GT6574

Data Sheet

YGMOS Technology Crop.

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

V_{DS}= 20V

$R_{DS(ON)}$, V_{gs}@4.5V, I_{ds}@18A = 4mΩ

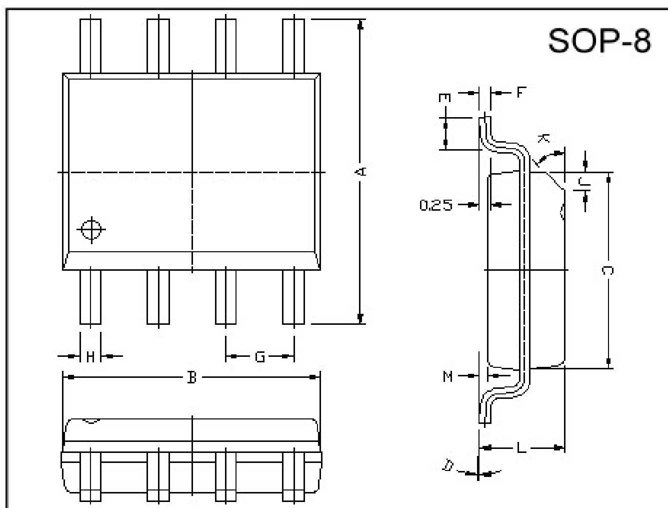
$R_{DS(ON)}$, V_{gs}@2.5V, I_{ds}@15A = 5mΩ

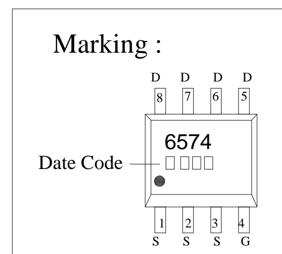
Features 特性

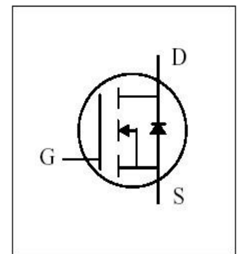
Advanced trench process technology 高级的加工技术

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







REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	M	0.10	0.25
B	4.80	5.00	H	0.35	0.49
C	3.80	4.00	L	1.35	1.75
D	0°	8°	J	0.375 REF.	
E	0.40	0.90	K	45°	
F	0.19	0.25	G	1.27 TYP.	

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

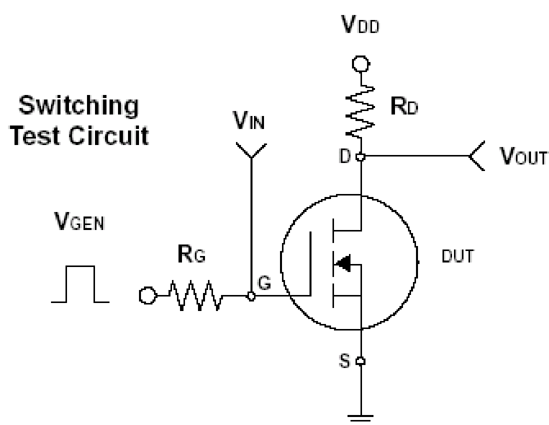
Parameter 极限参数		Symbol 符号	Limit 范围	Unit 单位
Drain-Source Voltage 漏源电压		V_{DS}	20	V
Gate-Source Voltage 栅源电压		V_{GS}	± 12	
Continuous Drain Current 连续漏极电流		I_D	18	A
Pulsed Drain Current 脉冲漏极电流		I_{DM}	70	
Maximum Power Dissipation 最大耗散功率	TA = 25°C	P_D	3	W
	TA = 75°C		2.1	
Operating Junction and Storage 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		$R_{θJA}$	75	°C/W

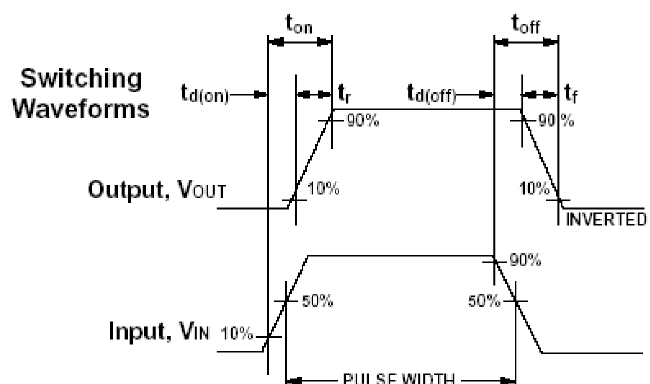
YGMOS Technology Crop.

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 = 250uA	20			V
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	V_{GS} = 4.5 V, I_D = 18 A		2.5	4.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	V_{GS} = 2.5V, I_D = 15 A		3.5	5.0	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D = 250uA	0.3	0.7	1.0	V
Zero Gate Voltage Drain Current 零栅压漏极电流	I_{DSS}	V_{DS} = 20V, V_{GS} = 0V			1	uA
Gate Body Leakage 漏极短路时截止栅电流	I_{GSS}	V_{GS} = ± 12 V, V_{DS} = 0V			± 100	nA
Forward Transconductance 正向跨导	g_{fs}	V_{DS} = 5V, I_D = 18A		110		S
Gate Resistance 栅极电阻	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		0.45		Ω
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	V_{DS}=10V, V_{GS}=4.5V, I_D=18A		60		nC
Gate-Source Charge 栅-源极电荷	Q_{gs}			4.8		
Gate-Drain Charge 栅-漏极电荷	Q_{gd}			18.5		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	V_{DD}=10V, R_L =15Ω,I_D=1A, V_{GEN}=10V,R_G=6Ω		60		ns
Turn-On Rise Time 导通上升时间	t_r			88		
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			258		
Turn-Off Fall Time 关断下降时间	t_f			128		
Input Capacitance 输入电容	C_{iss}	V_{DS} =10 V, V_{GS} = 0V f = 1.0 MHz		5745		pF
Output Capacitance 输出电容	C_{oss}			890		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			845		
Source-Drain 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 = 1A, V_{GS} = 0V		0.68		V

Note: Pulse test: pulse width <= 300us, duty cycle<= 2% 注意：脉冲测试：脉冲宽度<= 300us 死区<= 2%





TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

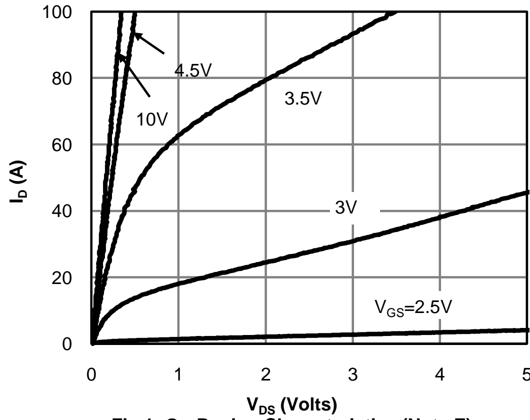


Fig 1: On-Region Characteristics (Note E)

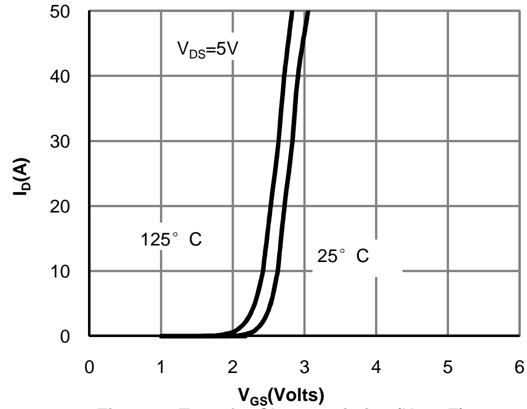


Figure 2: Transfer Characteristics (Note E)

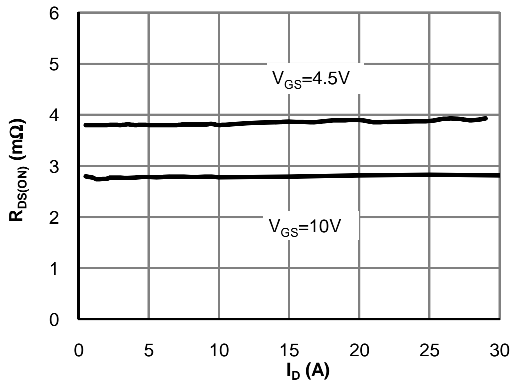


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

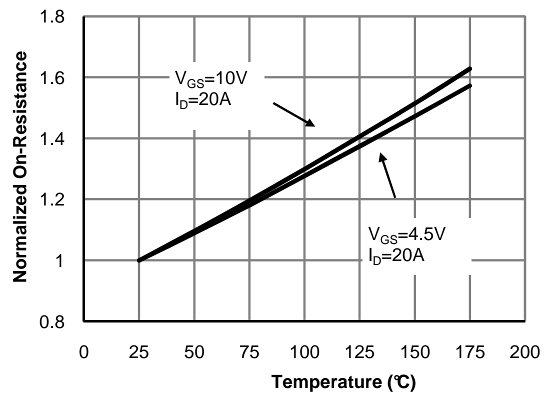


Figure 4: On-Resistance vs. Junction Temperature (Note E)

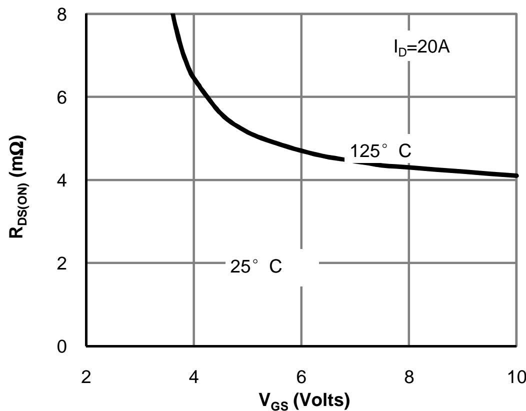


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

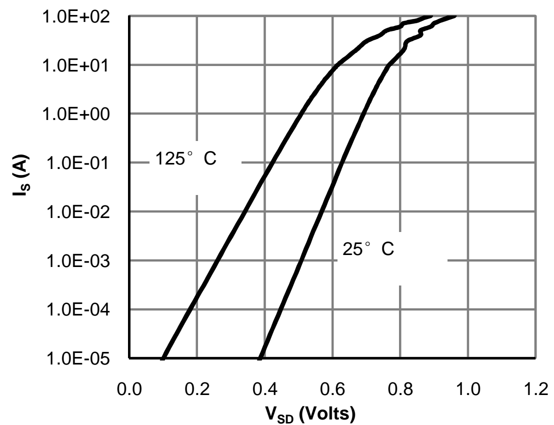


Figure 6: Body-Diode Characteristics (Note E)