

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: 3.3V

Output Current 输出电流: 0.15A

Power dissipation 耗散功率: 0.5W

Thermal overload protection 过热保护

Short circuit current limiting 短路电流极限



■ 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	30	V
Operating Current 工作电流	I_o	150	mA
Power dissipation 耗散功率	P_D	500	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	250	$^{\circ}\text{C}/\text{W}$
Solder Temperature 焊接温度	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 Temperature 结温	T_J	150	$^{\circ}\text{C}$
Storage Temperature 储藏温度	T_{stg}	-55to+150 $^{\circ}\text{C}$	

■ Electrical Characteristics 电特性

($V_I=8.3V$ $I_O=80mA$ $C_i=0.33\mu F$ $C_o=0.1\mu F$ $T_A=25^\circ C$ 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	$V_I=8.3V$ $I_O=80mA$	3.168	3.3	3.432	V
Output Voltage 输出电压	V_O	$5.3V \leq V_I \leq 20V$ $1mA \leq I_O \leq 80mA$	3.135		3.465	V
Output Voltage 输出电压	V_O	$V_I=8.3V$ $1mA \leq I_O \leq 140mA$	3.135		3.465	V
Output Current 输出电流	I_O	$V_I=8.3V$		150		mA
Dropout Voltage 落差电压	V_D	$I_O=80mA$		1.7		V
Quiescent Current 静态电流	I_q	$V_I=8.3V$ $I_O=0$		2	5.5	mA
Quiescent Current Change 静态电流变化	ΔI_q	$6.3V \leq V_I \leq 20V$			1.5	mA
Quiescent Current Change 静态电流变化	ΔI_q	$1mA \leq I_O \leq 80mA$			0.1	mA
Line Regulation 线性调整	ΔV_O	$I_O=80mA$ $5.3V \leq V_I \leq 20V$		7	150	mV
Line Regulation 线性调整	ΔV_O	$I_O=80mA$ $6.3V \leq V_I \leq 20V$		4	100	mV
Load Regulation 负载调整	ΔV_O	$1mA \leq I_O \leq 200mA$ $V_I=10V$		10	60	mV
Load Regulation 负载调整	ΔV_O	$1mA \leq I_O \leq 80mA$ $V_I=10V$		7	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	$6.3V \leq V_I \leq 16.3V$ $f=120Hz$	40	49		dB

■ Typical Characteristic Curve 典型特性曲线

Fig.1 78L33 Output Voltage vs Ambient Temperature

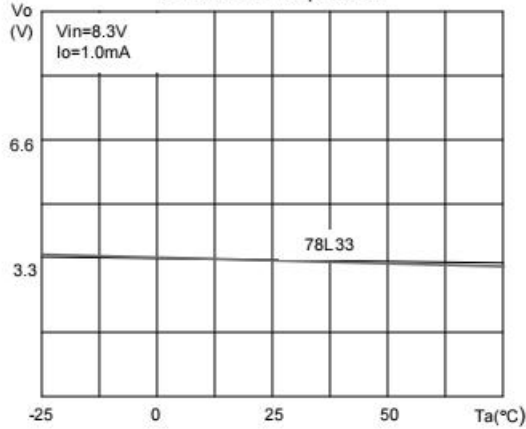


Fig.2 78L33 Quiescent Current vs Output Current

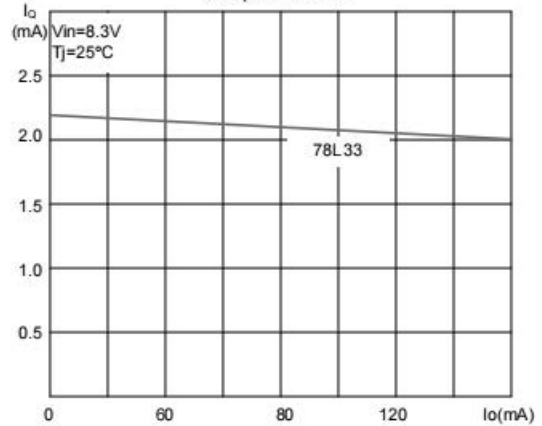


Fig.3 78L33 Quiescent Current vs Input

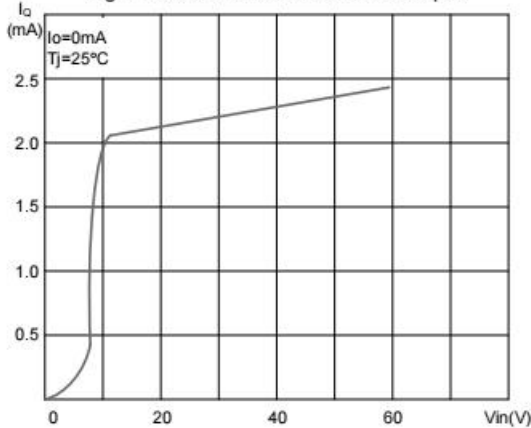


Fig.4 78L33 Thermal Shutdown

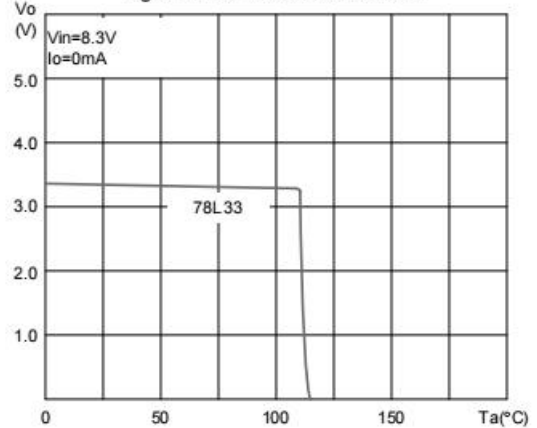


Fig.5 78L33 Output Characteristics

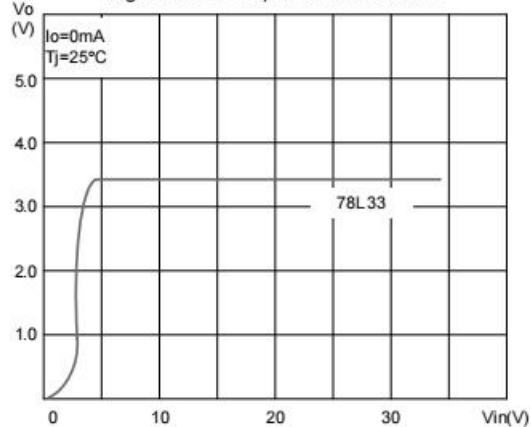
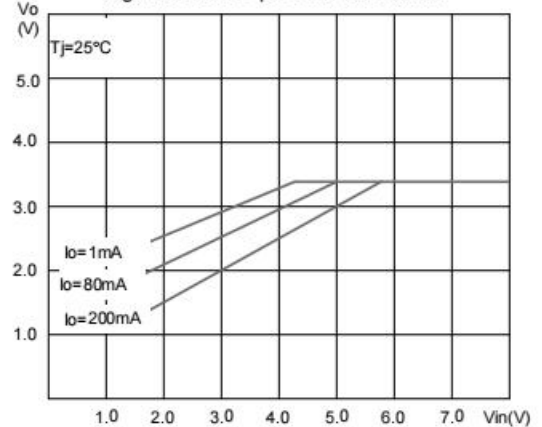
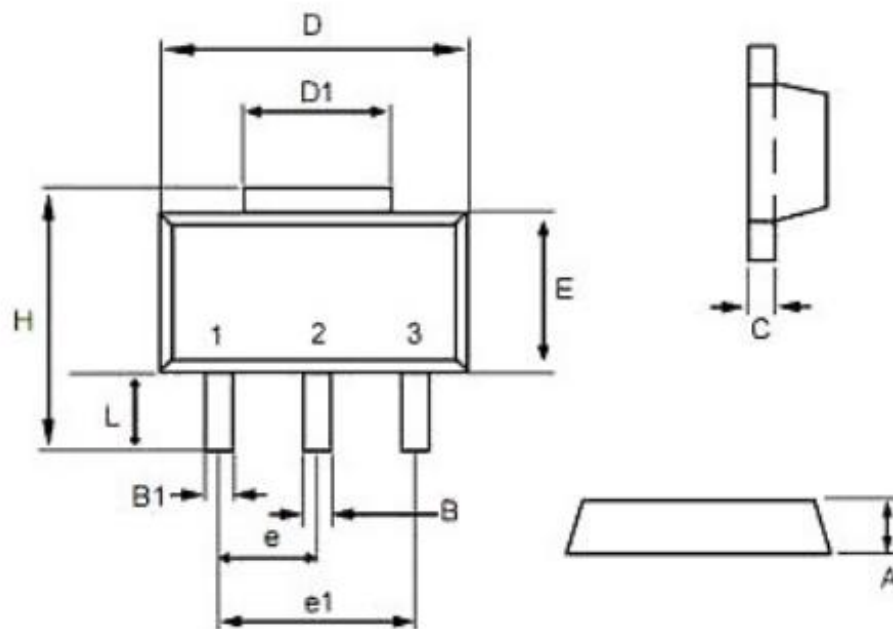


Fig.6 78L33 Dropout Characteristics



■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