



SOT-89 Three Terminal Regulator 三端稳压 IC

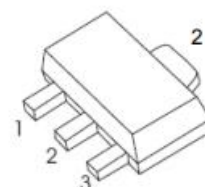
■ Features 特点

Pin 脚位: 1.Output 输出 2.Ground 地 3.Input 输入

Output Voltage 输出电压: 5V

Output Current 输出电流: 0.1A

Power dissipation 耗散功率: 0.6W



■ Absolute Maximum Ratings 最大额定值

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

| Characteristic 特性参数 | Symbol 符号 | Rat 额定值 | Unit 单位 |
|---|-----------------|------------------------------|-----------------------------|
| Input Voltage 输入电压 | V_i | 35 | V |
| Operating Current 工作电流 | I_o | 100 | mA |
| Power dissipation 耗散功率 | P_D | 600 | mW |
| Thermal Resistance Junction-Ambient 热阻 | $R_{\theta JA}$ | 208 | $^{\circ}\text{C}/\text{W}$ |
| Solder Temperature 焊接温度/时间 | T_d | 260 | $^{\circ}\text{C}$ |
| Solder Temperature/Time 焊接时间 | T_d | 10 | S |
| Operating Ambient Temperature 工作温度 | T_A | -40~+125 | $^{\circ}\text{C}$ |
| Junction and Storage Temperature 结温和储藏温度 | T_J, T_{stg} | -55to+150 $^{\circ}\text{C}$ | |

■ Device Marking 产品字标

78L05=78L05



■ Electrical Characteristics 电特性

($V_i=10V$ $I_o=40mA$ $C_i=0.33\mu F$ $C_o=0.1\mu F$ $T_A=25^\circ C$ unless otherwise noted 如无特殊说明)

| Characteristic 特性参数 | Symbol 符号 | Test Condition 测试条件 | Min 最小值 | Type 典型值 | Max 最大值 | Unit 单位 |
|------------------------------------|--------------|---|------------|-------------|------------|------------|
| Output Voltage 输出电压 | V_o | $V_i=10V$ $I_o=40mA$ | 4.85 | 5 | 5.15 | V |
| Output Voltage 输出电压 | V_o | $7V \leq V_i \leq 25V$ $1mA \leq I_o \leq 40mA$ | 4.8 | | 5.2 | V |
| Output Voltage 输出电压 | V_o | $7V \leq V_i \leq 25V$ $1mA \leq I_o \leq 100mA$ | 4.75 | | 5.25 | V |
| Output Current 输出电流 | I_o | $V_i=10V$ | | 100 | | mA |
| Dropout Voltage 落差电压 | V_D | $I_o=40mA$ | | 1.7 | | V |
| Quiescent Current 静态电流 | I_q | $V_i=10V$ $I_o=0$ | | 3.75 | 6 | mA |
| Quiescent Current Change 静态电流变化 | ΔI_q | $8V \leq V_i \leq 25V$ | | | 1.0 | mA |
| Quiescent Current Change 静态电流变化 | ΔI_q | $1mA \leq I_o \leq 40mA$ | | | 1.0 | mA |
| Line Regulation 线性调整 | ΔV_o | $I_o=10mA$ $7V \leq V_i \leq 25V$ | | 18 | 75 | mV |
| Line Regulation 线性调整 | ΔV_o | $I_o=10mA$ $9V \leq V_i \leq 25V$ | | 10 | 54 | mV |
| Load Regulation 负载调整 | ΔV_o | $1mA \leq I_o \leq 100mA$ $V_i=10V$ | | 20 | 60 | mV |
| Load Regulation 负载调整 | ΔV_o | $1mA \leq I_o \leq 40mA$ $V_i=10V$ | | 5 | 30 | mV |
| Output Noise Voltage 噪声电压 | V_N | $10Hz \leq f \leq 100kHz$ | | 40 | | μV |
| Ripple Rejection 纹波抑制 | RR | $8V \leq V_i \leq 16V$ $f=120Hz$ | 47 | 62 | | dB |

■ Typical Characteristic Curve 典型特性曲线

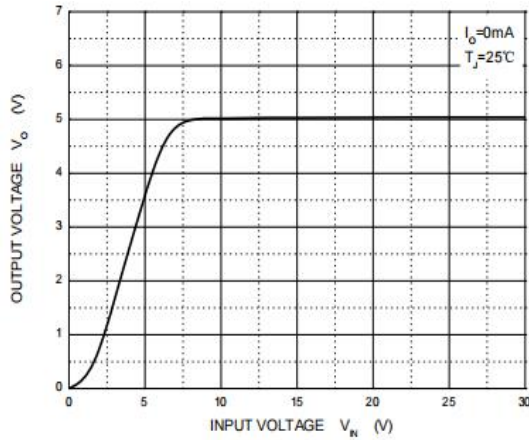


Figure 1: Transfer Characteristics

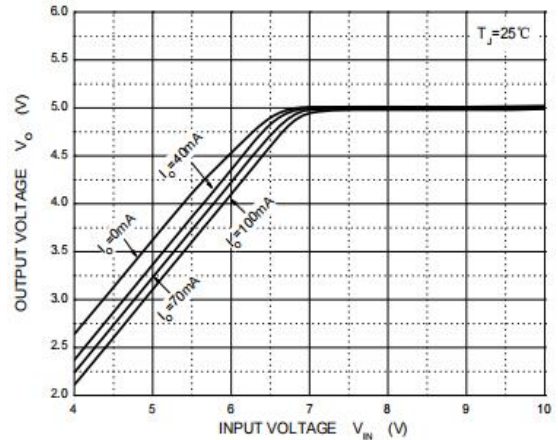


Figure 2: Dropout Characteristics

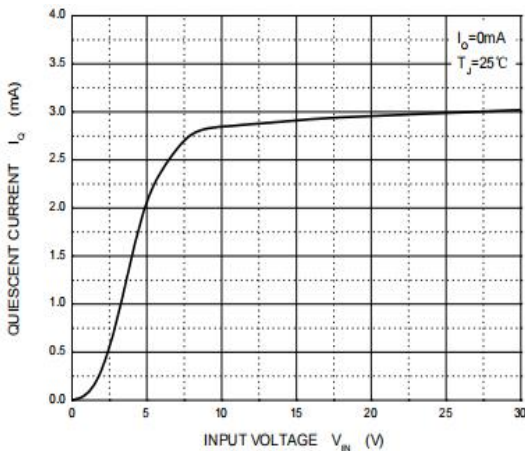


Figure 3: Quiescent Current Characteristics

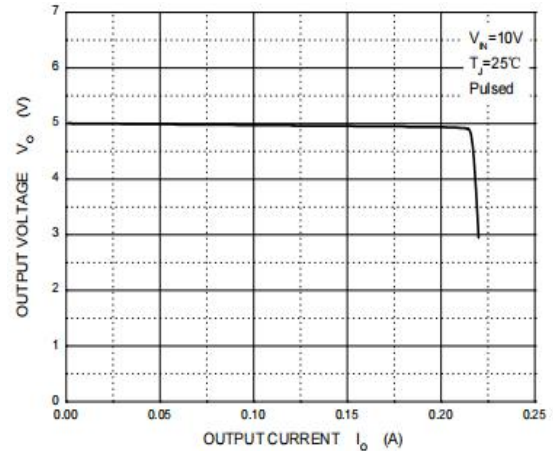


Figure 4: Output Characteristics

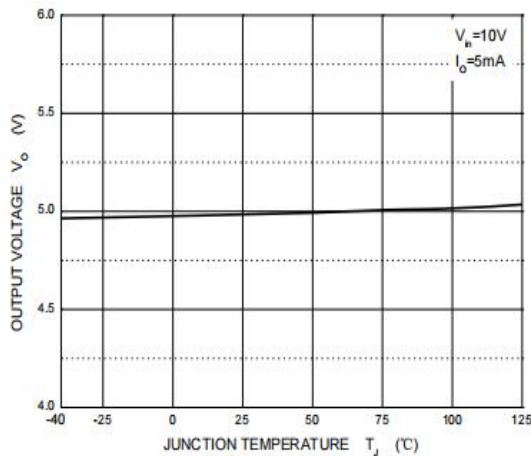


Figure 5: Temperature Characteristics

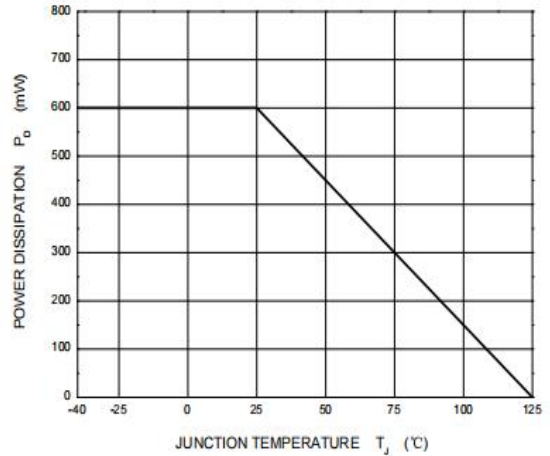
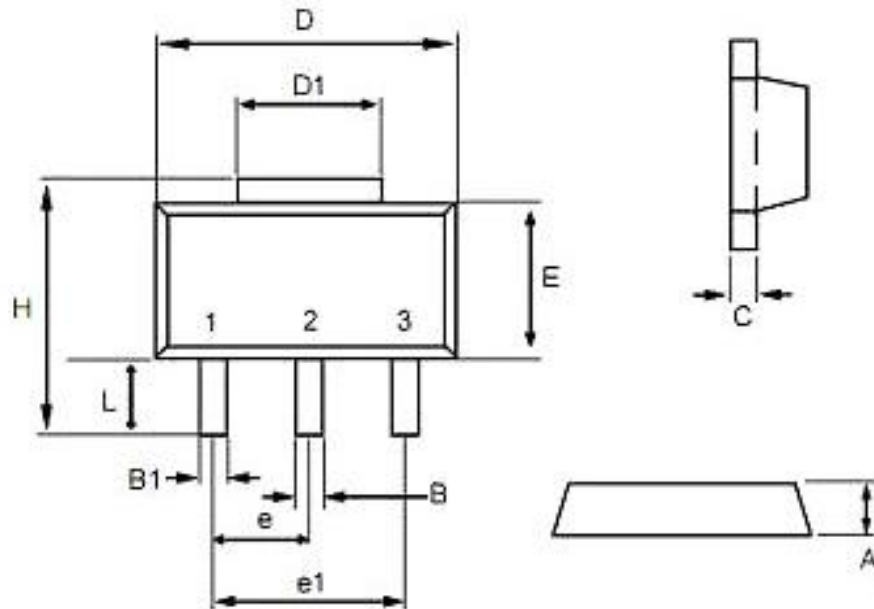


Figure 6: Power Characteristics

■SOT-89 Dimension 外形封装尺寸



| Dim | min | max |
|-----|----------|------|
| A | 1.40 | 1.60 |
| B | 0.40 | 0.56 |
| B1 | 0.35 | 0.48 |
| C | 0.35 | 0.44 |
| D | 4.40 | 4.60 |
| D1 | 1.35 | 1.83 |
| e | 1.50 BSC | |
| e1 | 3.00 BSC | |
| E | 2.29 | 2.60 |
| H | 3.75 | 4.25 |
| L | 0.80 | 1.20 |

Dimensions In Millimeters