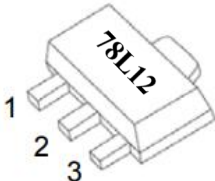


Features > 采用50V工艺平台制造 > 宽输入电压范围：13.50-35V输入 > 全电压、全电流、全温下输出电压冗余范围±5% > 稳定输出电流达 100mA > 内建过温保护、过压保护、过流保护	Max V_{in}	V_o	ID
	35V	12V	100mA
	Application > 仪器仪表 > 主板电源 > 设备电源模块 > 多路电源系统		
Package  Marking and pin assignment	Pin No.	Name	Explication
	1	Vout	输出
	2	GND	芯片地
	3	Vin	输入

Package Marking and Ordering Information

Device Marking	Device	Device Package	Quantity
78L12	78L12	SOT89-3	1000

Absolute Maximum Ratings ($T_C=25^\circ\text{C}$ unless otherwise specified)

Description	Symbol	Value range	Unit
输入电压	V_{IN}	-0.30 ~ 35	V
最大结温	T_J	150	$^\circ\text{C}$
最大功耗	P_d	750	mW
热阻 (结到环境)	$R_{\theta JA}$	160	$^\circ\text{C}/\text{W}$
工作温度范围	T_A	-40 ~ 85	$^\circ\text{C}$
存储温度范围	T_{STG}	-55 ~ 150	$^\circ\text{C}$

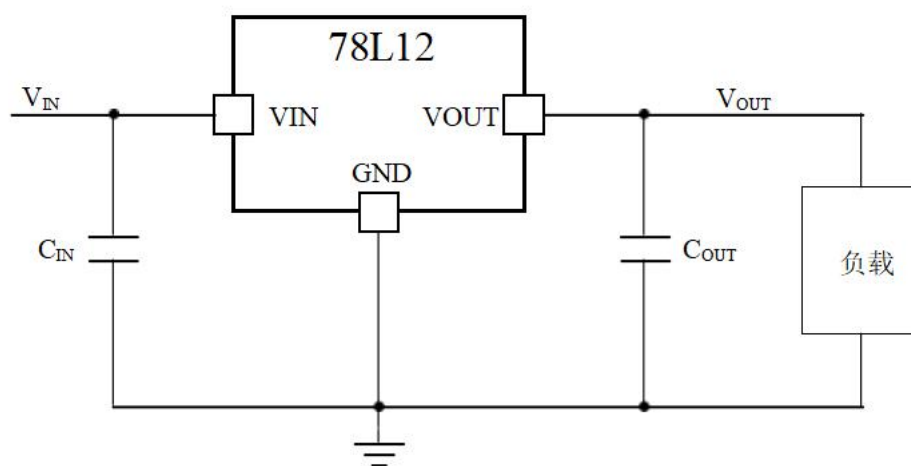
以上表格参数代表电路能够承受的极限范围。达到或者超过这个参数，电路不能正常工作，并且很大可能会损坏。并且长期工作在临界极限参数，也是会大大增加损坏的几率。

Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
输出电压	V_o	$V_{IN} = 15\text{V}, I_o = 40\text{mA}$	11.64	12.00	12.36	V
		$14\text{V} < V_{IN} < 25\text{V}$ $1\text{mA} < I_o < 40\text{mA}$	11.40		12.60	

		$1\text{mA} < I_o < 100\text{mA}$	11.40		12.60	
线性调整率	ΔV_o	$14\text{V} < V_{\text{IN}} < 25\text{V}, I_o = 10\text{mA}$		30	180	mV
		$14\text{V} < V_{\text{IN}} < 25\text{V}, I_o = 10\text{mA}$		20	110	
负载调整率	ΔV_o	$V_{\text{IN}} = 14\text{V}, 1\text{mA} < I_o < 100\text{mA}$		30	100	mV
		$V_{\text{IN}} = 14\text{V}, 1\text{mA} < I_o < 40\text{mA}$		10	50	
静态电流	I_Q			2.10	5	mA
静态电流变化	ΔI_Q	$14\text{V} < V_{\text{IN}} < 25\text{V}$		0.10	1	mA
		$1\text{mA} < I_o < 40\text{mA}$			1	
输出噪声电压	V_n	$f = 10\text{Hz to } 100\text{KHz}$		80		μV
电源抑制比	PSRR	$f = 100\text{Hz}, 14\text{V} < V_{\text{IN}} < 25\text{V}$	40	54		dB
峰值输出电流	I_{PK}			300		mA
电压温度系数	V_{TC}	$I_o = 10\text{mA}$		1		$\text{mV}/^\circ\text{C}$
低压差	V_{Drop}	$I_o = 100\text{mA}$		1.75	2	V
		$I_o = 200\text{mA}$		1.95	2.10	
最小输入电压	$V_{\text{IN,MIN}}$			13.50	14	V
过压保护阈值	$V_{\text{IN,MAX}}$	$I_o = 10\text{mA}$		45		V

Typical application



输出 12V 典型应用电路

Typical Characteristics ($C_{IN}=220nF$, $C_{OUT}=100nF$)

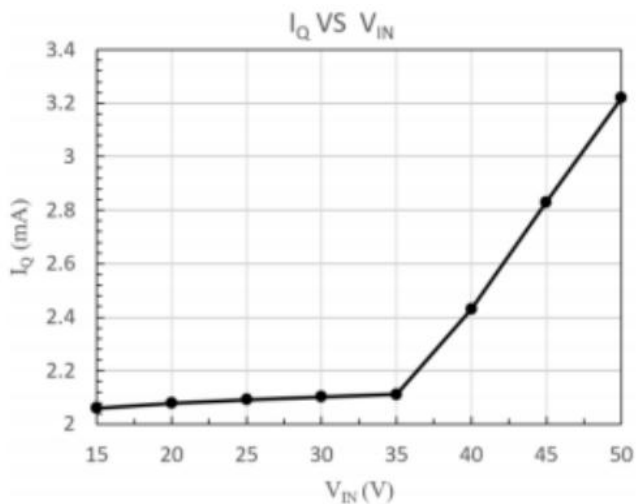


图1 静态电流随输入电压变化

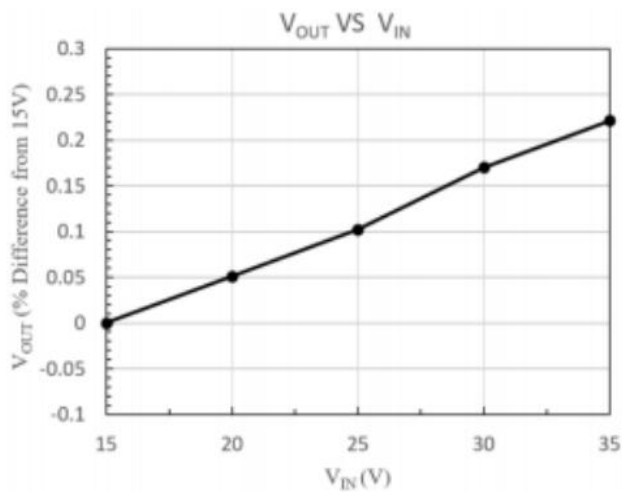


图2 输出电压随输入电压变化($I_O=10mA$)

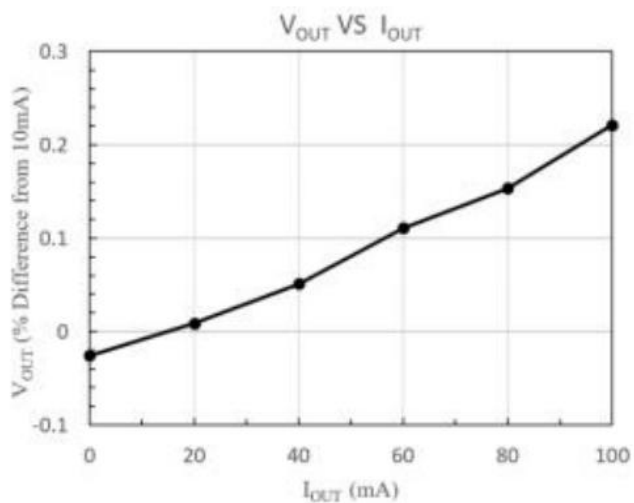


图3 输出电压随负载电流变化($V_{IN}=15V$)

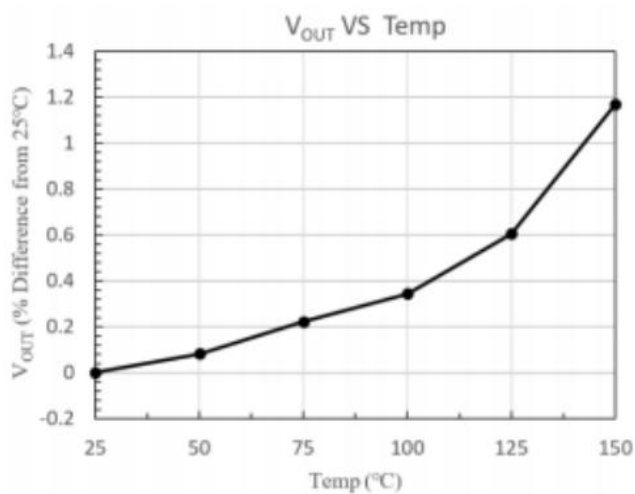
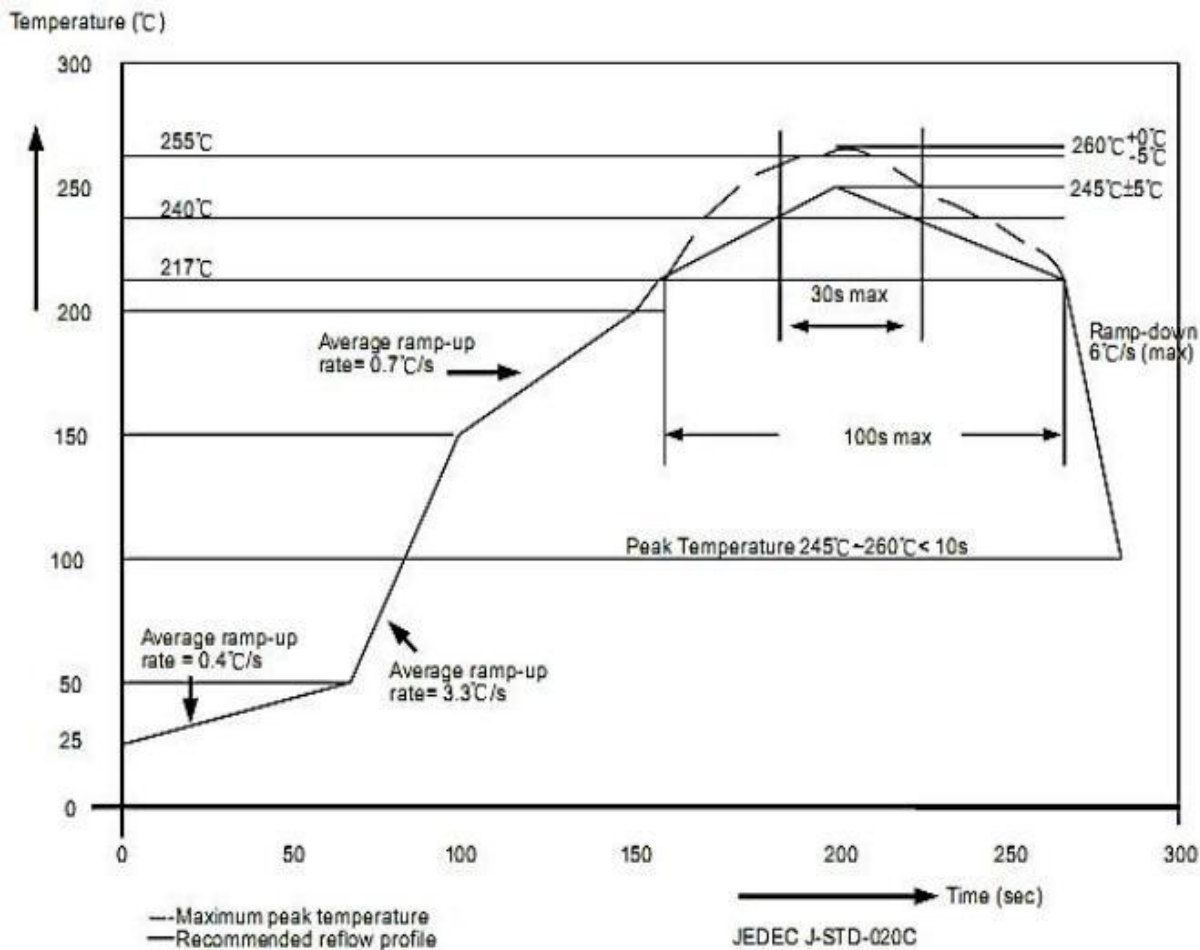
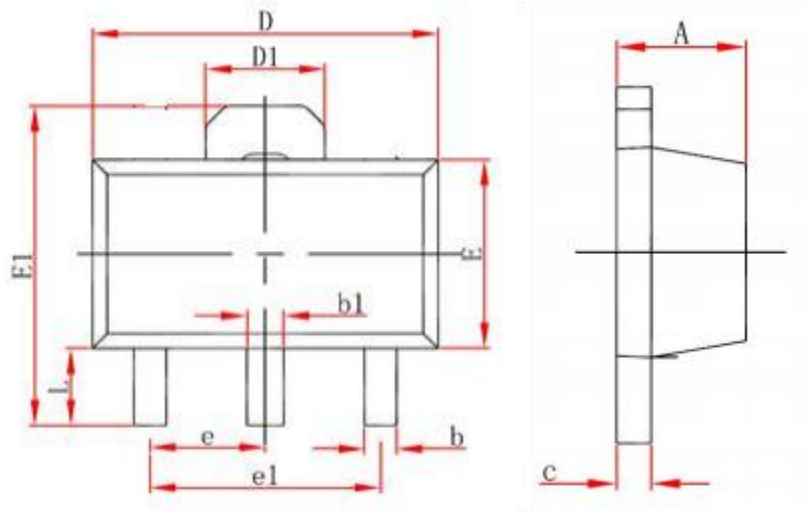


图4 输出电压随温度变化($V_{IN}=15V, I_{OUT}=10mA$)



遵循欧洲 RoHs 标准，封装焊接制程锡炉温度符合 J-STD-020 标准

封装厚度	体积 $\text{mm}^3 < 350$	体积 $\text{mm}^3 : 350-2000$	体积 $\text{mm}^3 \geq 2000$
<1.6mm	260+0°C	260+0°C	260+0°C
1.6mm~2.5mm	260+0°C	250+0°C	245+0°C
$\geq 2.5\text{mm}$	250+0°C	245+0°C	245+0°C

PackageDimensions
SOT89-3


Symbol	Min(mm)	Max(mm)
A	1.3	1.8
b	0.2	0.7
b 1	0.25	0.75
c	0.2	0.6
D	4.3	4.8
E	2.2	2.8
E1	3.8	4.5
D1	1.55(REF)	
e	1.5(TYP)	
e 1	3.0(TYP)	
L	0.8	1.5



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