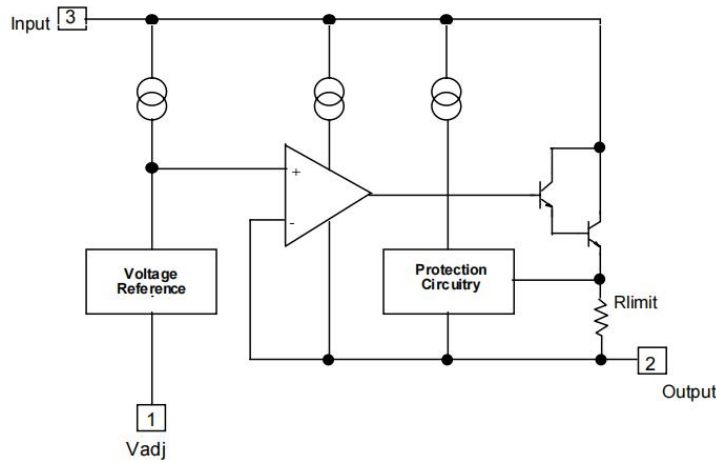


SOT-23 Three Terminal Adjustable Regulator

三端可调稳压 IC

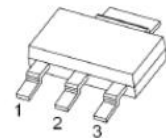
■Features 特点



HF **RoHS** 

SOT-223

- 1. Adj
- 2. Output
- 3. Input



■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-Output Voltage Differential 输入输出电压差	V_i-V_o	40	V
Output Voltage Range 输出电压范围	V_o	1.2~37	V
Thermal Resistance Junction-Case 结壳热阻	$R_{\theta JC}$	5	$^{\circ}\text{C}/\text{W}$
Solder Temperature 焊接温度/时间	T_d	230/10	$^{\circ}\text{C}/\text{S}$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-40to+125 $^{\circ}\text{C}$	

■Device Marking 产品打标

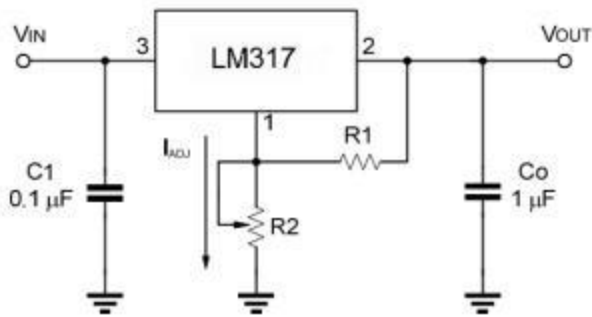
LM317-2AF=LM317

■Electrical Characteristics 电特性

($V_O - V_I = 5V$, $I_O = 0.5A$, $0^\circ C \leq T_J \leq 125^\circ C$, $I_{MAX} = 1.5A$, $P_{MAX} = 20W$, unless otherwise specified)

Parameter	Symbol	Conditions		Value			Unit
				Min	Typ	Max	
Line Regulation	ΔV_O	$V_i - V_o = 3 \text{ to } 40V$	$T_J = 25^\circ C$			0.04	%V
						0.07	
Load Regulation	ΔV_O	$V_o \leq 5V$ $I_o = 10mA \sim I_{MAX} 1.5A$	$T_J = 25^\circ C$			25	mV
						70	
		$V_o \geq 5V$ $I_o = 10mA \sim I_{MAX} 1.5A$	$T_J = 25^\circ C$			0.5	%V
						1.5	
Adjustment Pin Current	I_{ADJ}	$T_J = 25^\circ C$				100	μA
Adjustment Pin Current	ΔI_{ADJ}	$V_i - V_o = 2.5 \text{ to } 40V$ $I_o = 10mA \sim I_{MAX} 1.5A$				5	μA
Output Voltage Drift	$\Delta V / \Delta T$	$I_o = 5mA$			-0.8		$mV/^\circ C$
Reference Voltage (between pin3 and pin1)	V_{REF}	$V_i - V_o = 2.5 \text{ to } 40V$ $I_o = 10mA \sim I_{MAX} 1.5A$ $P_D \leq P_{MAX}$		1.2	1.25	1.3	V
Output Voltage Temperature Stability	$\Delta V_O / \Delta V_O$				1		%
Minimum Load Current	$I_{O(min)}$	$V_i - V_o = 40V$				10	mA
Maximum Load Current	$I_{O(max)}$	$V_i - V_o \leq 15V$, $P_D < P_{MAX}$		1.5			A
		$V_i - V_o = 40V$, $P_D < P_{MAX}$, $T_J = 25^\circ C$			0.4		

■ Application Circuits 应用电路



$$V_{out} = 1.25 \cdot (1 + R2/R1) + I_{ADJ} \cdot R2$$

Fig.1 Programmable Voltage Regulator

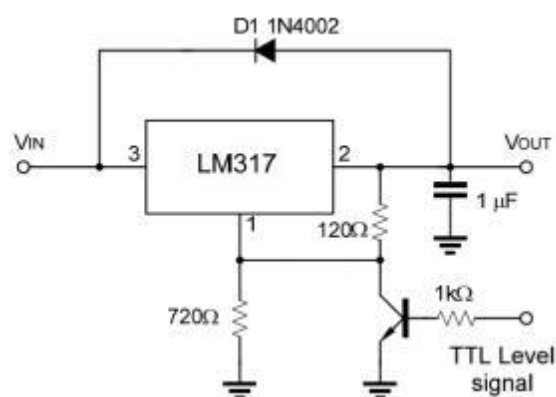


Fig.2 Regulator with ON-off controll

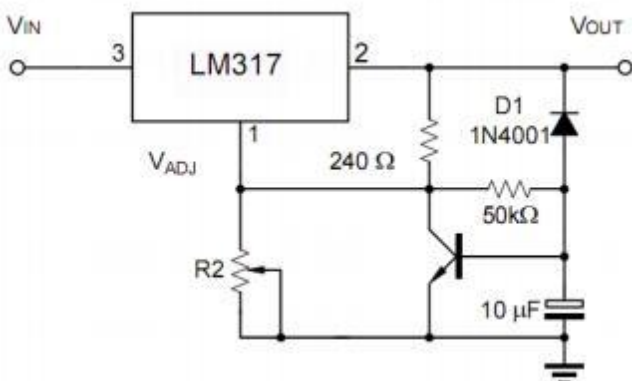


Fig.3 Soft Start Application

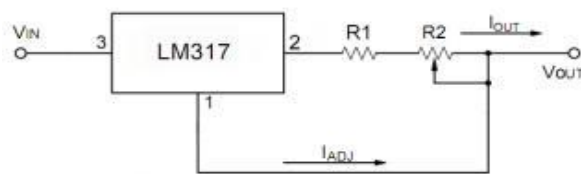


Fig.4. Constant Current Application

■ Typical Characteristics 典型特性曲线

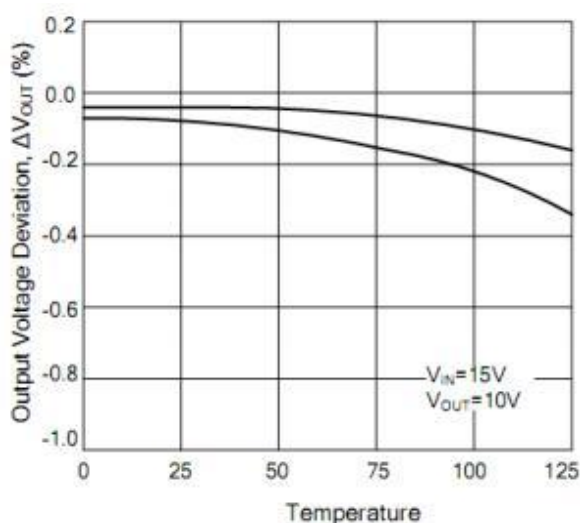


Fig.1. Load Regulation vs. temperature

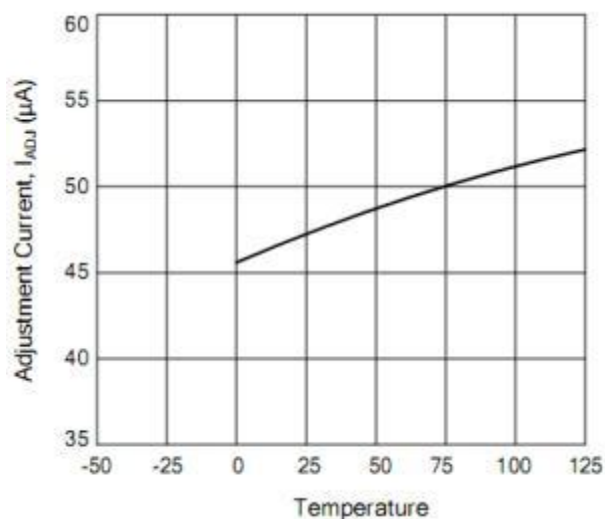


Fig.2. Adjustment Current vs. Temperature

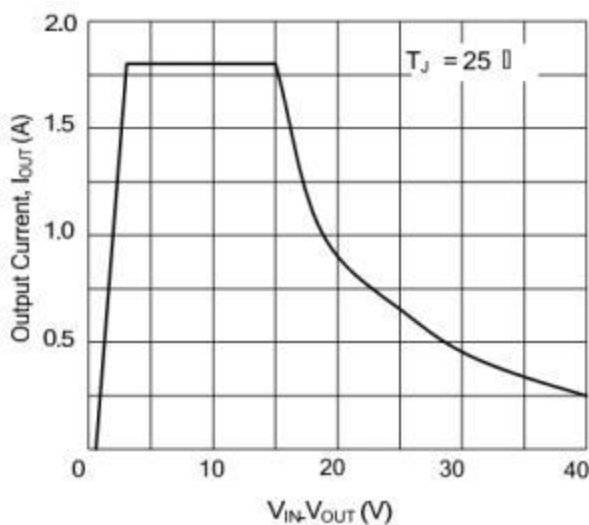


Fig.3. Currents Limit

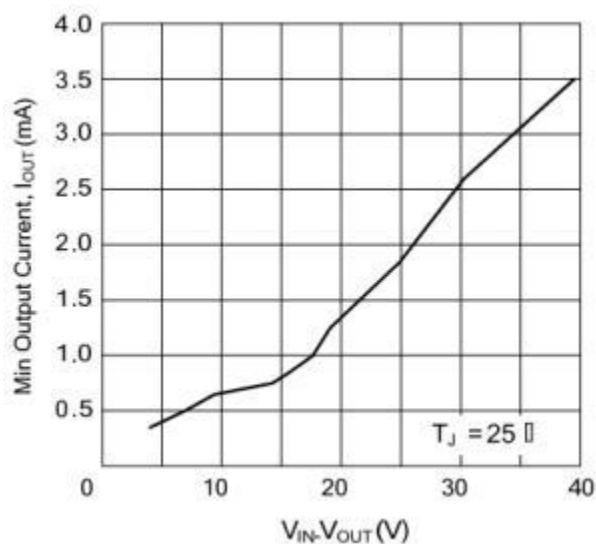
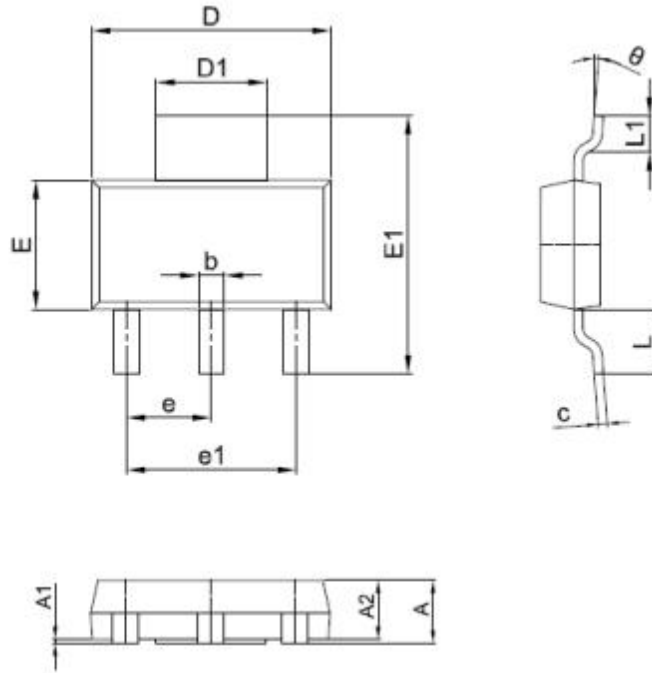


Fig.4. Minimum Operating Current

■SOT-23 Dimension 外形封装尺寸 (Unit:mm)



Symbol	Min.	Typ.	Max.
A	1.52	1.62	1.80
A1	0.00	0.05	0.10
A2	1.50	1.60	1.70
b	0.65	0.70	0.75
c	0.20	0.25	0.30
D	6.40	6.50	6.60
D1	2.90	3.00	3.10
E	3.30	3.50	3.70
E1	6.85	7.00	7.15
e	2.20	2.30	2.40
e1	4.40	4.60	4.80
L	1.65	1.75	1.85
L1	0.90	1.00	1.10
θ	0°	5°	10°