

BRCS3407MC

Rev.B Mar.-2017

描述 / Descriptions

SOT23-3 塑封封装 P 道 MOS 场效应管。P- CHANNEL MOSFET in a SOT23-3 Plastic Package.

特征 / Features

$V_{DS} (V) = -30V$

$I_D = -4.1 A$

$R_{DS(ON)} < 60m\Omega (V_{GS} = -10V)$

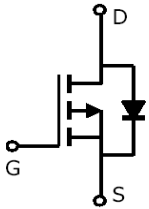
$R_{DS(ON)} < 85m\Omega (V_{GS} = -4.5V)$

用途 / Applications

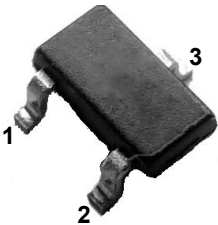
适用于作负载开关或脉宽调制应用。

This device is suitable for use as a load switch or in PWM applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : G

PIN 2 : S

PIN 3 : D

印章代码 / Marking

| | |
|---------|-----|
| Marking | A7H |
|---------|-----|

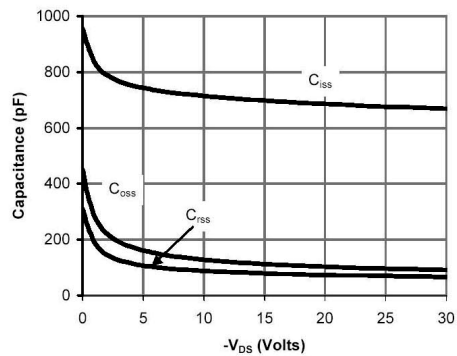
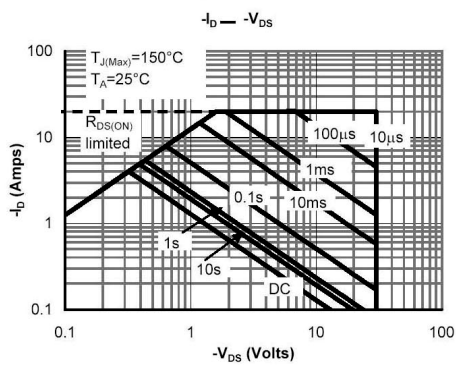
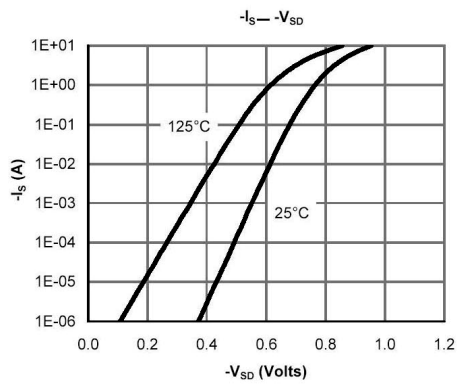
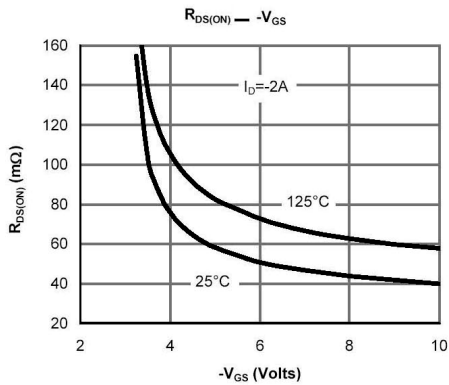
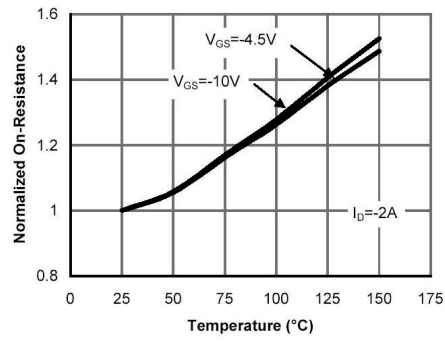
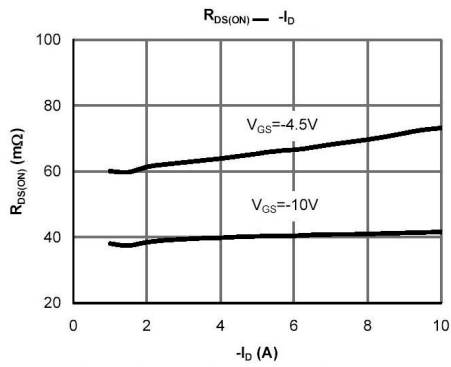
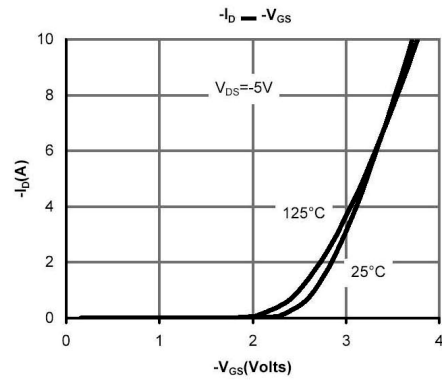
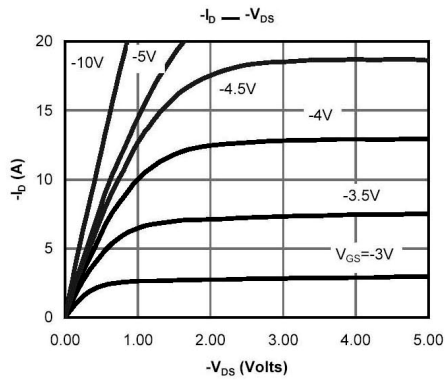
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|--|-----------------------------|--------------|------------------|
| Drain-Source Voltage | V_{DS} | -30 | V |
| Drain Current – Continuous | I_D | -4.1 | A |
| Drain Current- Continuous | $I_D(T_a=70^\circ\text{C})$ | -3.5 | A |
| Pulsed Drain Current | I_{DM} | -20 | A |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Total Power Dissipation | P_D | 1.4 | W |
| Total Power Dissipation | $P_D(T_a=70^\circ\text{C})$ | 1.0 | W |
| Operating and Storage Junction Temperature Range | T_J, T_{STG} | -55 to 150 | $^\circ\text{C}$ |

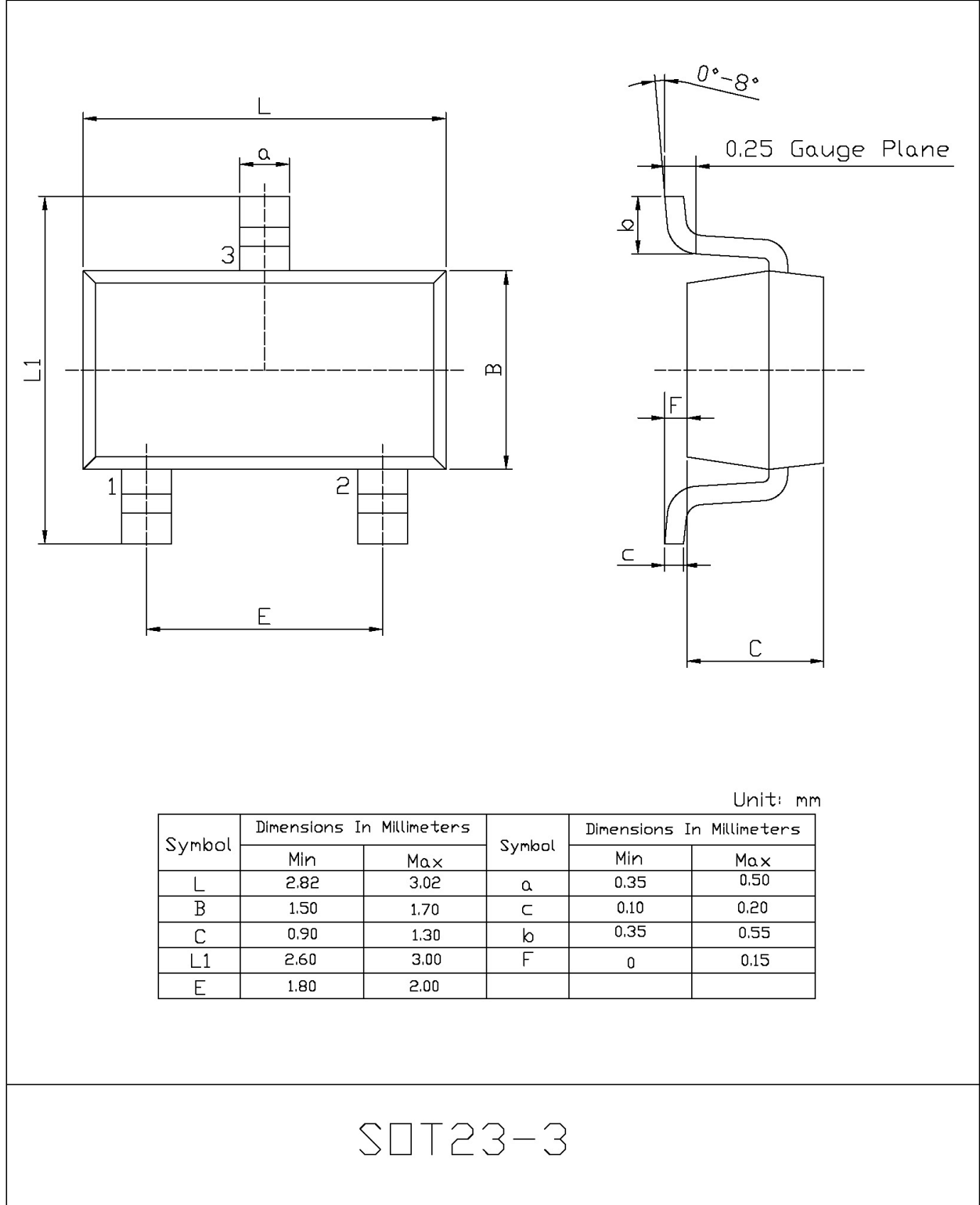
电性能参数 / Electrical Characteristics(Ta=25°C)

| 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} | $V_{GS}=0V$ $I_D=-250\mu A$ | -30 | | | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-24V$ $V_{GS}=0V$ | | | -1 | μA |
| | | $V_{DS}=-24V$ $V_{GS}=0V$ $T_J=55^\circ\text{C}$ | | | -5 | μA |
| Gate–Body Leakage. | I_{GSS} | $V_{GS}=\pm 20V$ $V_{DS}=0V$ | | | ± 0.1 | μA |
| On–State Drain Current | $I_{D(on)}$ | $V_{GS}=-4.5V$ $V_{DS}=-5V$ | -10 | | | A |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=-250\mu A$ | -1 | -1.4 | -3 | V |
| Static Drain–Source On–Resistance | $R_{DS(on)1}$ | $V_{GS}=-10V$ $I_D=-4.1A$ | | 54 | 60 | m Ω |
| | $R_{DS(on)2}$ | $V_{GS}=-10V$ $I_D=-4.1A$ $T_J=125^\circ\text{C}$ | | 57 | 73 | |
| | $R_{DS(on)3}$ | $V_{GS}=-4.5V$ $I_D=-3A$ | | 77 | 85 | |
| Forward Transconductance | g_{FS} | $V_{DS}=-5V$ $I_D=-4A$ | 5.5 | 8.2 | | S |
| Drain–Source Diode Forward Voltage | V_{SD} | $V_{GS}=0V$ $I_S=-1A$ | | -0.77 | -1 | V |
| Input Capacitance | C_{iss} | $V_{DS}=-15V$ $V_{GS}=0V$ $f=1\text{MHz}$ | | 700 | | pF |
| Output Capacitance | C_{oss} | | | 120 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 75 | | |
| Turn–On Delay Time | $t_{d(on)}$ | $V_{GS}=-10V$ $R_L=3.6\Omega$ $V_{DS}=-15V$ $R_{GEN}=3\Omega$ | | 8.6 | | ns |
| Turn–On Rise Time | t_r | | | 5 | | |
| Turn–Off Delay Time | $t_{d(off)}$ | | | 28.2 | | |
| Turn–Off Fall Time | t_f | | | 13.5 | | |

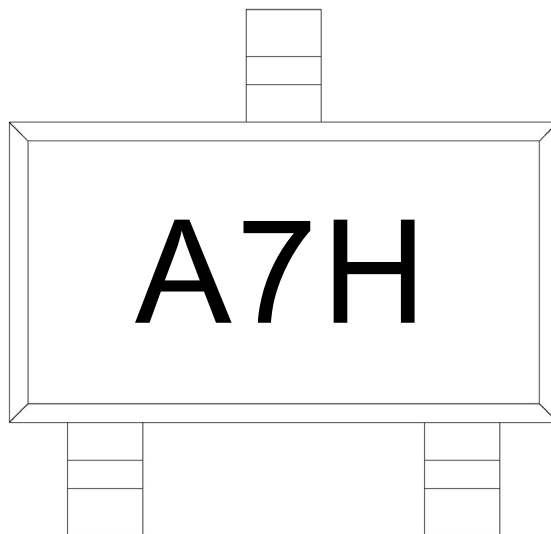
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions



说明：

A7： 为型号代码

H： 为公司代码

Note:

A7: Product Type.

H: Company Code.

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 |
| SOT-23-3 | 3,000 | 10 | 30,000 | 4 | 120,000 | 7" ×8 | 210×205×205 | 445×230×435 |

使用说明 / Notices