

3-TERMINAL POSITIVE VOLTAGE REGULATORS

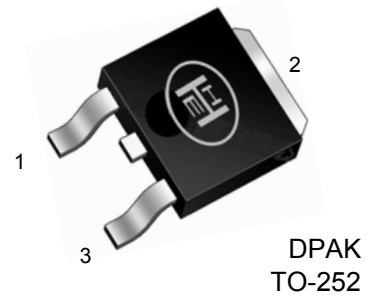
- 产品特征
 - 最大输出电流为1.2A
 - 输出电压为5V
 - 热过载保护
 - 短路保护
 - 输出晶体管安全工作区保护

- 产品用途
 - 稳压电源电路

Package & Marking & Pin & Packing

3-Lead Plastic
TO-252 (DPAK)
Package Code: CV
Pin 1: INPUT (输入)
Pin 2: GND (地)
Pin 3: OUTPUT (输出)

Plastic Bags
80Pcs/Bag
4Kpcs/BOX



DPAK
TO-252

■ 极限参数 (Ta=25°C)

| 参数说明 | 符号 | 数值 | 单位 |
|--------|-----------------|------------|------|
| 输入电压 | V_i | 35-40 | V |
| 结到空气热阻 | $R_{\theta JA}$ | 65 | °C/W |
| 结到壳热阻 | $R_{\theta JC}$ | 5 | |
| 工作温度 | T_{OPR} | 0 ~ +125 | °C |
| 贮存温度 | T_{atg} | -65 ~ +150 | |

打印标识
TR: 三端稳压IC
M: TO-252
HH: HAOHAI
aa: 出厂年份
bb: 出厂自然周

■ 电参数 (除特殊说明, $0 < T_j < 125^\circ\text{C}$, $I_o = 500\text{mA}$, $V_i = 10\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o = 0.1\mu\text{F}$)

| 参数 | 符号 | 测试条件 | 最小值 | 典型值 | 最大值 | 单位 |
|---------|-------------------------|--|------|------|------|-------|
| 输出电压 | V_o | $T_j = 25^\circ\text{C}$ | 4.80 | 5.00 | 5.20 | V |
| | | $5\text{mA} < I_o < 1\text{A}$, $P_o < 15\text{W}$, $V_i = 7.5\text{V to } 20\text{V}$ | 4.75 | 5.00 | 5.25 | |
| 线性调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $V_i = 7.5\text{V to } 25\text{V}$ | | 4.00 | 100 | mV |
| | | $T_j = 25^\circ\text{C}$, $V_i = 8\text{V to } 12\text{V}$ | | 1.60 | 50.0 | |
| 负载调整率 | ΔV_o | $T_j = 25^\circ\text{C}$, $I_o = 5\text{mA to } 1.5\text{A}$ | | 9 | 100 | mV |
| | | $T_j = 25^\circ\text{C}$, $I_o = 250\text{mA to } 750\text{mA}$ | | 4 | 50 | |
| 表态电流 | I_q | $T_j = 25^\circ\text{C}$ | | 5.0 | 8.0 | mA |
| 表态电流变化率 | ΔI_q | $I_o = 5\text{mA to } 1\text{A}$ | | 0.03 | 0.5 | |
| | | $V_i = 8\text{V to } 25\text{V}$ | | 0.30 | 0.8 | |
| 输出电压温漂 | $\Delta V_o / \Delta T$ | $I_o = 5\text{mA}$ | | 0.8 | | mV/°C |
| 输出噪音电压 | V_N | $f = 10\text{Hz to } 100\text{kHz}$, $T_a = 25^\circ\text{C}$ | | 42 | | Mv |
| 纹波抑制比 | R_R | $f = 120\text{Hz}$, $V_i = 8\text{V to } 18\text{V}$ | 62 | 73 | | dB |
| 输入输出电压差 | V_o | $I_o = 1\text{A}$, $T_j = 25^\circ\text{C}$ | | 2 | | V |
| 输出阻抗 | R_o | $f = 1\text{kHz}$ | | 15 | | mΩ |
| 短路电流 | I_{SC} | $V_i = 35\text{V}$, $T_a = 25^\circ\text{C}$ | | 230 | | mA |
| 峰值电流 | I_{PK} | $T_j = 25^\circ\text{C}$ | | 2.2 | | A |

■ 特征曲线

图1: 静态电流和结点温度的关系曲线图

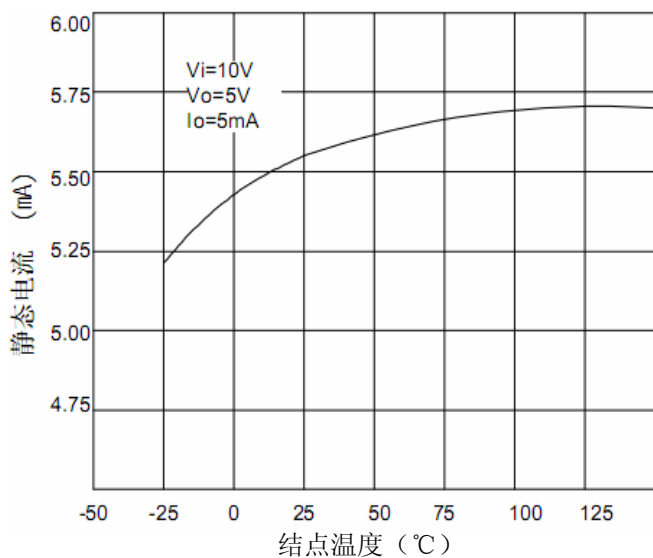


图2: 输出电压和结点温度的关系曲线图

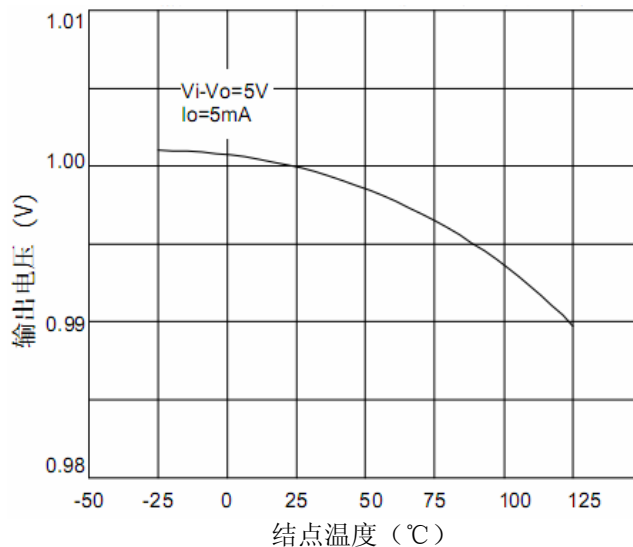


图3: 峰值输出电流

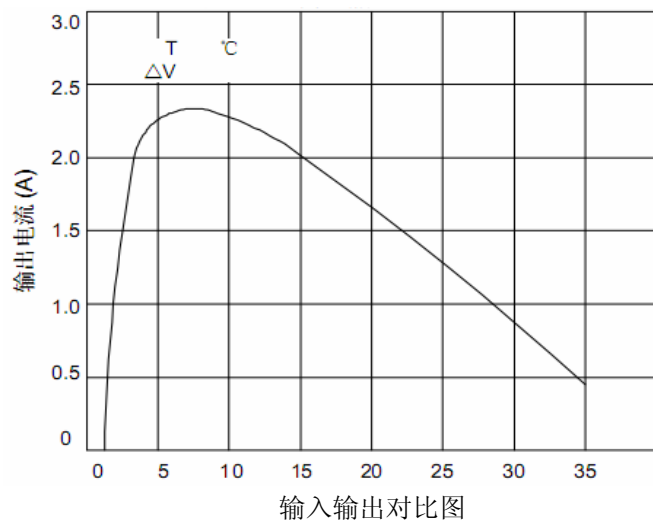
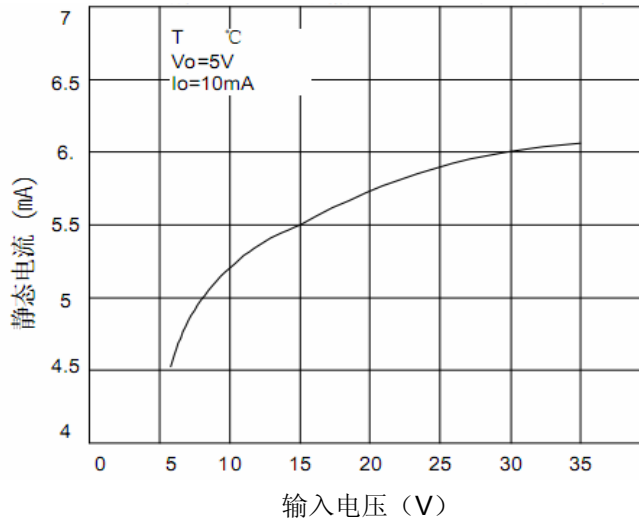


图4: 静态电流和输入电压的关系曲线图



■ 应用电路图

图1: 固定输出稳压电路

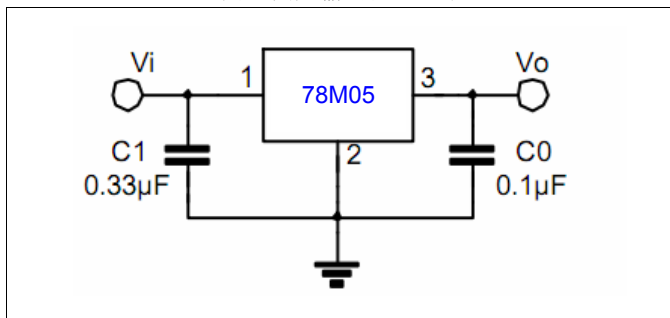
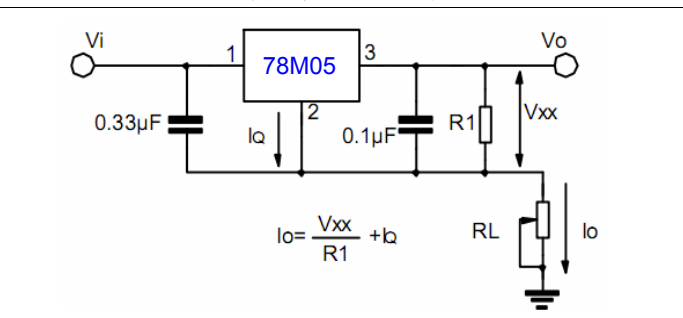


图2: 恒流稳压电路



应用电路图

图3: 增强型稳压输出电路

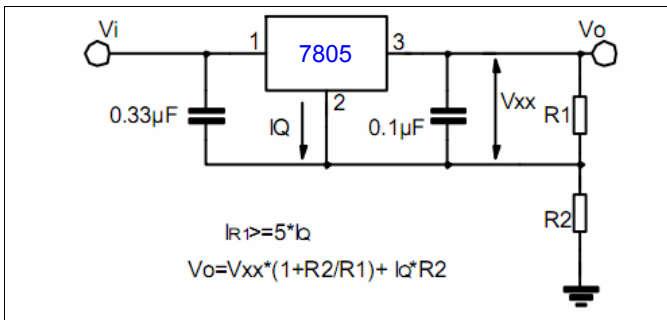


图4: 可调型输出电路

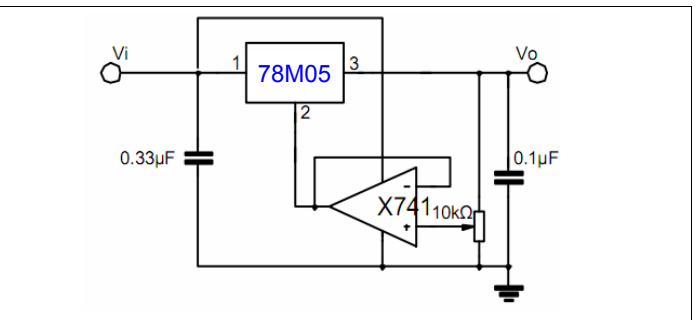


图5: 高电流电压稳压电路

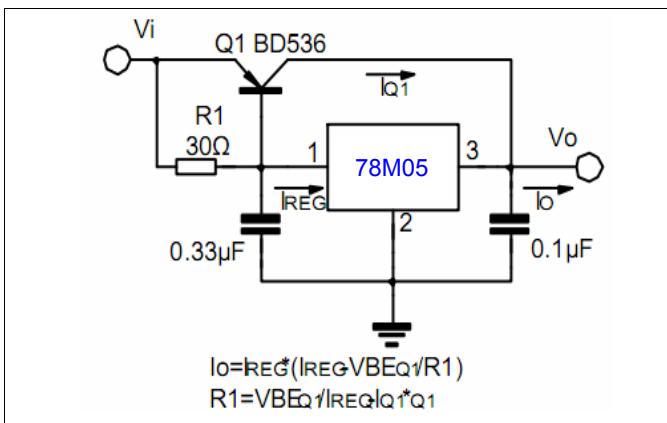


图6: 高输出电流短路保护电路

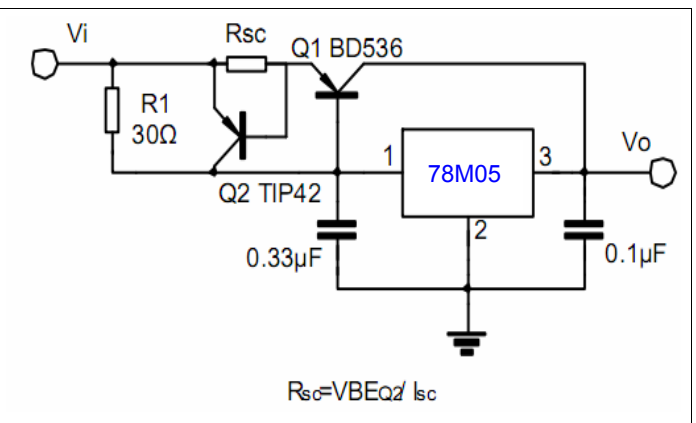


图7: 跟踪电压稳压电路

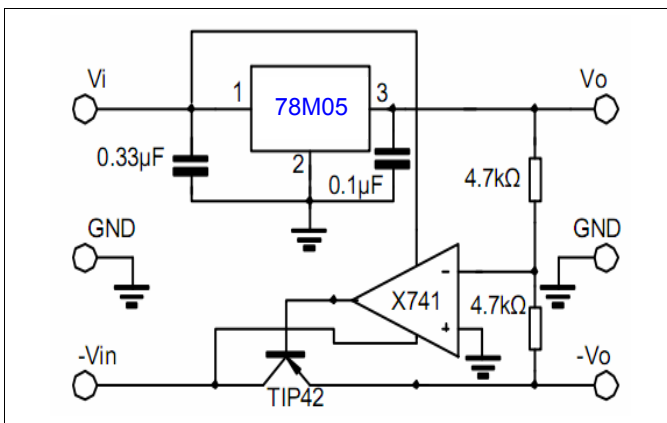


图8: 分电源电路

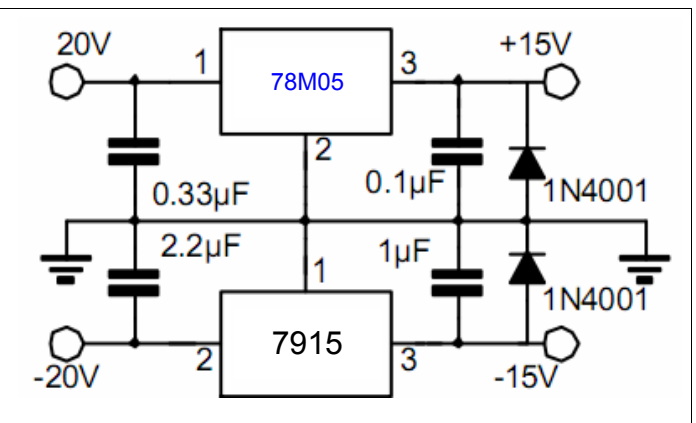


图9: 负电源电压输出电路

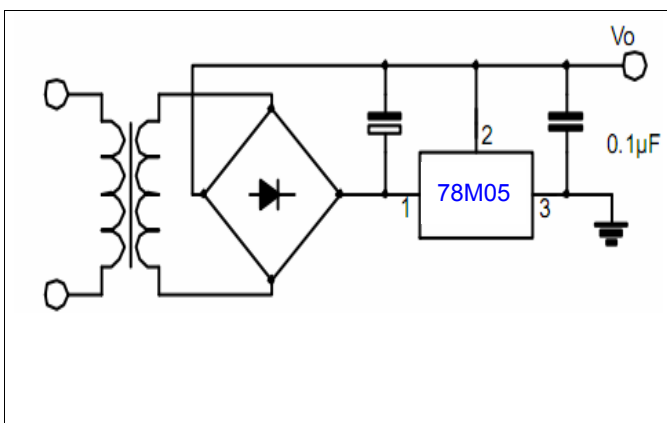
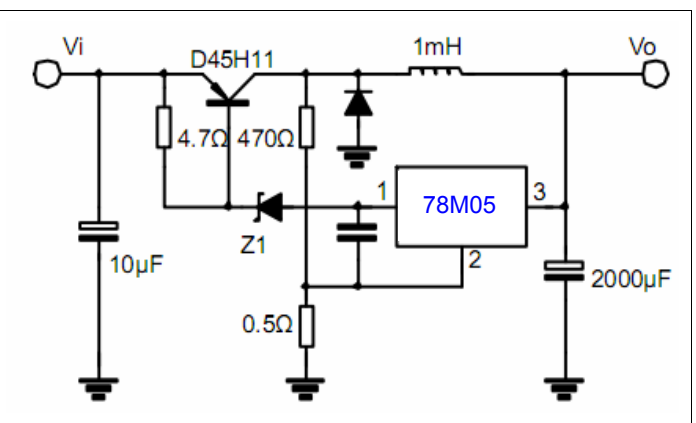


图10: 开关稳压电路



■ 测试电流图

图1: 测直流电参数电路图

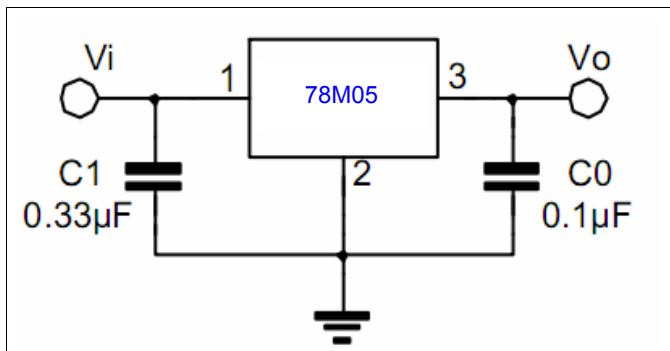


图2: 测负载调整率电路图

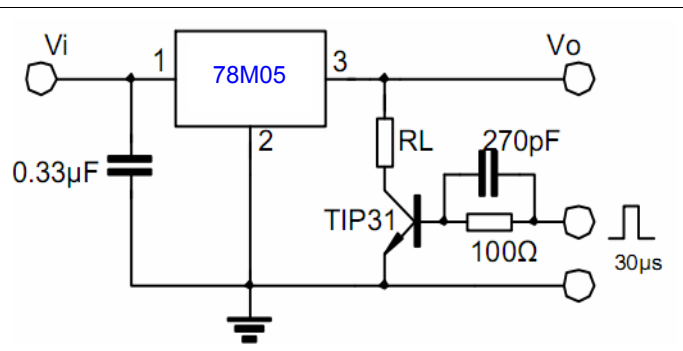
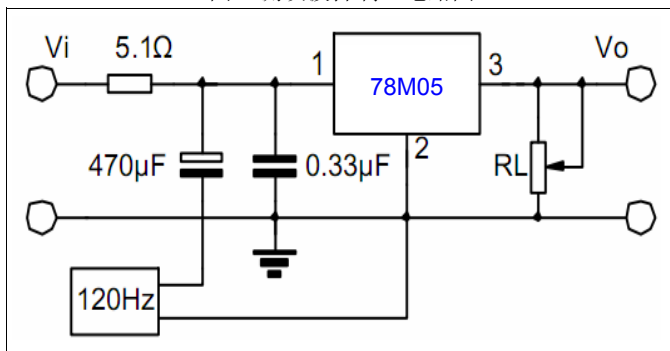
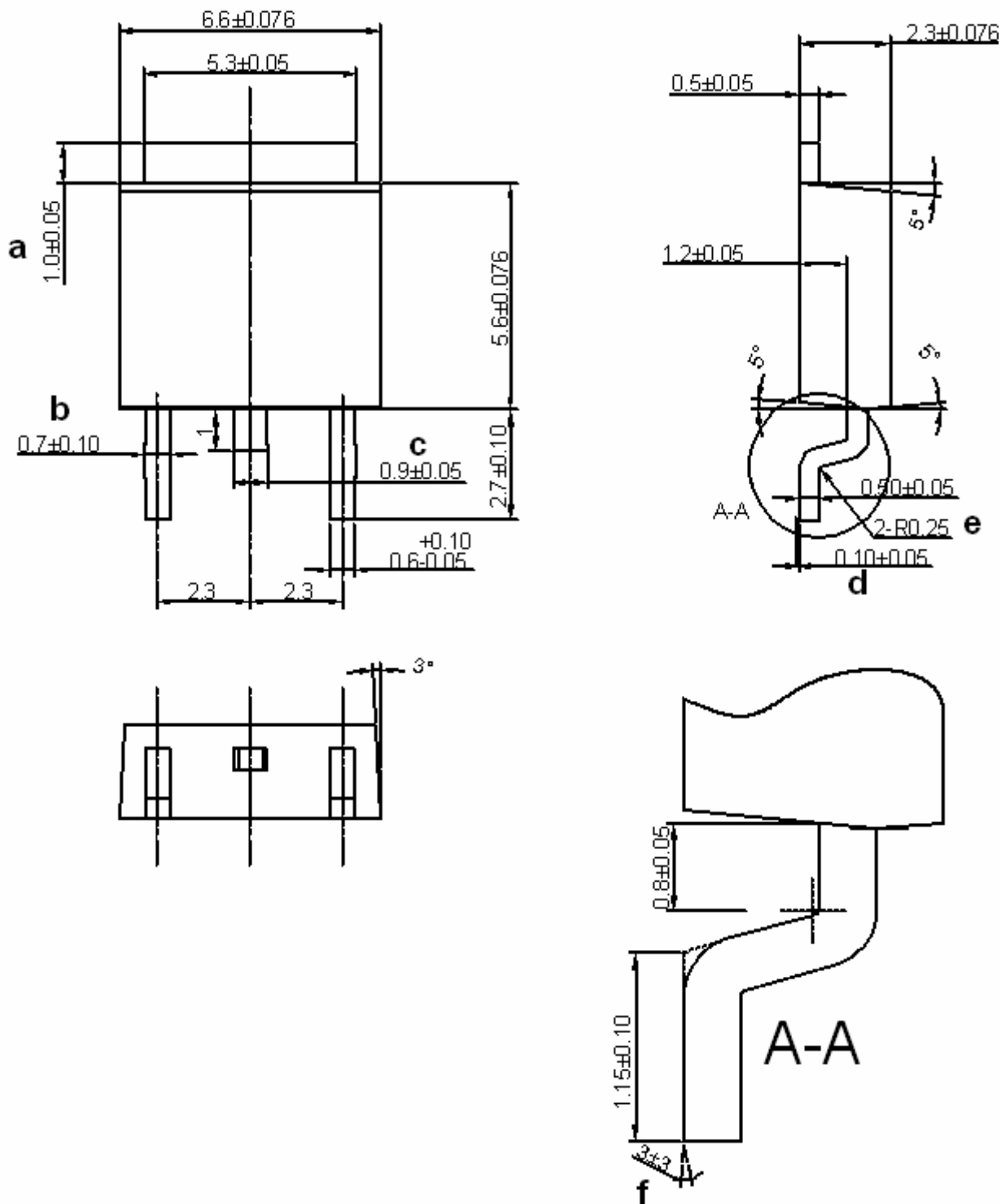


图3: 测纹波抑制比电路图

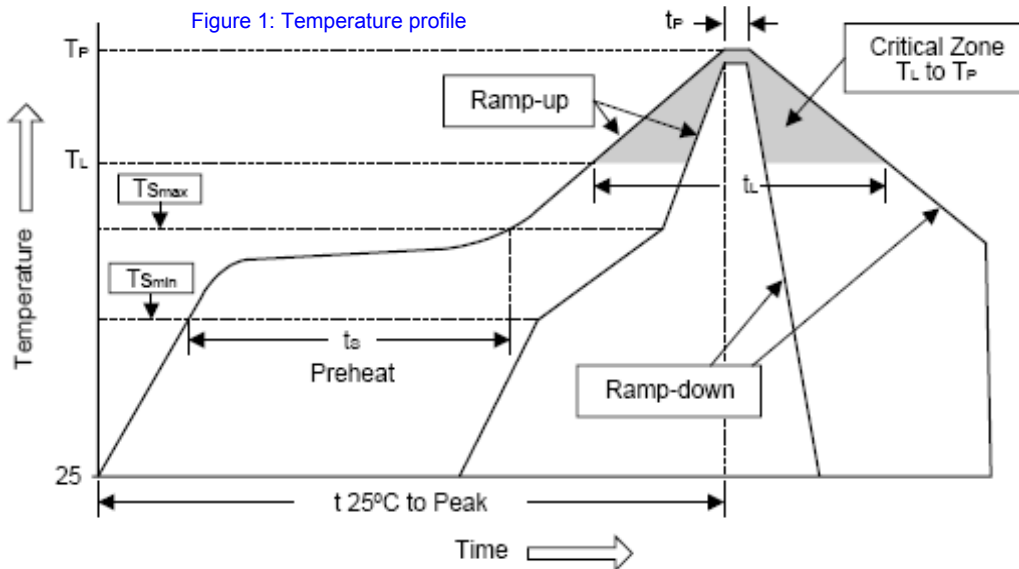


产品封装尺寸数据, 单位: 毫米
PACKAGE MECHANICAL DATA TO-252 (DPAK)



■ Soldering Methods for HAOHAI Products 浩海产品的焊接方法

1. Storage environment: Temperature=10°C~35°C Humidity=65%±15%
2. Reflow soldering of surface-mount devices



| Profile Feature | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
|---|------------------------------|------------------------------|
| Average ramp-up rate (T _L to T _P) | <3°C/sec | <3°C/sec |
| Preheat - Temperature Min (T _{smmin}) - Temperature Max (T _{smmax}) - Time (min to max) (ts) | 100°C 150°C 60~120 sec | 150°C 200°C 60~180 sec |
| T _{smmax} to T _L - Ramp-up Rate | <3°C/sec | <3°C/sec |
| Time maintained above: - Temperature (T _L) - Time (T _L) | 183°C 60~150 sec | 217°C 60~150 sec |
| Peak Temperature (T _P) | 240°C +0/-5°C | 260°C +0/-5°C |
| Time within 50C of actual Peak Temperature (T _P) | 10~30 sec | 20~40 sec |
| Ramp-down Rate | <6°C/sec | <6°C/sec |
| Time 250C to Peak Temperature | <6 minutes | <8 minutes |

3. Flow (wave) soldering (solder dipping) 波峰焊、回流焊、焊锡浸渍温度

| Products | Peak temperature | Dipping time |
|------------------|------------------|--------------|
| Pb devices. | 245°C ±5°C | 5sec ±1sec |
| Pb-Free devices. | 260°C +0/-5°C | 5sec ±1sec |

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