描述 / Descriptions

SOT23-6 塑封封装 N 沟道双 MOS 管。N-channel Double MOSFET in a SOT23-6 Plastic Package.

特征 / Features

- ◆ 采用先进的沟槽技术，提供较小的导通电阻 RDS(on)，低栅极电荷，栅极工作电压低至 2.5V。
  advanced trench technology to provide excellent RDS(on), low gate charge and operation with gate ,voltages as low as 2.5V.
- ◆ 漏极(2、5 脚)内部连接，外部悬空。
  Drain electrodes（Pin2，Pin5） are inside connected, leading out floating pins.
- ◆ VGS±8V ，不可作为±10/±12V 使用，超规格使用会损坏 MOS。
  VGS±8V ，Cannot be used when demand is ±10/±12V, otherwise the MOS will be damage.

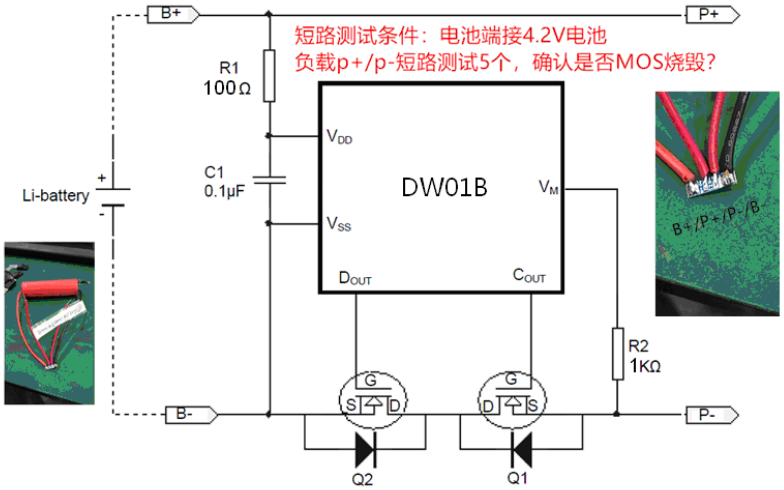
用途 / Applications

适用于电池保护电路（仅限于锂电池保护板使用）
Use as a Battery protection (Only for lithium battery protection board).

使用说明 / Notices

◆ BR8205T 使用前需要确认与主控芯片的适配性，确认方法如下：电池端接 4.2V 电池，负载 P+/P-进行短路测试，测试 5 个，如出现 MOS 烧毁，则不能使用。最佳的，建议配合"蓝箭 DW01B"的锂电主控芯片使用。

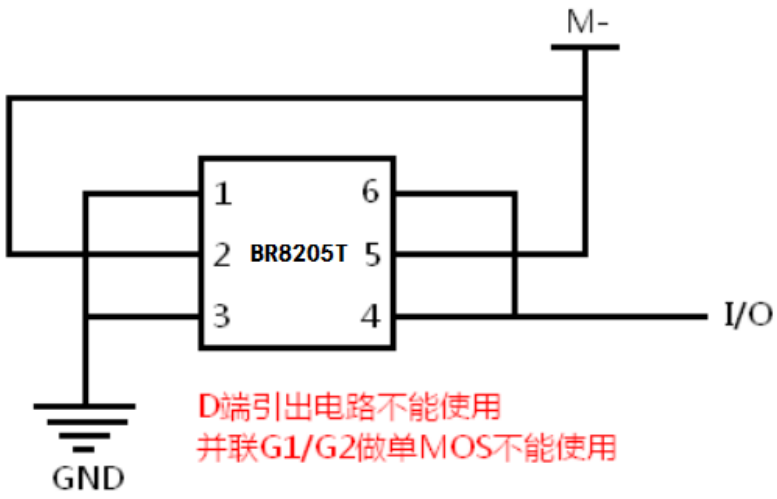
BR8205T needs to confirm the compatibility with the main control chip before use.The confirmation method is as follows: the 4.2V battery is connected to both ends of the B+ and B-,the short circuit test between the load P+ and the P- is carried out,and 5 tests are done.If the MOS is burned,it can not be used. optimally ,It is recommended to used with the lithium master chip of Blue Rocket DW01B .



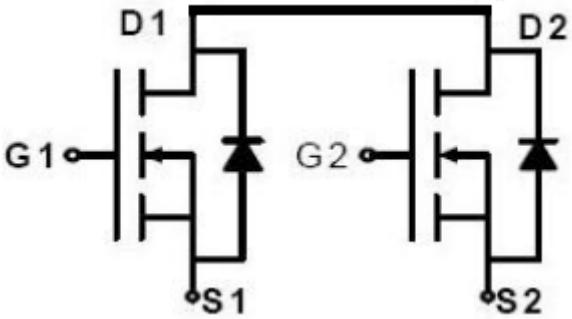
确认主芯与MOS的适配性

使用说明 / Notices

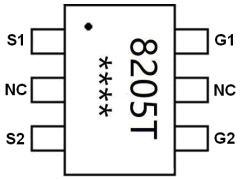
◆ 不适用于如下电路,不可当 10mohm MOSFET 并联使用。
Does not apply to the following circuit，not use as 10mohm MOSFET in parallel.



内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



印章代码 / Marking

Marking	8205T

极限参数 / Absolute Maximum Ratings(Ta=25℃)

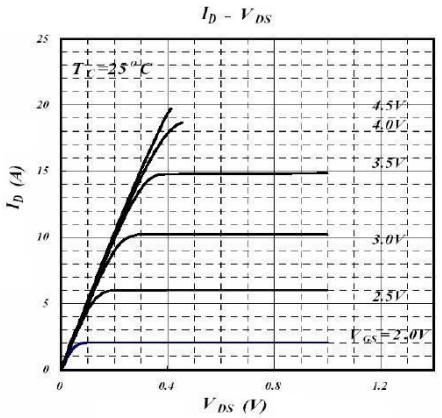
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	20	V
Drain Current - Continuous	I_D(Ta=25℃)	6	A
Drain Current - Continuous	I_D(Ta=70℃)	4.8	A
Drain Current – Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	±8	V
Maximum Power Dissipation	P_D(Ta=25℃)	1.5	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	83	℃/ W
Junction Temperature	T_j	-55 ~ +150	℃
Storage Temperature Range	T_{stg}	-55～+150	℃

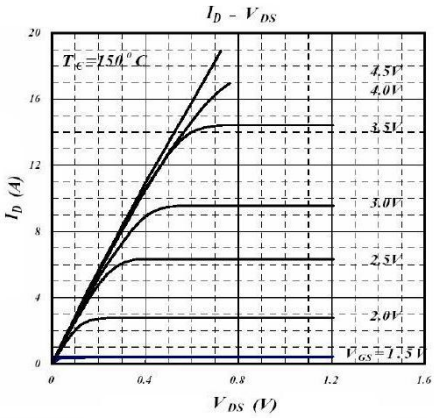
电性能参数 / Electrical Characteristics(Ta=25℃)

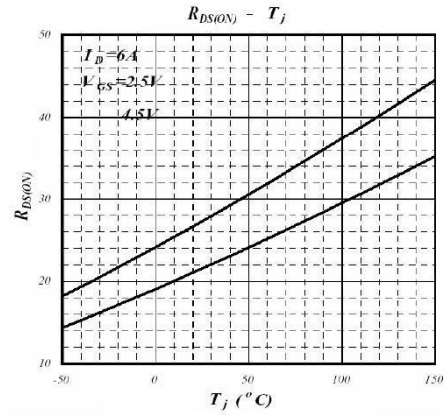
参数 Parameter	符号 Symbol	测试条件 Test Conditions		最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	19.5	20.5	25	V
Drain-Source Leakage Current(T_j=25℃)	I_{DSS}	V_{DS}=16V	V_{GS}=0V			1	μA
Drain-Source Leakage Current(T_j=70℃)	I_{DSS}	V_{DS}=16V	V_{GS}=0V			25	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±8V	V_{DS}=0V			±1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	0.4	0.65	1.0	V
Static Drain-Source On-Resistance ($R_{DS(on)}$1+$R_{DS(on)}$2)	$R_{DS(on)}$	V_{GS}=4.5V	I_D=6.0A		42	50	mΩ
		V_{GS}=2.5V	I_D=3.0A		58	63	mΩ
Forward Transconductance	g_{FS}	V_{DS}=5V	I_D=4.5 A		10		S
Forward On Voltage	V_{SD}	V_{GS}=0V	I_S=1.0 A		0.72	1.2	V
Drain-Source Continuous Current	I_S					1.7	A
Input Capacitance	C_{iss}	V_{DS}=20V f=1.0MHz	V_{GS}=0V		1035		pF
Output Capacitance	C_{oss}				320		pF
Reverse Transfer Capacitance	C_{rss}				150		pF
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=10V V_{GS}=5V R_D=10Ω	I_D=1A R_G=6Ω		30		ns
Rise Time	t_r				70		ns
Turn-off Delay Time	$t_{d(off)}$				40		ns
Fall Time	t_f				65		ns

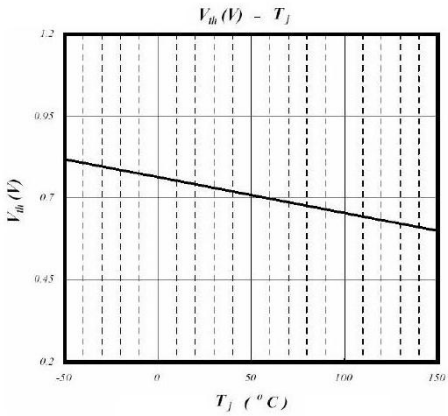
注/Notes:
1、面装在FR4板，t≤10秒。Surface Mounted on FR4 Board, t ≤ 10 sec.
2、冲测试：脉冲宽度≤300μs，占空比≤2%。Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤2%.

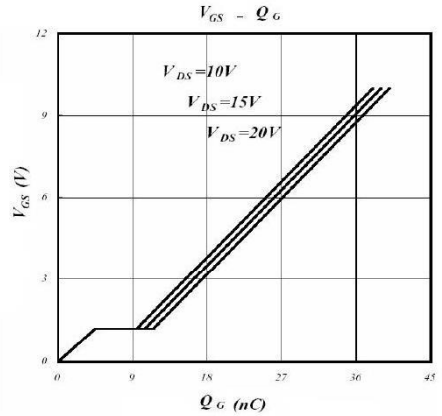
电参数曲线图 / Electrical Characteristic Curve

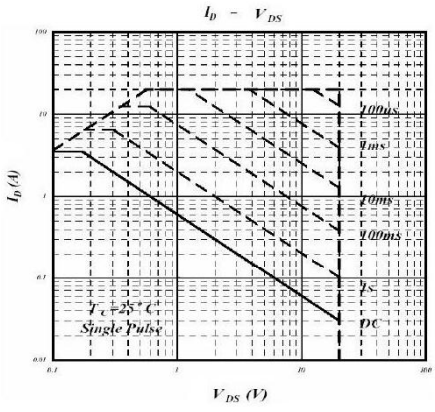


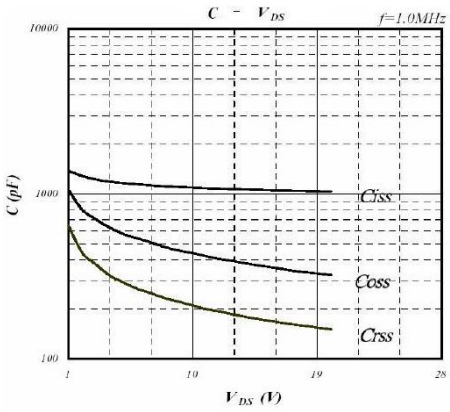


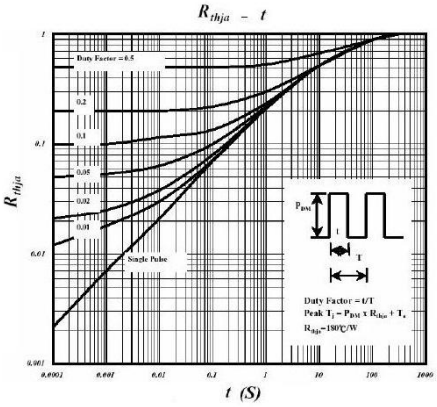




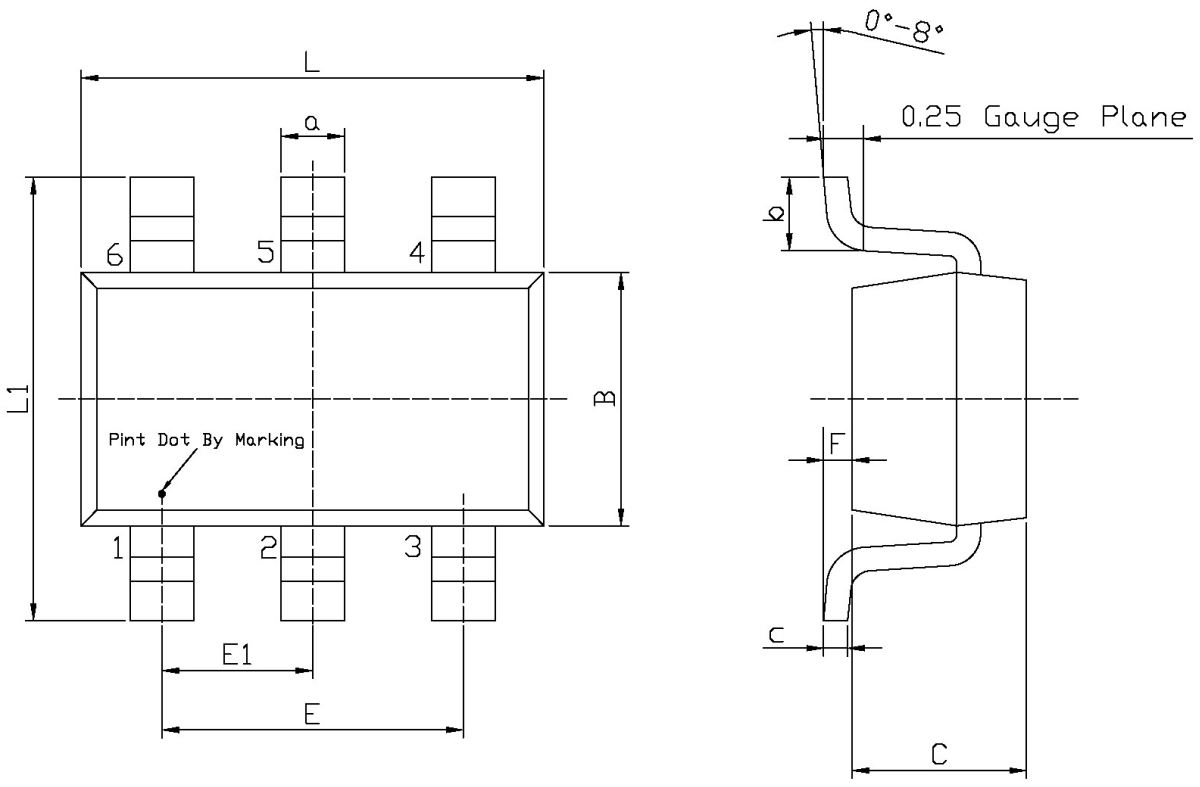








外形尺寸图 / Package Dimensions

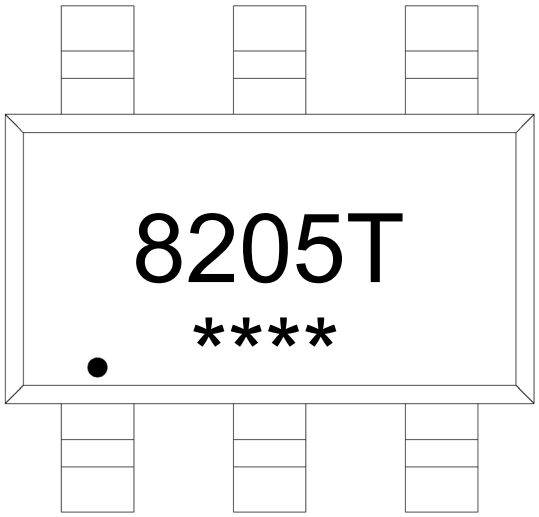


Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

SOT23-6

印章说明 / Marking Instructions



说明：

8205T： 为型号代码

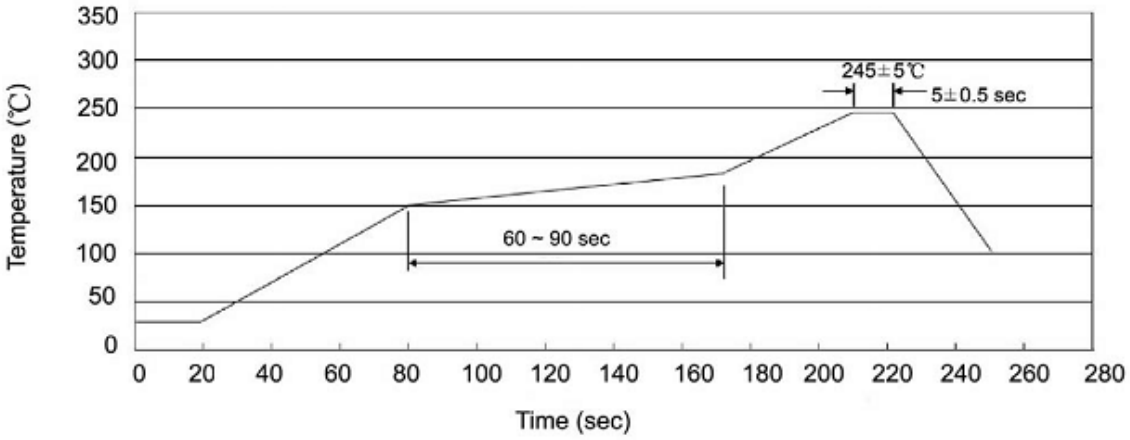
****： 为生产批号代码，随生产批号变化。

Note:

8205T: Product Type Code.

****: Lot No. Code, code change with Lot No.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

1、预热温度 150～180℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:150~180℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃ 时间：10±1 sec. Temp:260±5℃ Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT23-5/6	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×230×435