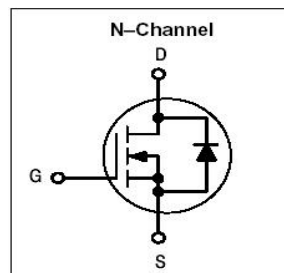
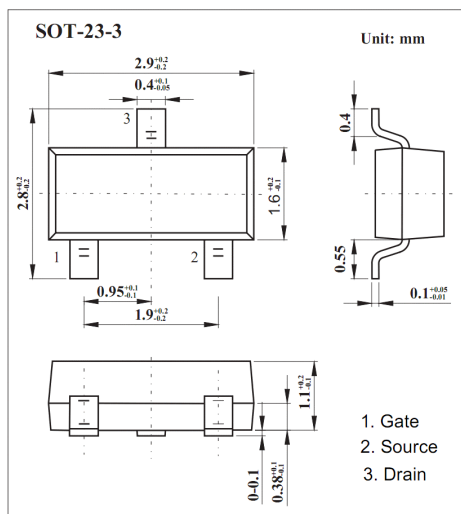
YGMOS Technology Crop.

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

VDS= 20V
RDS(ON), Vgs@4.5V, Ids@2.8A = 60mΩ
RDS(ON), Vgs@2.5V, Ids@2.0A = 115mΩ
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

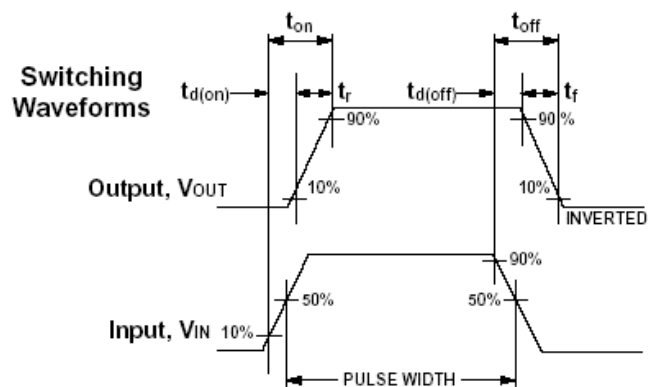
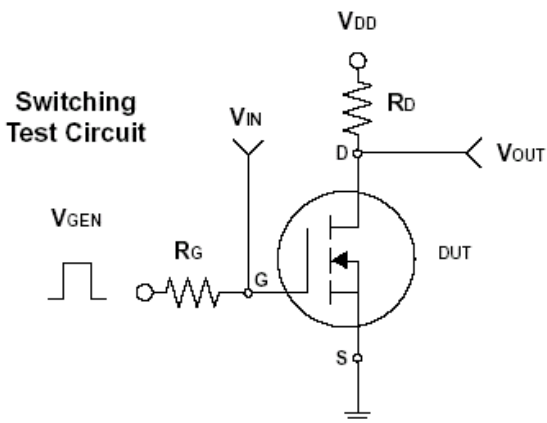
Package Dimensions 封装尺寸及外形图

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_{DS}	20	V	
Gate-Source Voltage 栅源电压	V_{GS}	± 8		
Continuous Drain Current 连续漏极电流	I_D	2.3	A	
Pulsed Drain Current 脉冲漏极电流	I_{DM}	8		
Maximum Power Dissipation 最大耗散功率	P_D	TA = 25°C	1.25	W
		TA = 75°C	0.8	
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	$R_{\theta JA}$	145	°C/W	

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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	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 2.8A$		40.0	60.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = 2.5V, I_D = 2.0A$		50.0	115.0	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.6		1.2	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I_{DSS}	$V_{DS} = 32V, V_{GS} = 0V$			1	uA
Gate Body Leakage 漏极短路时截止栅电流	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			±100	nA
Forward Transconductance 正向跨导	g_{fs}	$V_{DS} = 5V, I_D = 3.6A$		10	—	S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	$V_{DS} = 10V, I_D = 3.6A$ $V_{GS} = 4.5V$		5.4	10	nC
Gate-Source Charge 栅-源极电荷	Q_{gs}			0.65		
Gate-Drain Charge 栅-漏极电荷	Q_{gd}			1.4		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	$V_{DD} = 10V, R_L = 5.5\Omega$ $I_D = 3.6A, V_{GEN} = 4.5V$ $R_G = 6\Omega$		12	25	ns
Turn-On Rise Time 导通上升时间	t_r			36	60	
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			34	60	
Turn-Off Fall Time 关断下降时间	t_f			10	25	
Input Capacitance 输入电容	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V$ $f = 1.0\text{ MHz}$		591		pF
Output Capacitance 输出电容	C_{oss}			115		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			33		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I_S				1.6	A
Diode Forward Voltage 正向电压	V_{SD}	$I_S = 1.6A, V_{GS} = 0V$			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 $\leq 2\%$



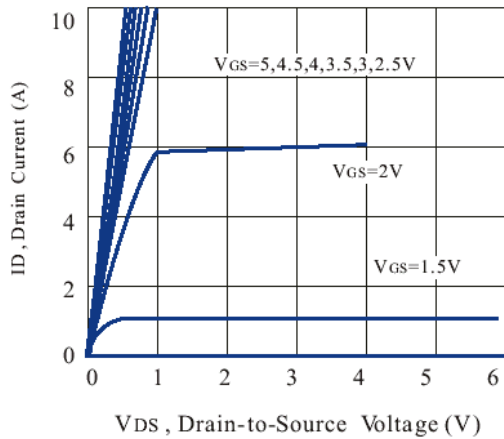
YGMOS Technology Crop.
Characteristics Curve 电气性能特征曲线


Figure 1. Output Characteristics

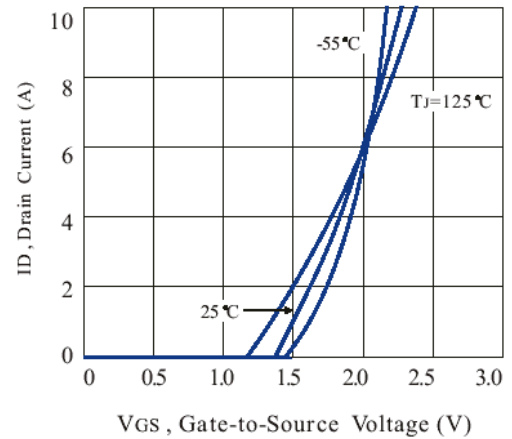


Figure 2. Transfer Characteristics

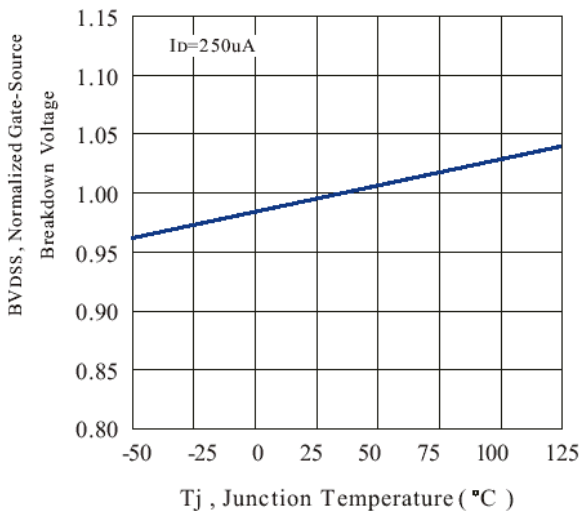


Figure 3. Breakdown Voltage Variation with Temperature

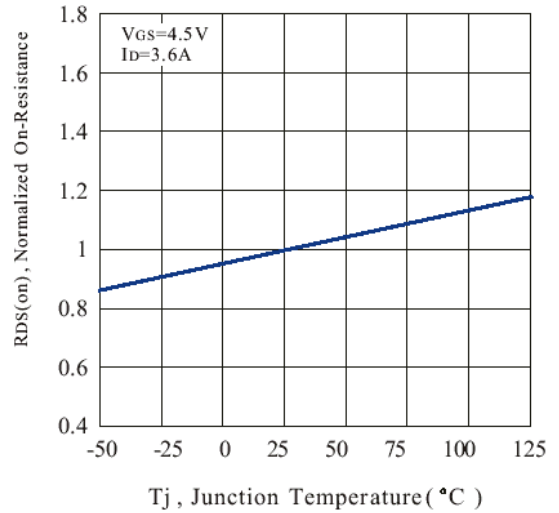


Figure 4. On-Resistance Variation with Temperature

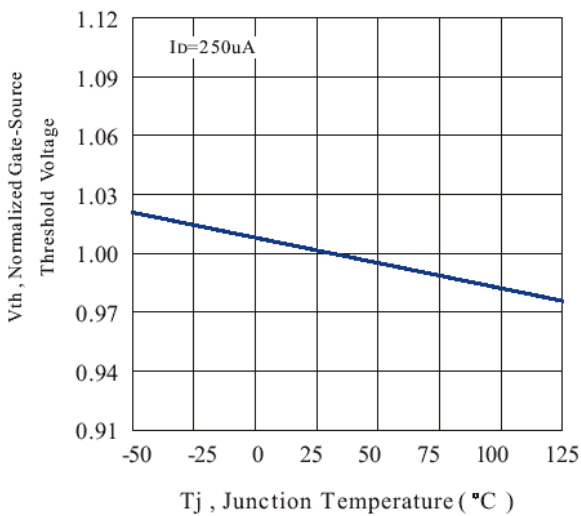


Figure 5. Gate Threshold Variation with Temperature

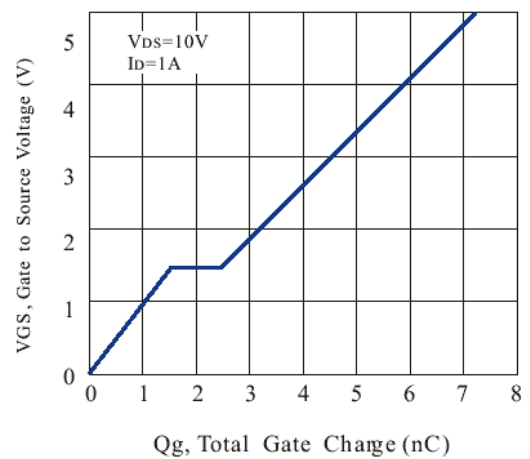


Figure 6. Gate Charge