

### 描述 / Descriptions

SOT-89 塑封封装电压调整器。Voltage Regulator in a SOT-89 Plastic Package.

### 特征 / Features

三端稳压调整器，输出电流高达 100mA,内设过热保护和短路限制。

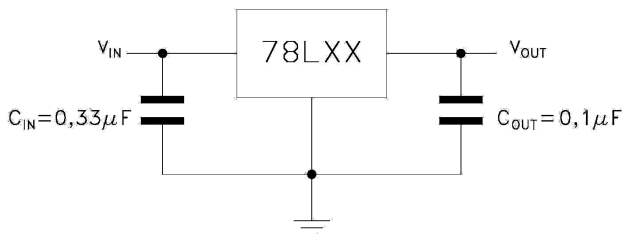
3-Terminal regulators, output current up to 100 mA, internal thermal overload protection and short-circuit limiting.

### 用途 / Applications

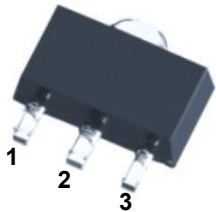
电压调整器。

Voltage Regulator.

### 内部等效电路/应用电路 / Equivalent Circuit or Application Circuit



### 引脚排列 / Pinning



PIN 1 : OUT      PIN 2 : GND      PIN 3 : IN

### 印章代码 / Marking

Marking	HL12 *
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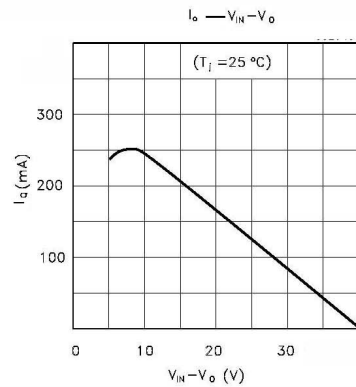
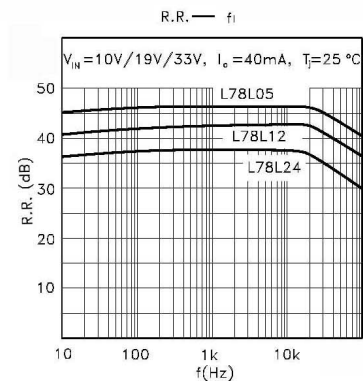
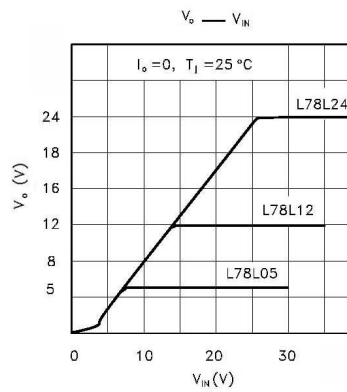
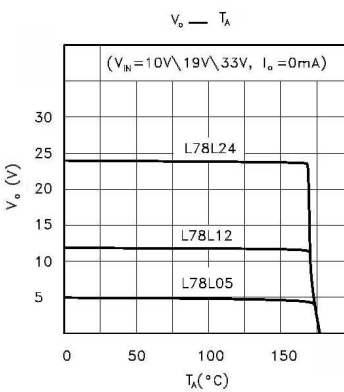
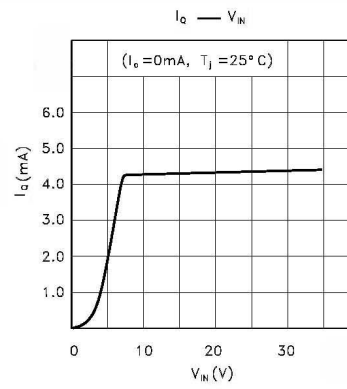
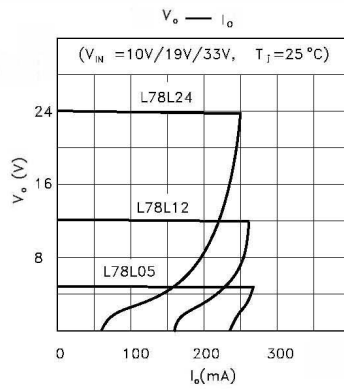
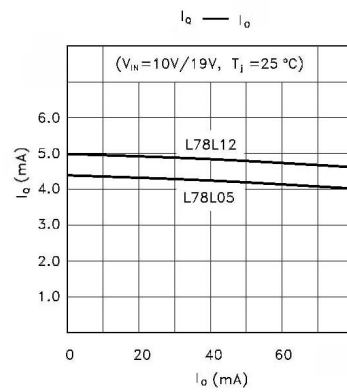
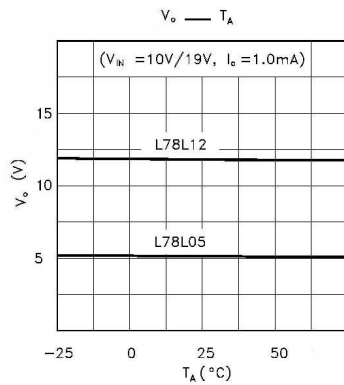
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Input voltage	$V_I$	35	V
Output current	$I_O$	100	mA
Operating virtual Junction temperature	$T_J$	0~125	°C
Power Dissipation	$P_D$	500	mW
Storage temperature range	$T_{stg}$	-65~150	°C

**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Output voltage	$V_O$	$I_O=40mA$ $T_J=25^\circ C$	11.5	12	12.5	V
		$I_O=1mA$ to 40mA $V_I=14V$ to 27V	11.4	12	12.6	V
		$I_O=1mA$ to 70mA $V_I=19V$	11.4	12	12.6	V
Input regulation	$\Delta V_O$	$V_I=14.5V$ to 27V $T_J=25^\circ C$		55	250	mV
		$V_I=16V$ to 27V $T_J=25^\circ C$		49	200	mV
Ripple rejection	RR	$V_I=15V$ to 25V $f=120Hz$ $T_J=25^\circ C$	37	42		dB
Output regulation	$\Delta V_O$	$I_O=1mA$ to 100mA $T_J=25^\circ C$		22	100	mV
		$I_O=1mA$ to 40mA $T_J=25^\circ C$		13	50	mV
Output noise voltage	$V_N$	$f=10Hz$ to 100KHz $T_J=25^\circ C$		70		$\mu V$
Dropout voltage	$V_D$	$T_J=25^\circ C$		1.7		V
Bias current	$I_Q$	$T_J=25^\circ C$		4.3	6.5	mA
		$T_J=125^\circ C$			6.0	mA
Bias current change	$\Delta I_Q$	$V_I=16V$ to 27V			1.5	mA
		$I_O=1mA$ to 40mA			0.1	mA

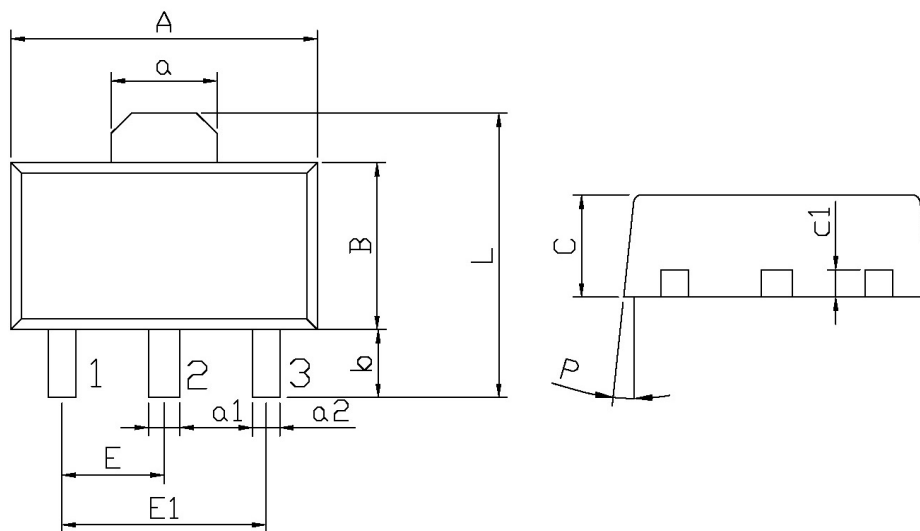
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

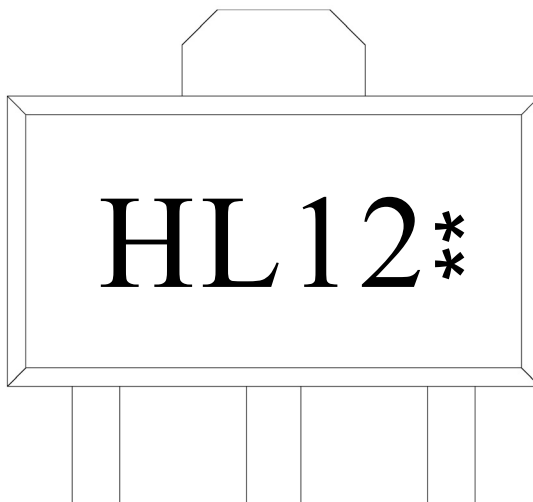
SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

H： 为公司代码

L12： 为型号代码

\*\*： 为生产批号代码，随生产批号变化

Note:

H: Company Code.

L12: Product Type.

\*\* : Lot No. Code, code change with Lot No.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度  $25 \sim 150^\circ\text{C}$ ，时间  $60 \sim 90\text{sec}$ ；
- 2、峰值温度  $245 \pm 5^\circ\text{C}$ ，时间持续为  $5 \pm 0.5\text{sec}$ ；
- 3、焊接制程冷却速度为  $2 \sim 10^\circ\text{C}/\text{sec}$ 。

Note:

- 1.Preheating: $25 \sim 150^\circ\text{C}$ , Time: $60 \sim 90\text{sec}$ .
- 2.Peak Temp.: $245 \pm 5^\circ\text{C}$ , Duration: $5 \pm 0.5\text{sec}$ .
3. Cooling Speed:  $2 \sim 10^\circ\text{C}/\text{sec}$ .

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度： $260 \pm 5^\circ\text{C}$

时间： $10 \pm 1$  sec.

Temp: $260 \pm 5^\circ\text{C}$

Time: $10 \pm 1$  sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-89	1,000	7	7,000	8	56,000	7" x12	180×120×180	385×257×392

**使用说明 / Notices**