GTH3106

Data Sheet

YGMOS Technology Crop.

100V N Channel Enhancement Mode MOSFET 100 V N 沟道增强型 MOS 管

VDS= 100V

RDS(ON), Vgs@10V, Ids@2.0A = 220mΩ

RDS(ON), Vgs@4.5V, Ids@1.0A = 240mΩ

Features 特性

Advanced trench process technology 高级的加工技术

High Density Cell Design For Ultra Low OnResistance

极低的导通电阻高密度的单元设计

Improved ShootThrough FOM 改进的成型工艺

Package Dimensions 封装尺寸及外形图

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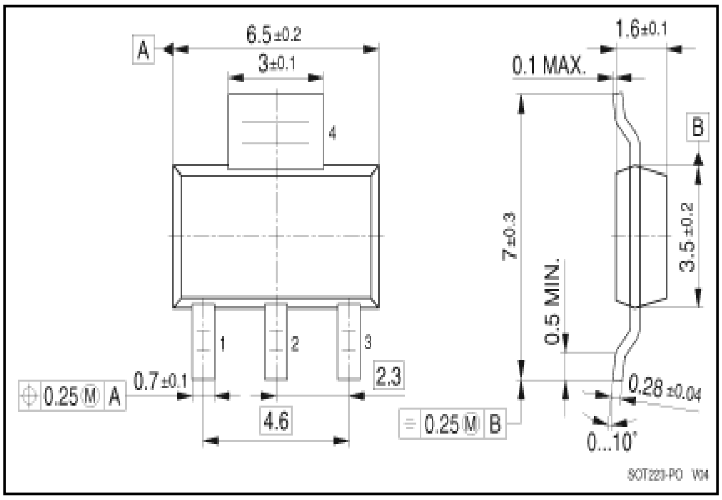
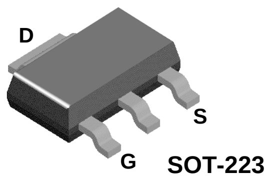
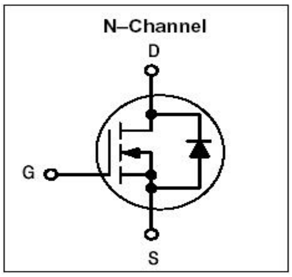
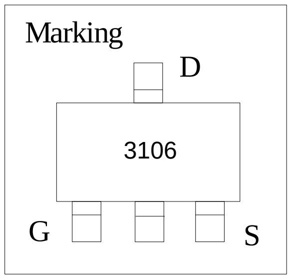








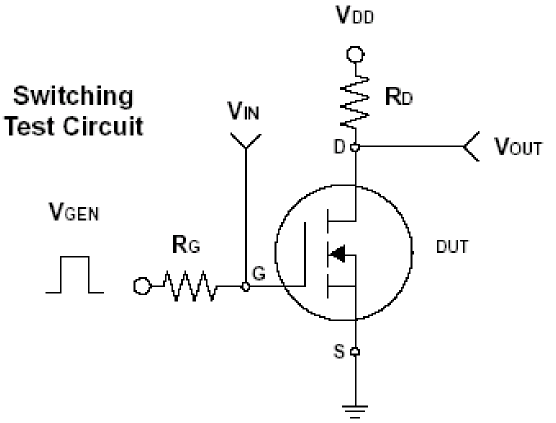
Maximum Ratings and Thermal Characteristics (TA = 25oC unless otherwise noted) 25 °C 极限参数和热特性

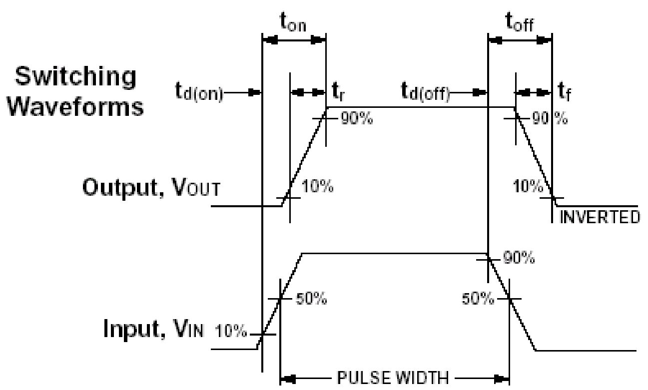
Parameter 极限参数		Symbol 符号	Limit 范围	Unit 单位
DrainSource Voltage 漏源电压		V_{DS}	100	V
GateSource Voltage 栅源电压		V_{GS}	± 20	
Continuous Drain Current 连续漏极电流		I_D	2.0	A
Pulsed Drain Current 脉冲漏极电流		I_{DM}	5	
Maximum Power Dissipation 最大耗散功率	TA = 25°C	P_D	3.1	W
	TA = 75°C		2.0	
Operating Junction and Storage Temperature Range 使用及储存温度		T_J, T_{stg}	-55 to 150	°C
JunctiontoAmbient Thermal Resistance (PCB mounted) 结环热阻		$R_{\theta JA}$	125	°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						
DrainSource Breakdown Voltage 漏源击穿电压	BV_{DSS}	V_{GS} = 0V, I_D = 250uA	100			V
DrainSource OnState Resistance 漏源导通电阻	$R_{DS(on)}$	V_{GS} = 10V, I_D = 2.0A		205	220	mΩ
DrainSource OnState Resistance 漏源导通电阻	$R_{DS(on)}$	V_{GS} = 4.5 V, I_D = 1.5A		220	240	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D = 250uA	1.0	1.6	2.5	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I_{DSS}	V_{DS} = 60V, V_{GS} = 0V			1	uA
Gate Body Leakage 漏极短路时截止栅电流	I_{GSS}	V_{GS} = ± 20V, V_{DS} = 0V			±100	nA
Forward Transconductance 正向跨导	g_{fs}	V_{DS} = 5 V, I_D = 1 A		2.4		S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	V_{DS} =50V, I_D = 2.0A V_{GS} = 10V		7.0		nC
GateSource Charge 栅源极电荷	Q_{gs}			0.6		
GateDrain Charge 栅漏极电荷	Q_{gd}			2.7		
TurnOn Delay Time 导通延迟时间	$t_{d(on)}$	V_{DD} = 50V, R_L = 25 Ω V_{GEN} = 10V, R_G =3.0Ω		6.8		ns
TurnOn Rise Time 导通上升时间	t_r			7.5		
TurnOff Delay Time 关断延迟时间	$t_{d(off)}$			27.5		
TurnOff Fall Time 关断下降时间	t_f			4.5		
Input Capacitance 输入电容	C_{iss}	V_{DS} = 50V, V_{GS} = 0V f = 1.0 MHz		390		pF
Output Capacitance 输出电容	C_{oss}			17		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			8		
SourceDrain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I_S				2.0	A
Diode Forward Voltage 正向电压	V_{SD}	I_S = 1.0A, V_{GS} = 0V			1.2	V

Note :
1.The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper.
2.The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%
3.The power dissipation is limited by 150˚C junction temperature
4.The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.





Typical Characteristics

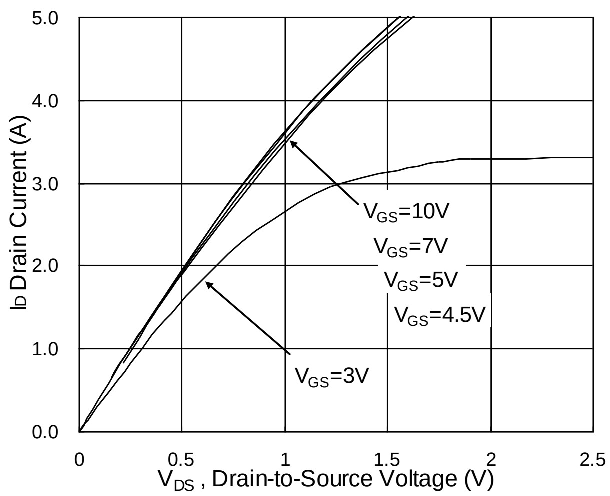


Fig.1 Typical Output Characteristics

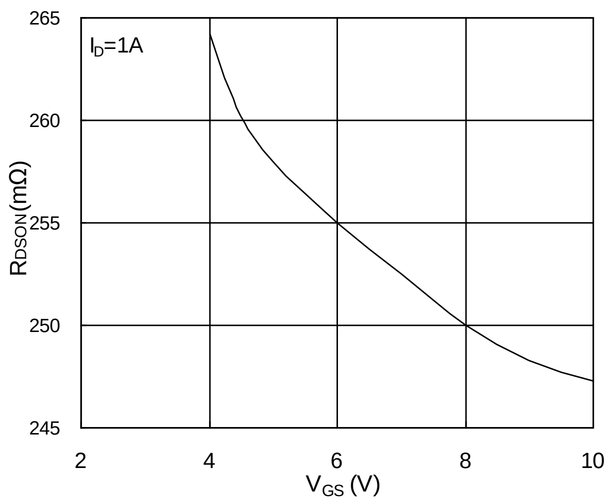


Fig.2 On-Resistance vs. Gate-Source

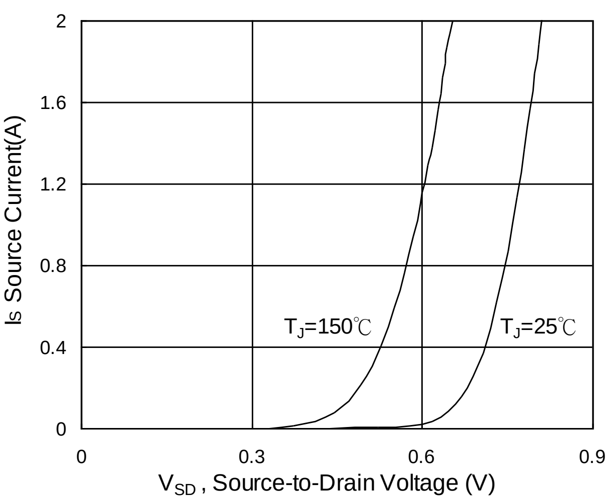


Fig.3 Forward Characteristics of Reverse

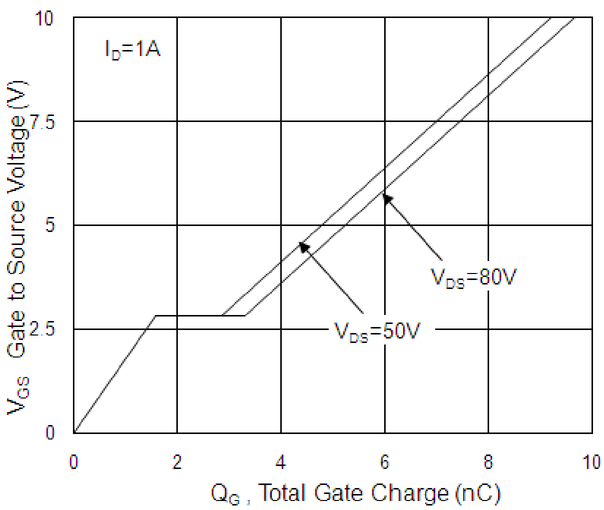


Fig.4 Gate-Charge Characteristics

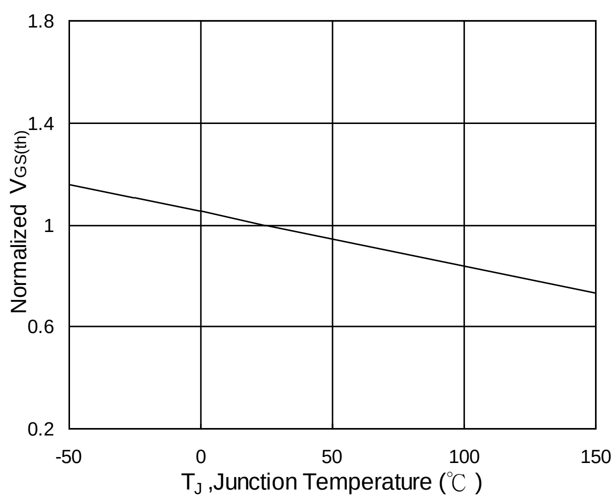


Fig.5 Normalized $V_{GS(th)}$ vs. T_J

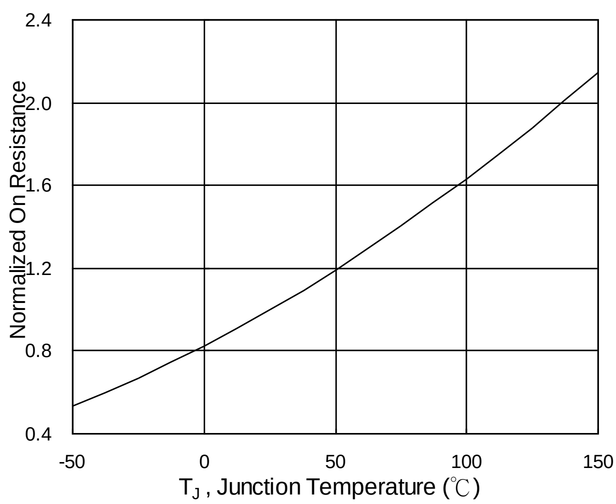


Fig.6 Normalized R_{DSON} vs. T_J