

20V N-Channel Enhancement-Mode MOSFET

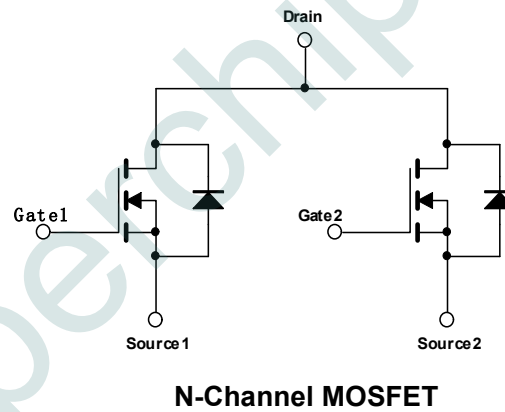
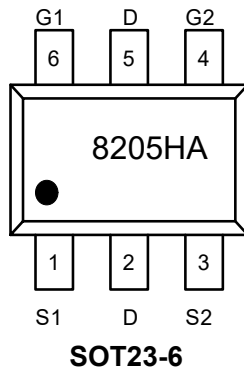
RDS(ON), Vgs@2.5V, Ids@3.0A = 23mΩ

RDS(ON), Vgs@4.0V, Ids@4.0A = 21mΩ

RDS(ON), Vgs@4.5V, Ids@4.5A = 19mΩ

特点

- 专有的先进平面技术
- 高密度超低电阻设计
- 大功率、大电流应用
- 理想的锂电池应用
- 封装形式: SOT23-6



最大额定值和热特性 (Ta = 25°C, 除非另有说明。)

参数	符号	值	单位	
漏源电压	V _{DS}	20	V	
栅源电压	V _{GS}	±12		
漏极电流	I _D	6	A	
漏极脉冲电流	I _{DM}	20		
最大功耗	P _D	TA = 25°C	1.98	W
		TA = 75°C	1.28	
工作结温和存储温度范围	T _J , T _{stg}	-55 to 150	°C	
结环热阻 (PCB 安装)	R _{θJA}	61.5	°C/W	

注: 重复性极限值: 脉冲宽度由最高结温限制。

贴片时回流焊炉温请控制在 265°C 以下。

电特性

参数	符号	测试条件	最小	典型	最大	单位
静电						
漏源击穿电压	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	20	--	--	V
漏源导通内阻	$R_{DS(on)}$	$V_{GS} = 2.5V, I_D = 3.0A$	--	23.0	29.0	mΩ
		$V_{GS} = 4.0V, I_D = 4.0A$		21.0	26.0	
		$V_{GS} = 4.5V, I_D = 4.5A$		19.0	24.0	
栅极阈值电压	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.65	0.95	V
栅源短路时漏极电流	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	--	--	1	μA
漏极短路时截止栅电流	I_{GSS}	$V_{GS} = \pm 12V, I_D = 0\mu A$	--	--	±100	nA
跨导	g_{fs}	$V_{DS} = 15V, I_D = 6.0A$	--	25	--	S
动态						
总栅极电荷	Q_g	$V_{DS} = 10V, I_D = 6A$ $V_{GS} = 4.5V$		7.49	8.50	nC
栅源电荷	Q_{gs}			2.48	2.96	
栅漏电荷	Q_{gd}			2.04	2.65	
延迟时间 (On)	$t_{d(on)}$	$V_{DD} = 10V, I_D = 6A$ $I_D = 1A, V_{GS} = 4.5V$		17.5	29.8	ns
上升时间 (On)	t_r			28.5	38.2	
延迟时间 (Off)	$t_{d(off)}$			41.2	59.6	
下降时间 (Off)	t_f			10.4	26.3	
输入电容	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V$ $f = 1.0MHz$	--	492	--	pF
输出电容	C_{oss}		--	54	--	
反向传输电容	C_{rss}		--	7	--	
漏源二极管						
二极管最大正向电流	I_S	--	--	--	2.0	A
二极管正向电压	V_{SD}	$I_S = 1.7A, V_{GS} = 0V$	--	--	1.2	V

注：脉冲测试：脉冲宽度≤300us，占空比≤2%

Typical Performance Characteristics

Figure 1: Transfer Characteristics

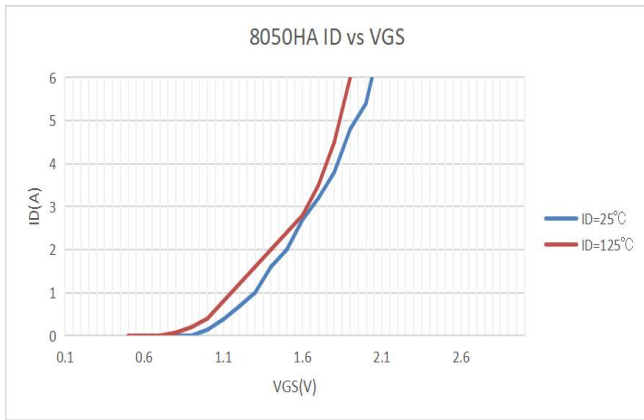


Figure2: Capacitance Characteristics C(pF)

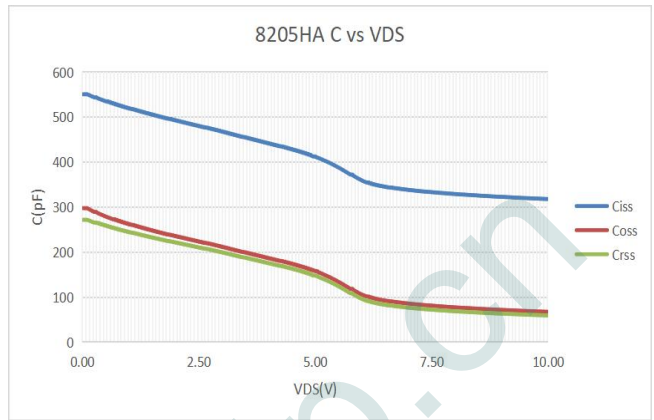


Figure 3: On-resistance vs. Drain Current and Gate Voltage

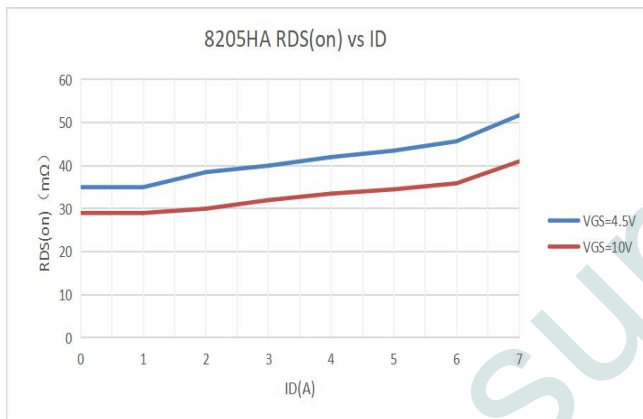
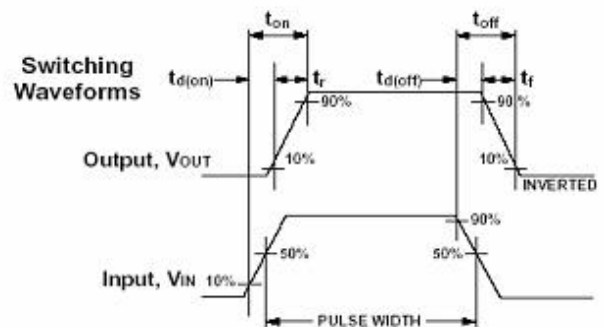
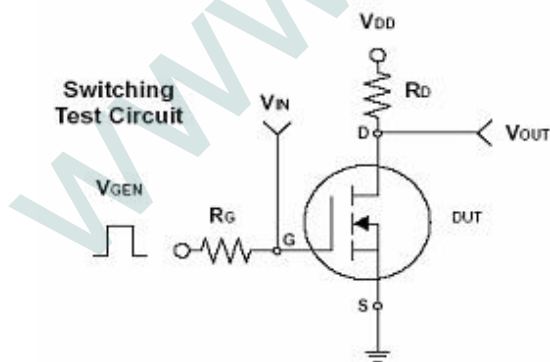
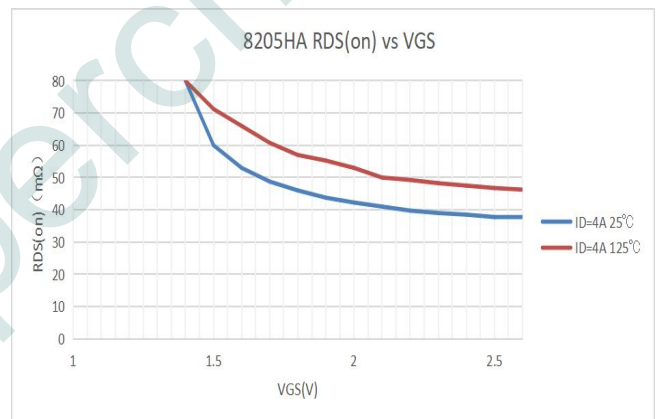
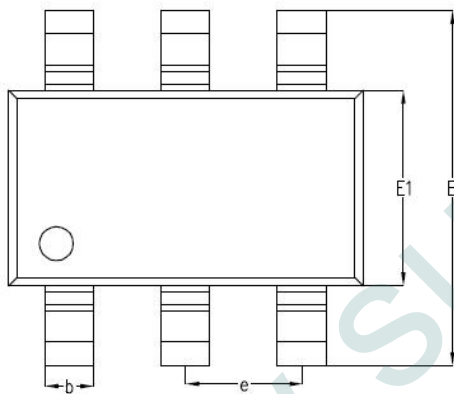
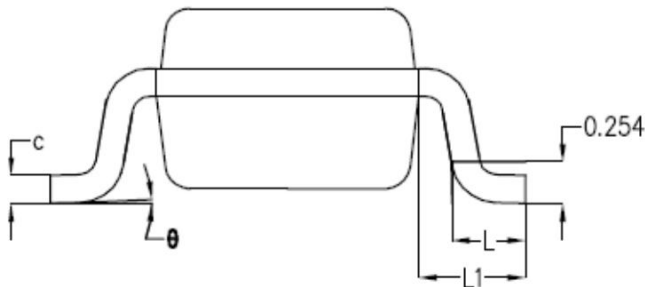
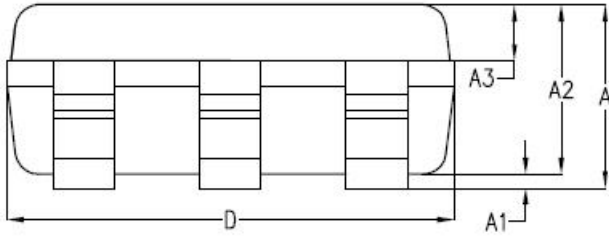


Figure 4: On-Resistance vs. Gate-Source Voltage



封装信息

SOT23-6



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	-	1.19	1.24
A1	-	0.05	0.09
A2	1.05	1.10	1.15
A3	0.31	0.36	0.41
b	0.35	0.40	0.45
c	0.12	0.17	0.22
D	2.85	2.90	2.95
E	2.80	2.90	3.00
E1	1.55	1.60	1.65
e	0.95BSC		
L	0.37	0.45	0.53
L1	0.65BSC		
θ	0°	2°	8°