

SOT-89 Three Terminal Regulator 三端稳压 IC

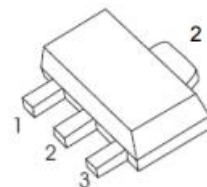
■Features 特点

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: 0.5A

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

FS78M05=78M05

■ 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	$8V \leq V_I \leq 25V$ $1mA \leq I_O \leq 100mA$	4.8		5.2	V
Output Voltage 输出电压	V_O	$8V \leq V_I \leq 12V$ $1mA \leq I_O \leq 500mA$	4.78		5.22	V
Output Current 输出电流	I_O	$V_I=10V$		500		mA
Dropout Voltage 落差电压	V_D	$I_O=500mA$		1.7		V
Quiescent Current 静态电流	I_q	$V_I=10V$ $I_O=0$		1	4.7	mA
Quiescent Current Change 静态电流变化	ΔI_q	$8V \leq V_I \leq 25V$			0.7	mA
Quiescent Current Change 静态电流变化	ΔI_q	$5mA \leq I_O \leq 500mA$			0.4	mA
Line Regulation 线性调整	ΔV_O	$I_O=40mA$ $8V \leq V_I \leq 12V$			150	mV
Line Regulation 线性调整	ΔV_O	$I_O=40mA$ $10V \leq V_I \leq 12V$			100	mV
Load Regulation 负载调整	ΔV_O	$5mA \leq I_O \leq 500mA$ $V_I=8V$			125	mV
Load Regulation 负载调整	ΔV_O	$5mA \leq I_O \leq 300mA$ $V_I=10V$			125	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

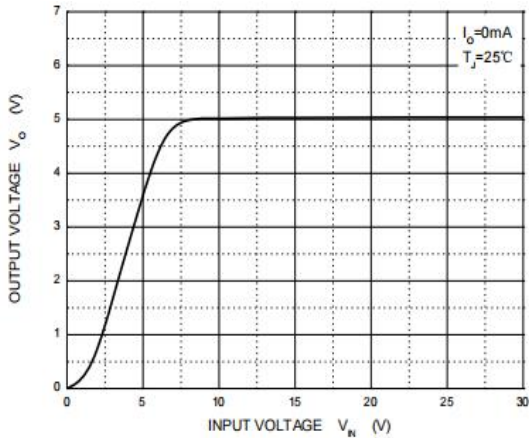


Figure 1: Transfer Characteristics

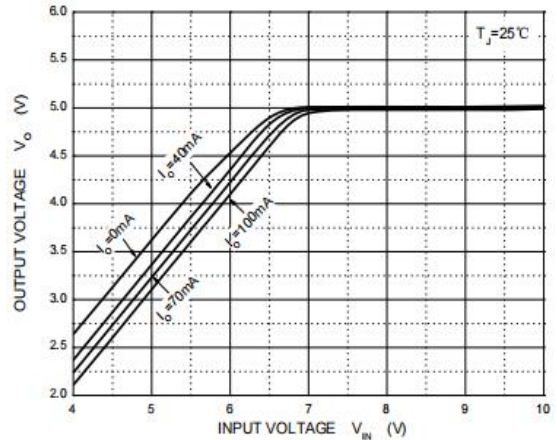


Figure 2: Dropout Characteristics

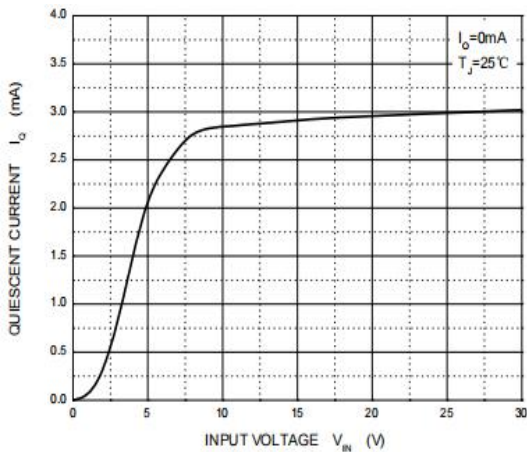


Figure 3: Quiescent Current Characteristics

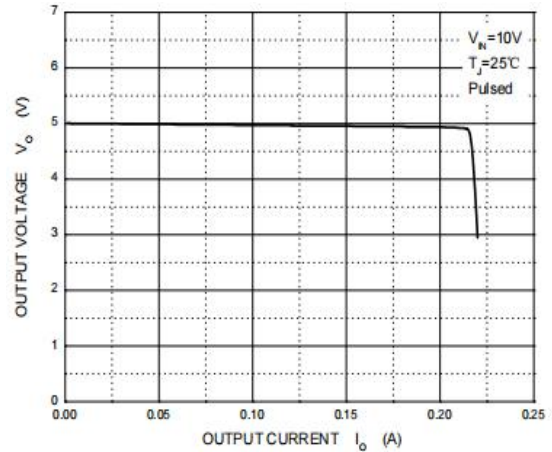


Figure 4: Output Characteristics

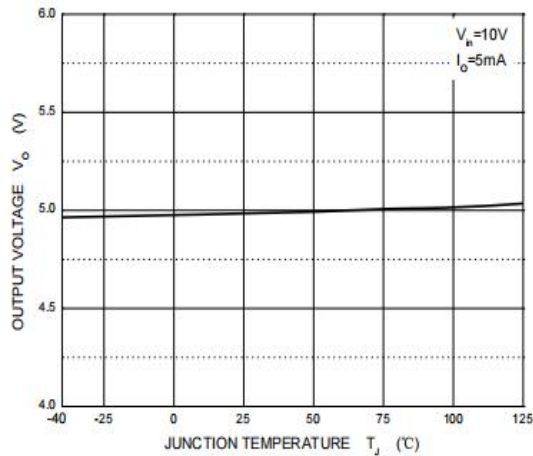
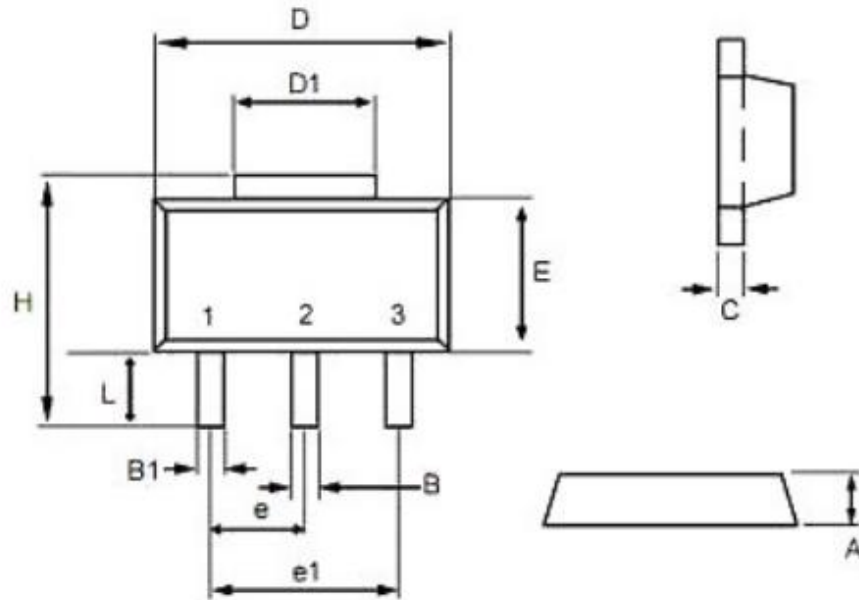


Figure 5: Temperature Characteristics

■SOT-89 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