

BR8205(BRCS8205MF)

Rev.C Feb.-2015

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。

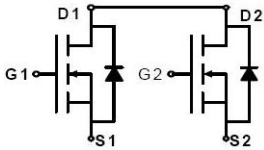
advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with gate voltages as low as 2.5V.

用途 / Applications

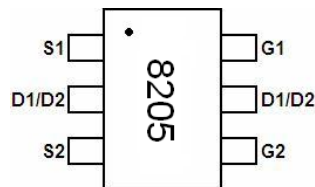
适用于电池保护电路，开关电路。

Use as a Battery protection or in other 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	$I_D(Ta=25^\circ C)$	6	A
Drain Current - Continuous	$I_D(Ta=70^\circ C)$	4.8	A
Drain Current – Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	± 8.0	V
Maximum Power Dissipation	$P_D(Ta=25^\circ C)$	1.14	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	110	$^\circ C/W$
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ C$

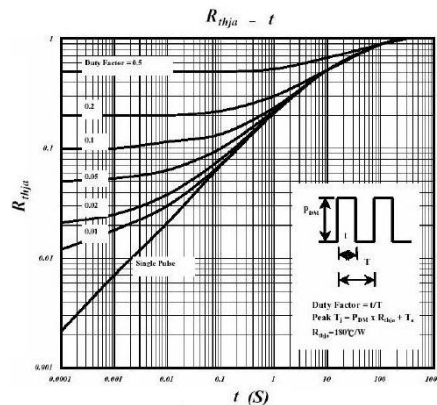
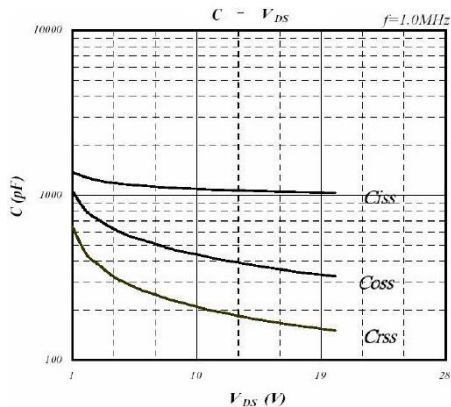
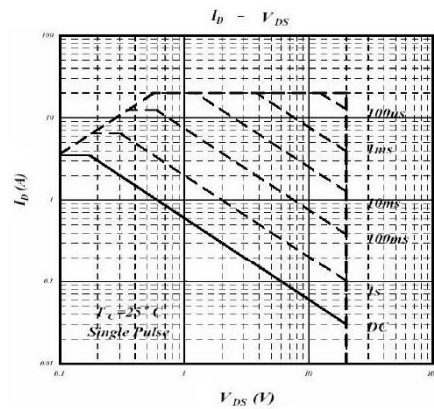
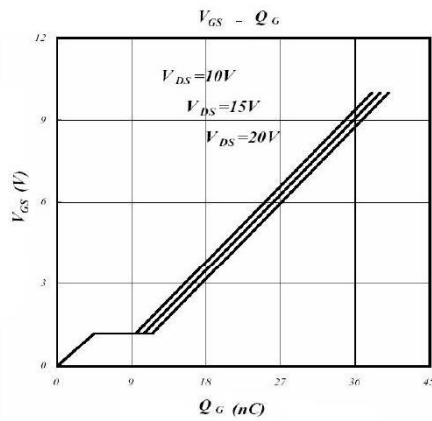
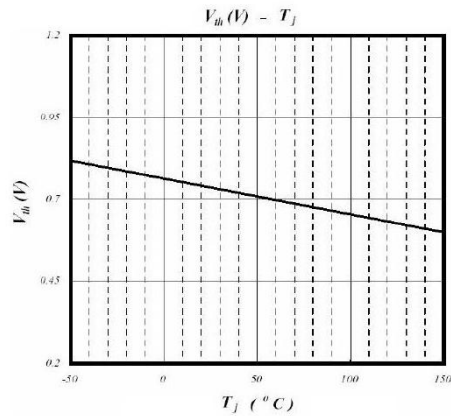
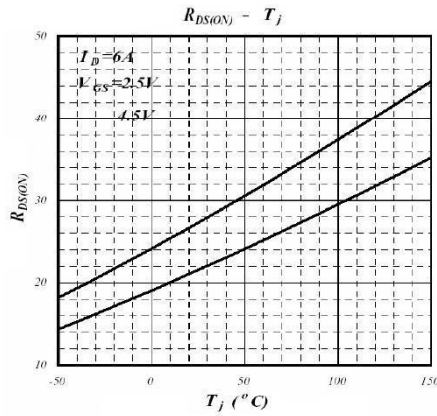
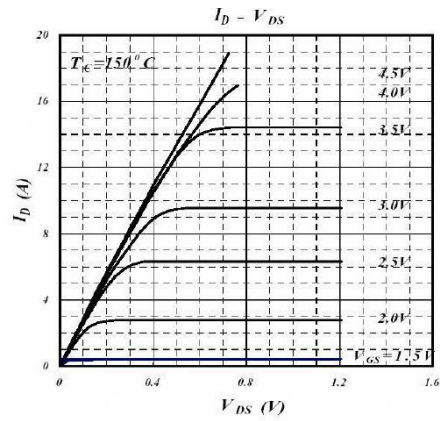
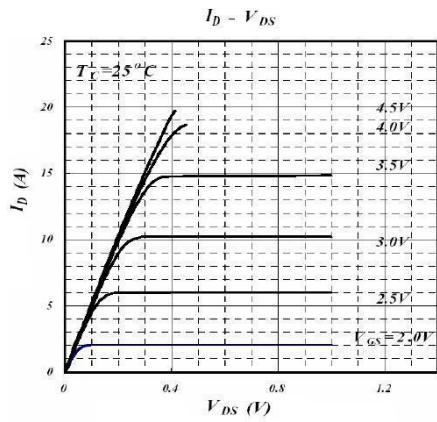
电性能参数 / Electrical Characteristics(Ta=25°C)

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}	$V_{GS}=0V$ $I_D=250\mu A$	20			V
Drain-Source Leakage Current($T_j=25^\circ C$)	I_{DSS}	$V_{DS}=20V$ $V_{GS}=0V$			1	μA
Drain-Source Leakage Current($T_j=70^\circ C$)	I_{DSS}	$V_{DS}=16V$ $V_{GS}=0V$			25	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 10V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.5		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V$ $I_D=6.0A$			24	m Ω
		$V_{GS}=2.5V$ $I_D=6.0A$			28	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=10V$ $I_D=6.0A$		20		S
Forward On Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1.7A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=20V$ $V_{GS}=0V$ $f=1.0MHz$		1035		pF
Output Capacitance	C_{oss}			320		pF
Reverse Transfer Capacitance	C_{rss}			150		pF
Turn-on Delay Time	$t_{d(on)}$	$V_{DS}=10V$ $I_D=1A$ $V_{GS}=5V$ $R_G=6\Omega$ $R_D=10\Omega$		30		ns
Rise Time	t_r			70		ns
Turn-off Delay Time	$t_{d(off)}$			40		ns
Fall Time	t_f			65		ns

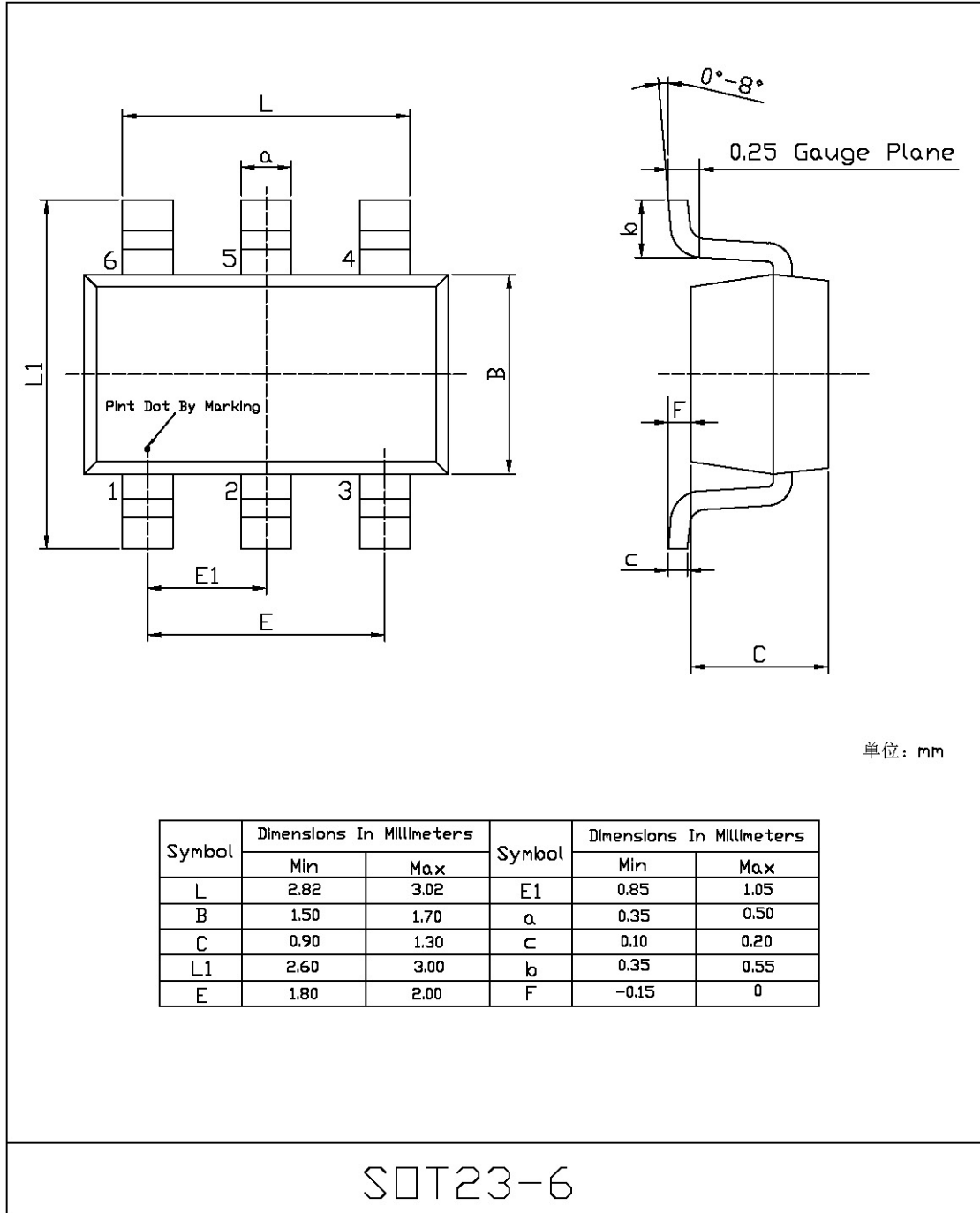
注/Notes:

- 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 $\leq 300\mu s$, 占空比 $\leq 2\%$ 。Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

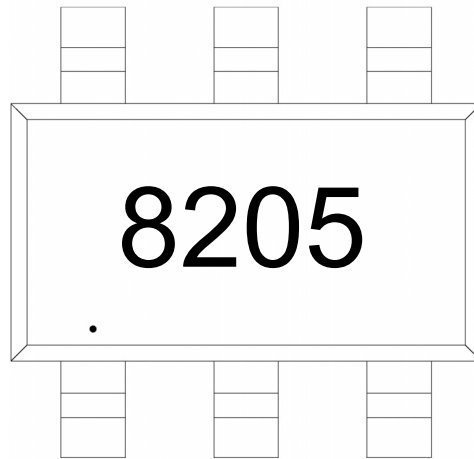
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions



说明：

8205： 为型号代码

Note:

8205: Product Type.

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：270±5°C

时间：10±1 sec.

Temp:270±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/盒	Reel	Inner Box 盒	Outer Box 箱
SOT23-5/6	3,000	10	30,000	8	240,000	7" × 8	210×205×205	445×435×230

使用说明 / Notices