

SOT-89-3L 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

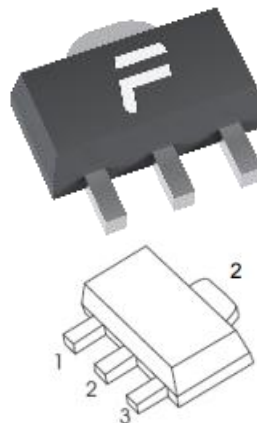
Output Voltage 输出电压: 5V

Output Current 输出电流: 0.5A

Power dissipation 耗散功率: 1W

■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	500	mA
Power dissipation 耗散功率	P_D	1000	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	125	$^{\circ}\text{C}/\text{W}$
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

FS78L05A=78L05A

■Electrical Characteristics 电特性

(Vi=10V Io=40mA Ci=0.33uF Co=0.1uF TA=25°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	Vo	Vi=10V Io=40mA	4.85	5	5.15	V
Output Voltage 输出电压	Vo	8V≤Vi≤25V 1mA≤Io≤100mA	4.8		5.2	V
Output Voltage 输出电压	Vo	8V≤Vi≤12V 1mA≤Io≤500mA	4.78		5.22	V
Output Current 输出电流	Io	Vi=10V		500		mA
Dropout Voltage 落差电压	VD	Io=500mA		1.7		V
Quiescent Current 静态电流	Iq	Vi=10V Io=0		1	4.7	mA
Quiescent Current Change 静态电流变化	ΔIq	8V≤Vi≤25V			0.7	mA
Quiescent Current Change 静态电流变化	ΔIq	5mA≤Io≤500mA			0.4	mA
Line Regulation 线性调整	ΔVo	Io=40mA 8V≤Vi≤12V			150	mV
Line Regulation 线性调整	ΔVo	Io=40mA 10V≤Vi≤12V			100	mV
Load Regulation 负载调整	ΔVo	5mA≤Io≤500mA Vi=8V			125	mV
Load Regulation 负载调整	ΔVo	5mA≤Io≤300mA Vi=10V			125	mV
Output Noise Voltage 噪声电压	VN	10Hz≤f≤100kHz		40		μV
Ripple Rejection 纹波抑制	RR	8V≤Vi≤16V f=120Hz	47	62		dB

■ Typical Characteristic Curve 典型特性曲线

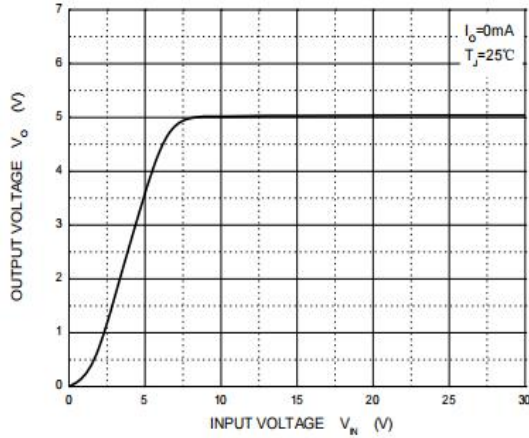


Figure 1: Transfer Characteristics

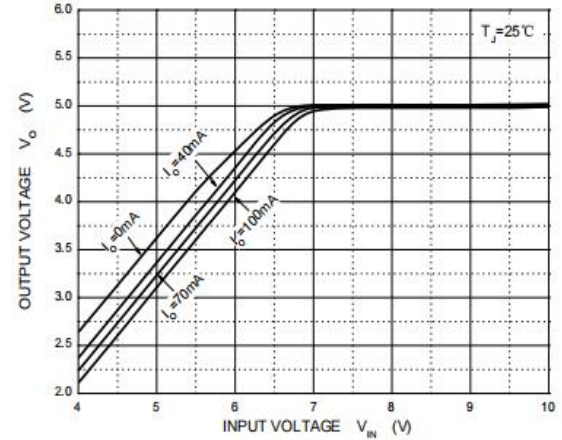


Figure 2: Dropout Characteristics

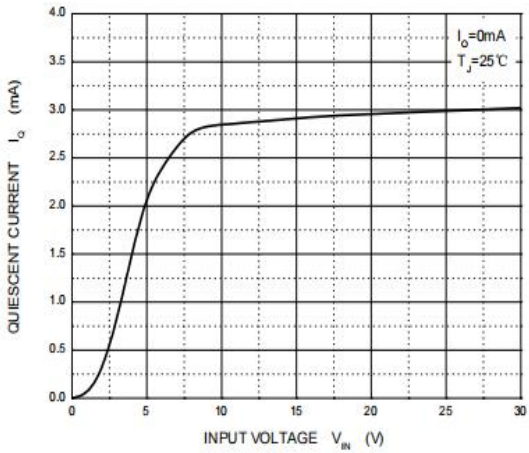


Figure 3: Quiescent Current Characteristics

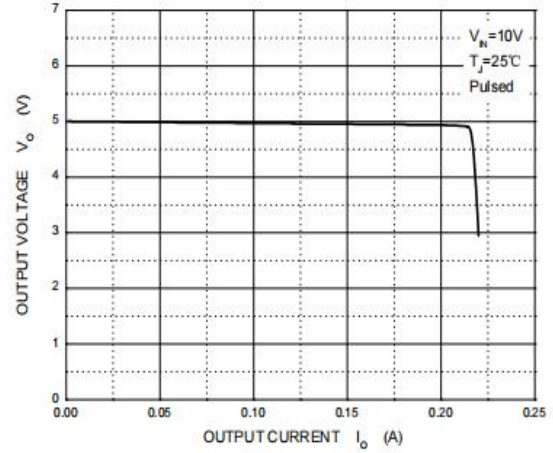


Figure 4: Output Characteristics

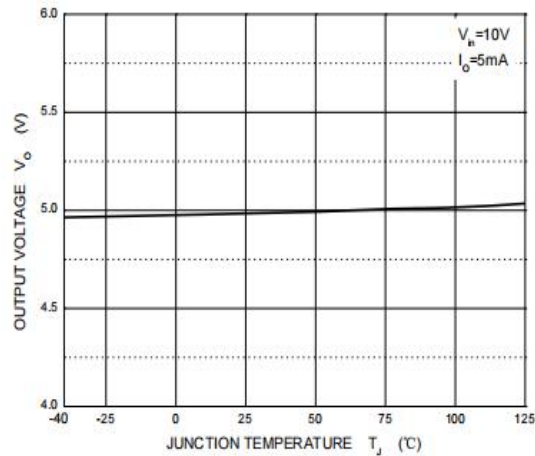
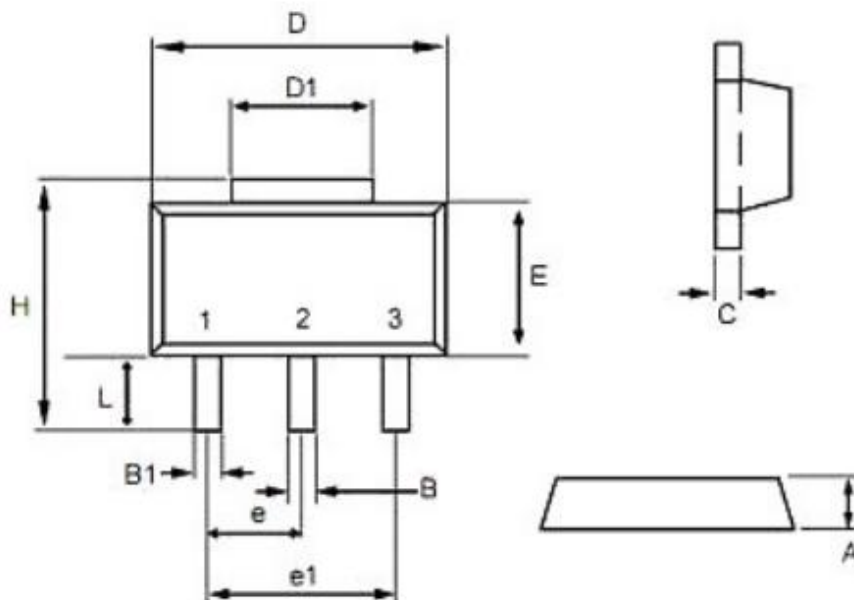


Figure 5: Temperature Characteristics

■ SOT-89-3L Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.40	1.60	0.055	0.063
B	0.40	0.56	0.016	0.022
B1	0.35	0.48	0.014	0.019
C	0.35	0.44	0.014	0.017
D	4.40	4.60	0.173	0.181
D1	1.35	1.83	0.053	0.072
e	1.45	1.55	0.057	0.061
e1	2.95	3.05	0.116	0.120
E	2.29	2.60	0.090	0.102
H	3.75	4.25	0.148	0.167
L	0.80	1.20	0.031	0.047