

AP8205

Rev.D Nov.-2016

DATA SHEET

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.

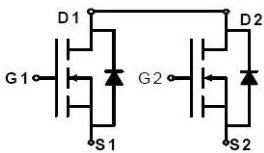
特征 / Features

采用先进的沟槽技术，提供较小的导通电阻 $R_{DS(on)}$ ，低栅极电荷，栅极工作电压低至 2.5V。
advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with gate voltages as low as 2.5V.

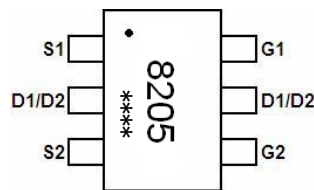
用途 / Applications

适用于电池保护电路，开关电路。
Use as a Battery protection , Switching application.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



印章代码 / Marking

Marking	8205
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极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	20	V
Drain Current - Continuous	$I_D(T_a=25^\circ\text{C})$	6	A
Drain Current - Continuous	$I_D(T_a=70^\circ\text{C})$	4.8	A
Drain Current – Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	± 8.0	V
Maximum Power Dissipation	$P_D(T_a=25^\circ\text{C})$	1.14	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	110	$^\circ\text{C}/\text{W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$

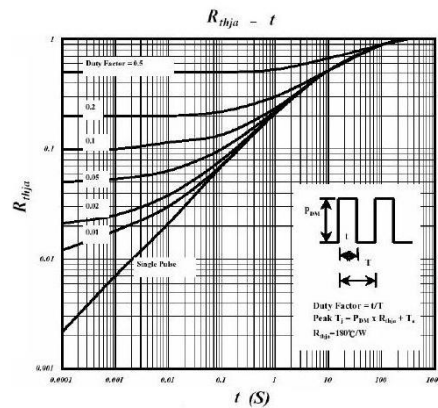
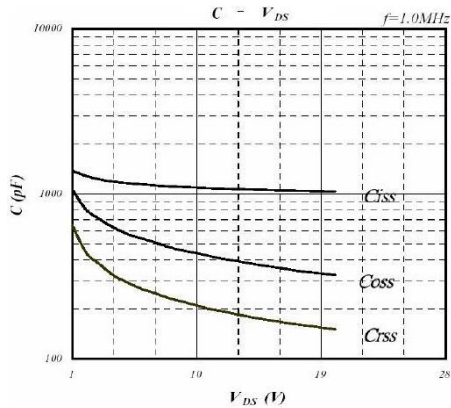
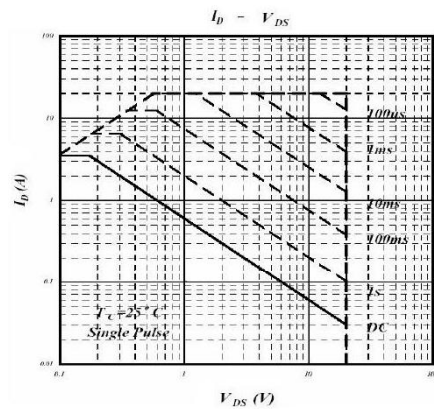
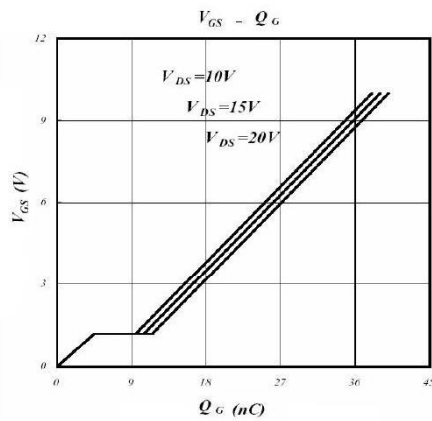
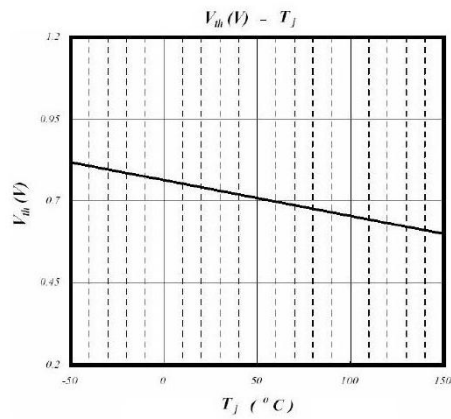
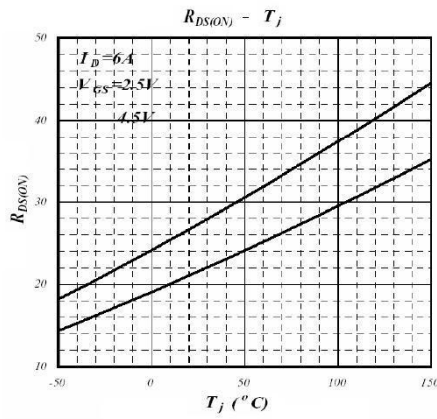
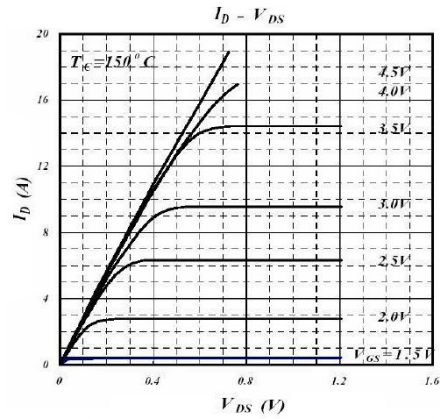
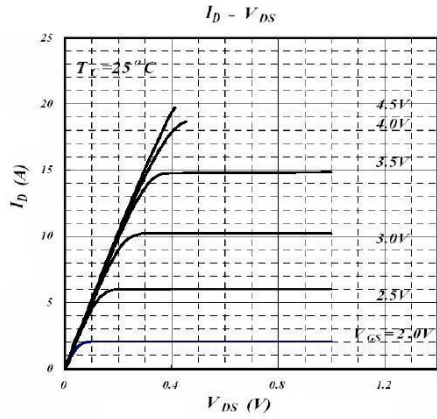
电性能参数 / Electrical Characteristics(Ta=25°C)

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}	$V_{GS}=0\text{V}$ $I_D=250\mu\text{A}$	20			V
Drain-Source Leakage Current($T_j=25^\circ\text{C}$)	I_{DSS}	$V_{DS}=20\text{V}$ $V_{GS}=0\text{V}$			1	μA
Drain-Source Leakage Current($T_j=70^\circ\text{C}$)	I_{DSS}	$V_{DS}=16\text{V}$ $V_{GS}=0\text{V}$			25	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 10\text{V}$ $V_{DS}=0\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu\text{A}$	0.5		1.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$ $I_D=6.0\text{A}$			24	m Ω
		$V_{GS}=2.5\text{V}$ $I_D=5.2\text{A}$			30	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=10\text{V}$ $I_D=6.0\text{A}$		20		S
Forward On Voltage	V_{SD}	$V_{GS}=0\text{V}$ $I_S=1.7\text{A}$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=20\text{V}$ $V_{GS}=0\text{V}$ $f=1.0\text{MHz}$		1035		pF
Output Capacitance	C_{oss}			320		pF
Reverse Transfer Capacitance	C_{rss}			150		pF
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=10\text{V}$ $I_D=1\text{A}$ $V_{GS}=5\text{V}$ $R_G=6\Omega$ $R_D=10\Omega$		30		ns
Rise Time	t_r			70		ns
Turn-off Delay Time	$t_{d(off)}$			40		ns
Fall Time	t_f			65		ns

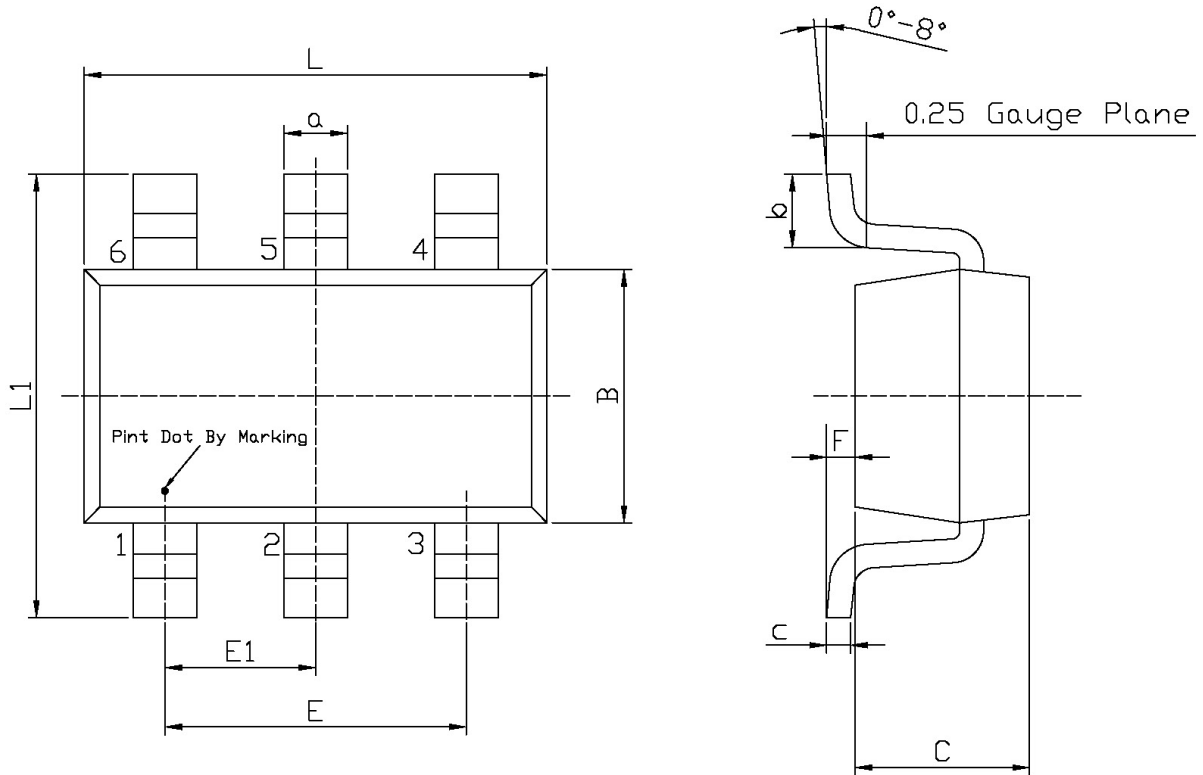
注/Notes:

- 1、面装在FR4板， $t \leq 10$ 秒。Surface Mounted on FR4 Board, $t \leq 10$ sec.
- 2、冲测试：脉冲宽度 $\leq 300\mu\text{s}$ ，占空比 $\leq 2\%$ 。Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

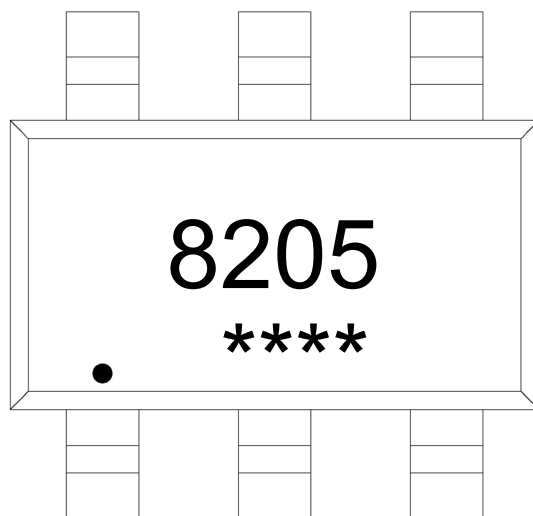


Unit: mm

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：

8205：为型号代码

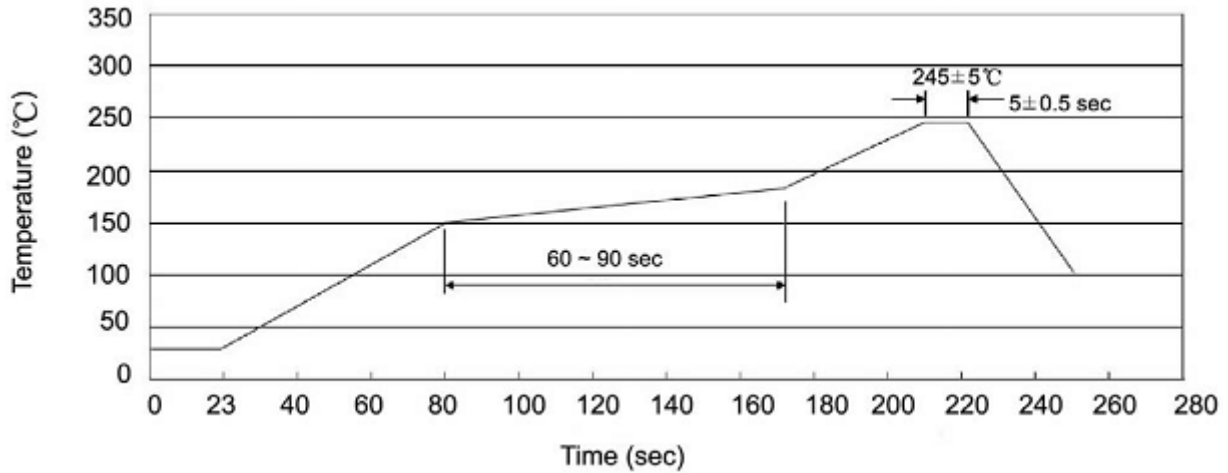
****：为生产批号代码，随生产批号变化。

Note:

8205: 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 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

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

温度：260±5°C

时间：10±1 sec.

Temp:260±5°C

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" x8	210×205×205	445×230×435

使用说明 / Notices