

YGMOS Technology Crop.

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

VDS = -20V
RDS(ON), Vgs @ -4.5V, Ids @ -3.4A = 55mΩ
RDS(ON), Vgs @ -2.5V, Ids @ -1.6A = 75mΩ
RDS(ON), Vgs @ -1.8V, Ids @ -1.5A = 110mΩ
Features 特性

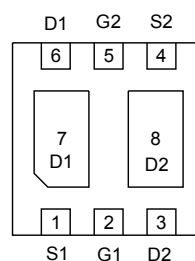
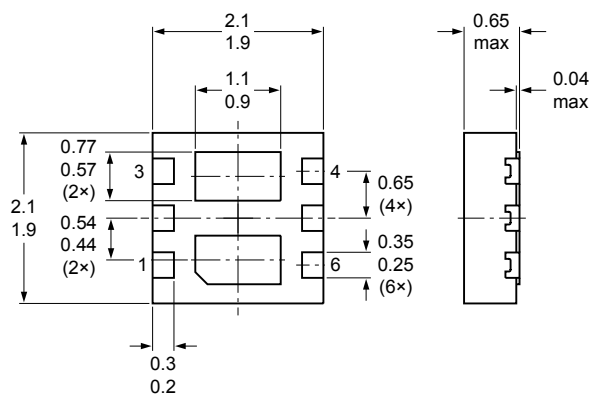
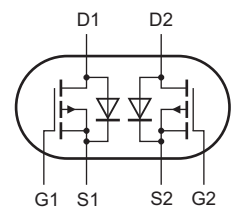
Advanced trench process technology 高级的加工技术

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 大功率高电流

Ideal for Li ion battery pack applications 锂电池的理想选择

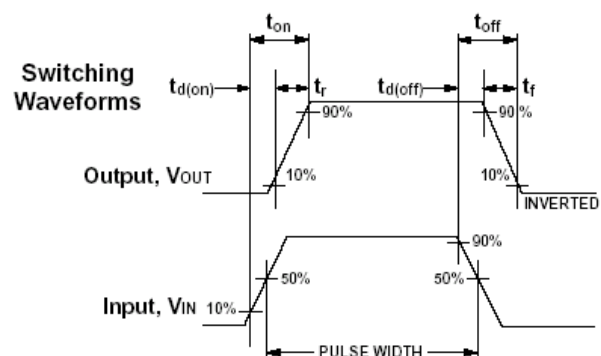
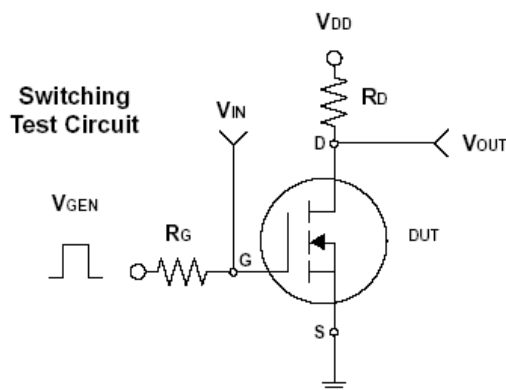
Package Dimensions 封装尺寸及外形图

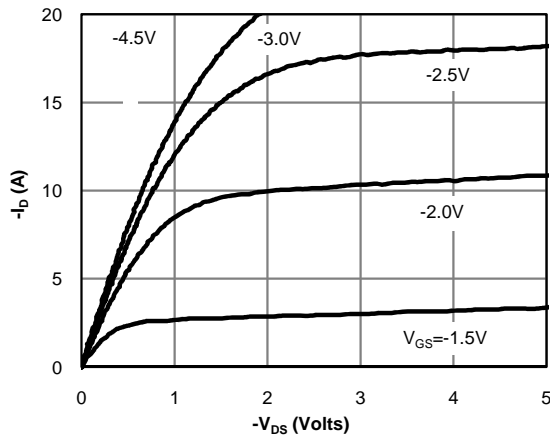
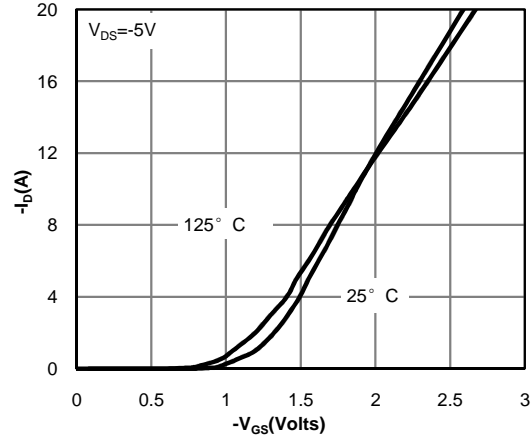
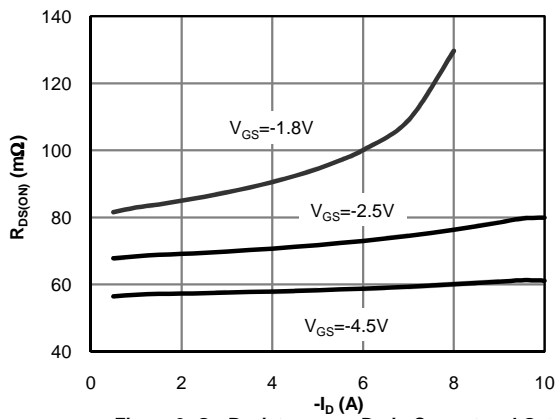
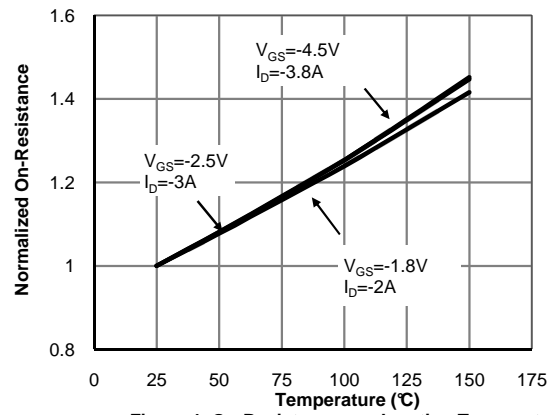
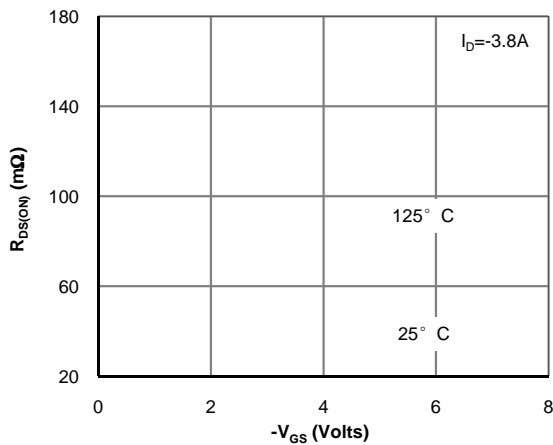
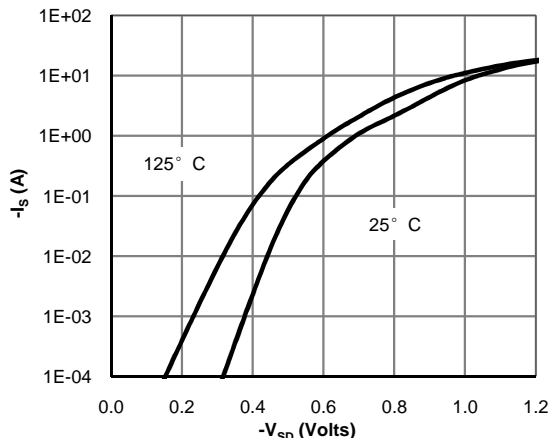

 Transparent top view
DFN2*2-6

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	-4.5	A	
Pulsed Drain Current 脉冲漏极电流	I _{DM}	-14		
Maximum Power Dissipation 最大耗散功率	P _D	TA = 25°C	0.8	W
		TA = 75°C	0.5	
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}	62.5	°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	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.4A$		55.0	70.0	$m\Omega$
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -2.5V, I_D = -1.6A$		78.0	90.0	$m\Omega$
Drain-Source On-State Resistance 漏源导通电阻	$R_{DS(on)}$	$V_{GS} = -1.8V, I_D = -1.5A$		110	135	$m\Omega$
Gate Threshold Voltage 开启电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	-0.48	-0.65	-0.90	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}	$V_{DS} = -10V, I_D = 3.4A$		15		S
Dynamic 动态参数						
Total Gate Charge 栅极总电荷	Q_g	$V_{DS} = -10V, I_D = 3.4A$ $V_{GS} = -5.0V$		16.5		nC
Gate-Source Charge 栅-源极电荷	Q_{gs}			1		
Gate-Drain Charge 栅-漏极电荷	Q_{gd}			1.65		
Turn-On Delay Time 导通延迟时间	$t_{d(on)}$	$V_{DS} = -10V, R_G = 6\Omega$ $I_D = 1A, V_{GS} = 4.5V$		8		ns
Turn-On Rise Time 导通上升时间	t_r			15		
Turn-Off Delay Time 关断延迟时间	$t_{d(off)}$			40		
Turn-Off Fall Time 关断下降时间	t_f			16		
Input Capacitance 输入电容	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V$ $f = 1.0\text{ MHz}$		785		pF
Output Capacitance 输出电容	C_{oss}			80		
Reverse Transfer Capacitance 反向传输电容	C_{rss}			64		
Source-Drain Diode 源漏二极管参数						
Max. Diode Forward Current 最大正向电流	I_S				-1.2	A
Diode Forward Voltage 正向电压	V_{SD}	$I_S = -1.2A, V_{GS} = 0V$			-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 $\leq 2\%$


TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

Fig 1: On-Region Characteristics

Figure 2: Transfer Characteristics

Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics