

**YGMOS Technology Crop.**

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

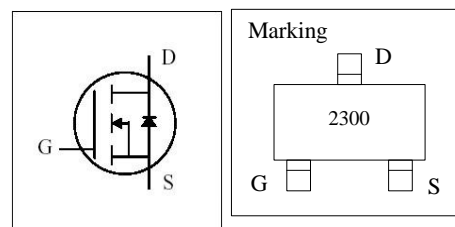
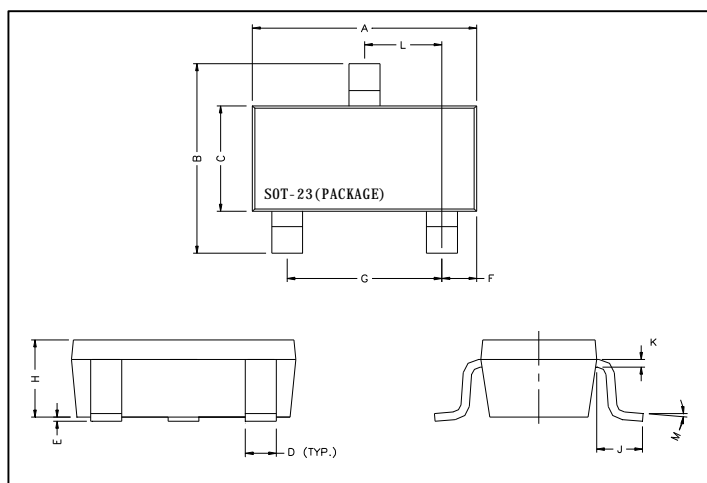
 **$V_{DS} = 20V$** 
 **$R_{DS(ON)}, V_{GS} @ 2.5V, I_{ds} @ 3.5A = 38m\Omega$** 
 **$R_{DS(ON)}, V_{GS} @ 4.5V, I_{ds} @ 4.2A = 30m\Omega$** 
**Features 特性**

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

High Power and Current handling capability 大功率、大电流

Ideal for Li ion battery pack applications 理想的锂电池应用

**Package Dimensions**


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

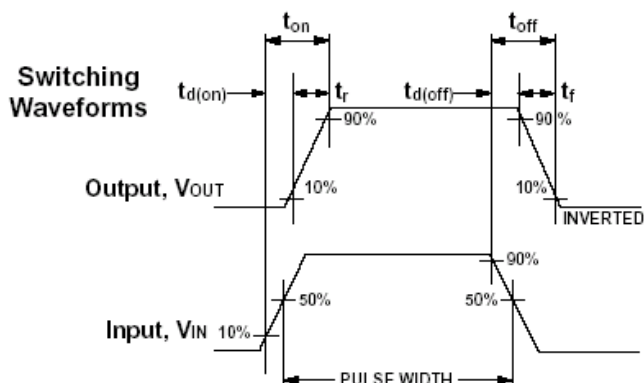
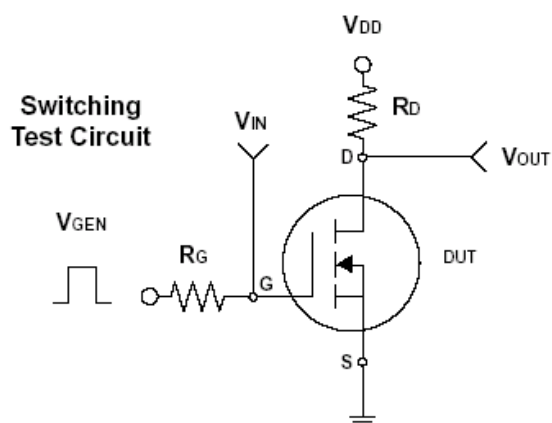
**Maximum Ratings and Thermal Characteristics (TA = 25°C unless otherwise noted) 25°C 极限参数和热特性**

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	$V_{GS}$	$\pm 12$		
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	1.4	W
		TA = 75°C	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	$R_{\theta JA}$	78	°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
<b>Static 静态参数</b>						
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	$R_{DS(on)}$	$V_{GS} = 2.5V, I_D = 3.5A$		30.0	38.0	mΩ
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 4.2A$		23.0	30.0	
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.6	0.85	1.2	V
Zero Gate Voltage Drain Current 零栅压漏极电流	$I_{DSS}$	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate Body Leakage 漏极短路时截止栅电流	$I_{GSS}$	$V_{GS} = \pm 12V, V_{DS} = 0V$			±100	nA
Forward Transconductance 正向跨导	$g_{fs}$	$V_{DS} = 5V, I_D = 4.2A$		22	—	S
<b>Dynamic 动态参数</b>						
Total Gate Charge 栅极总电荷	$Q_g$	$V_{DS} = 10V, I_D = 4.2A$ $V_{GS} = 4.5V$		5	7	nC
Gate-Source Charge 栅-源极电荷	$Q_{gs}$			1		
Gate-Drain Charge 栅-漏极电荷	$Q_{gd}$			1.5		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	$V_{DD} = 10V, R_G = 6\Omega$ $I_D = 1A, V_{GS} = 4.5V$		8	20	ns
Turn-On Rise Time 导通上升时间	$t_r$			10	20	
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			22	45	
Turn-Off Fall Time 关断下降时间	$t_f$			6	15	
Input Capacitance 输入电容	$C_{iss}$	$V_{DS} = 8V, V_{GS} = 0V$ $f = 1.0\text{ MHz}$		591		pF
Output Capacitance 输出电容	$C_{oss}$			105		
Reverse Transfer Capacitance 反向传输电容	$C_{rss}$			75		
<b>Source-Drain Diode 源漏二极管参数</b>						
Max. Diode Forward Current 最大正向电流	$I_S$				1.7	A
Diode Forward Voltage 正向电压	$V_{SD}$	$I_S = 1.7A, V_{GS} = 0V$			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 Corp.**
**Typical Characteristics (T<sub>J</sub> = 25°C Noted)**
