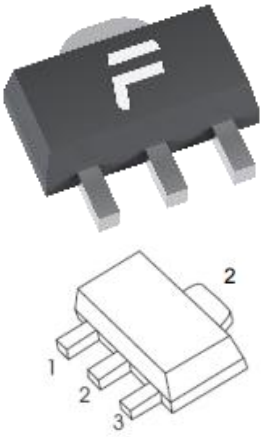
SOT-89-3L Three Terminal Regulator 三端稳压 IC



■Features 特点

Pin 脚位：1.Output 输出　2.Ground 地　3.Input 输入
Output Voltage 输出电压：9V
Output Current 输出电流：0.1A
Power dissipation 耗散功率: 0.5W

■Absolute Maximum Ratings 最大额定值

(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃**)**

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Input Voltage 输入电压	V_i	30	V
Operating Current 工作电流	I_O	100	mA
Power dissipation 耗散功率	P_D	500	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	250	℃/W
Solder Temperature 焊接温度/时间	Td	260	℃
Solder Temperature/Time 焊接时间	Td	10	S
Operating Ambient Temperature 工作温度	T_A	-40~+125	℃
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	125，-55to+150℃	

■Device Marking 产品字标

FS78L09=78L09

■Electrical Characteristics 电特性

(Vi=15V Io=40mA Ci=0.33uF Co=0.1uF T_A=25℃ 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=15V I_O=40mA	8.64	9	9.36	V
Output Voltage 输出电压	V_O	11V≤V_I≤24V 1mA≤I_O≤40mA	8.55	9	9.45	V
Output Voltage 输出电压	V_O	V_I=15V 1mA≤I_O≤70mA	8.55	9	9.45	V
Output Current 输出电流	I_O	V_I=15V	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=15V I_O=0		2	5.5	mA
Quiescent Current Change 静态电流变化	ΔI_q	12V≤V_I≤23V			1.5	mA
Quiescent Current Change 静态电流变化	ΔI_q	1mA≤I_O≤40mA			0.1	mA
Line Regulation 线性调整	ΔV_O	I_O=40mA 11.5V≤V_I≤23V		18	225	mV
Line Regulation 线性调整	ΔV_O	I_O=40mA 12V≤V_I≤23V		9	150	mV
Load Regulation 负载调整	ΔV_O	1mA≤I_O≤100mA V_I=15V		27	80	mV
Load Regulation 负载调整	ΔV_O	1mA≤I_O≤40mA V_I=15V		18	40	mV
Output Noise Voltage 噪声电压	V_N	10Hz≤f≤100kHz		70		μV/V_O
Temperature coefficient of Vo 输出电压温度系数	$\Delta V_O/\Delta T$	I_O=5mA		0.85		mV/℃
Ripple Rejection 纹波抑制	RR	12V≤V_I≤23V f=120Hz	36	44		dB

■Typical Characteristic Curve 典型特性曲线

Fig.1 78L05/09 Output Voltage vs Junction Temperature

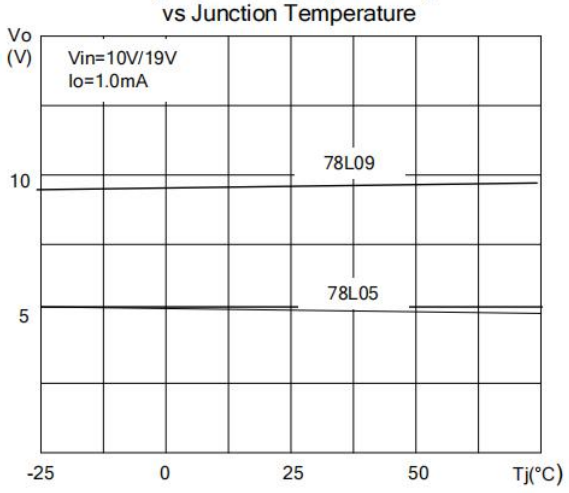


Fig.2 78L05/09 Quiescent Current vs Output Current

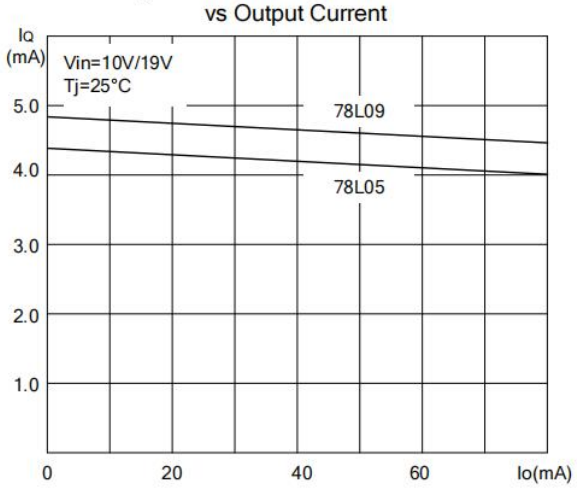


Fig.3 78L05/09 Thermal Shutdown

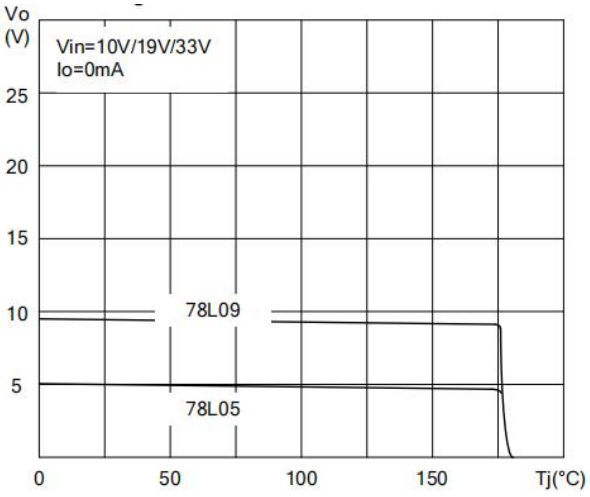
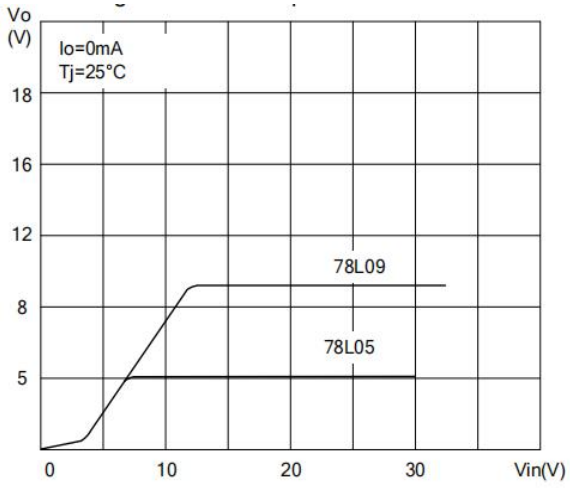
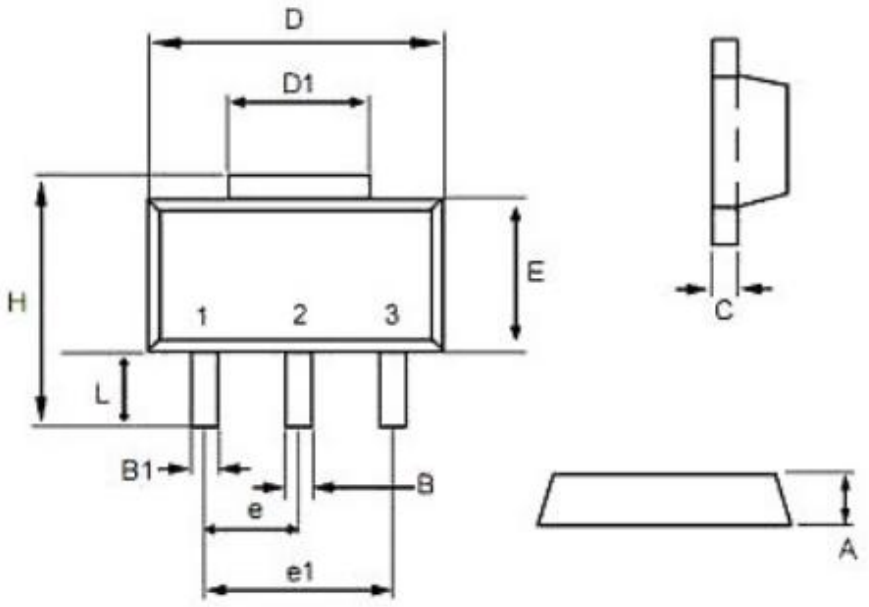


Fig.4 78L05/09 Output Characteristics



■**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