

## / Descriptions

SOT-89 Voltage Regulator in a SOT-89 Plastic Package.

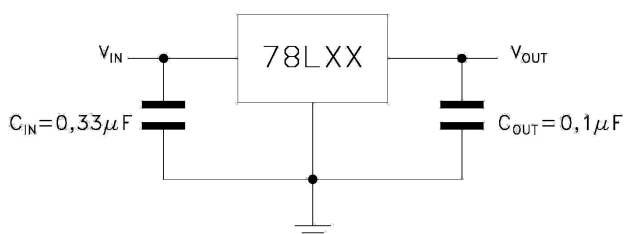
## / Features

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

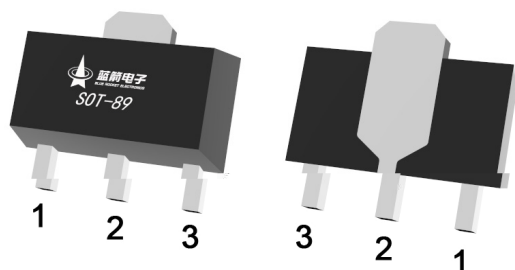
## / Applications

Voltage Regulator.

## / Equivalent Circuit or Application Circuit



## / Pinning



PIN1 OUT    PIN 2 GND    PIN 3 IN

## / Marking

|         |      |
|---------|------|
| Marking | HL12 |
|---------|------|

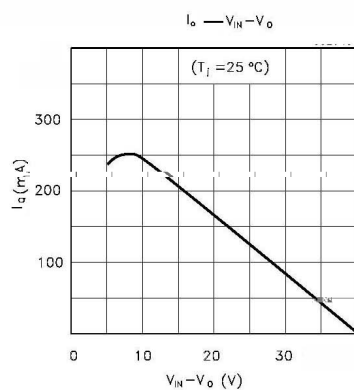
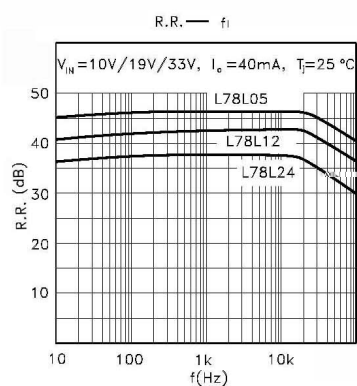
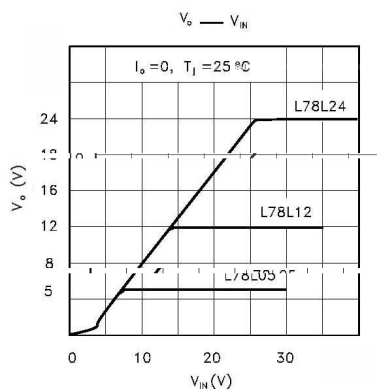
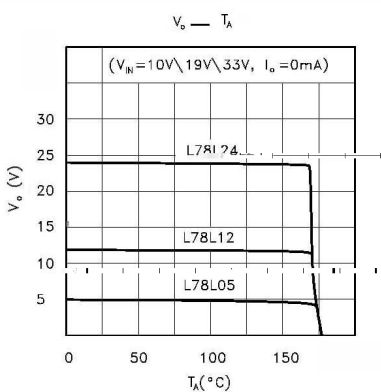
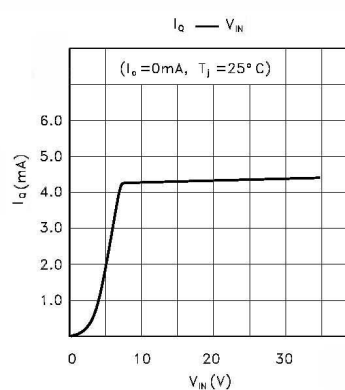
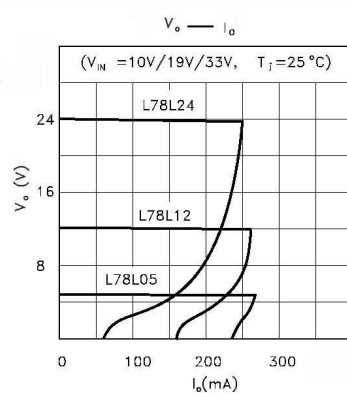
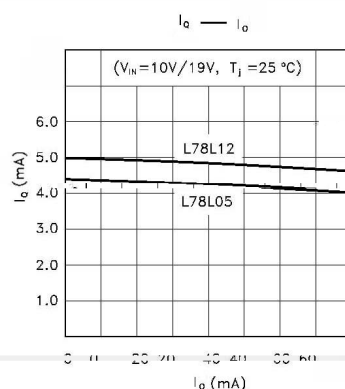
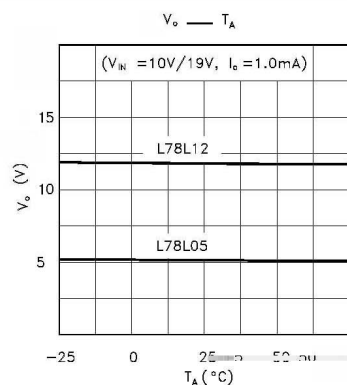
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                   | Symbol    | Rating  | Unit |
|-----------------------------|-----------|---------|------|
| Input voltage               | $V_I$     | 35      | V    |
| Output current              | $I_O$     | 100     | mA   |
| Operating Temperature Range | $T_{OPR}$ | -40 125 |      |
| Power Dissipation           | $P_D$     | 500     | mW   |
| Storage temperature range   | $T_{stg}$ | -65 150 |      |

**/ Electrical Characteristics(Ta=25 )**

| Parameter            | Symbol | Test Conditions                        | Min  | Typ | Max  | Unit    |
|----------------------|--------|----------------------------------------|------|-----|------|---------|
| Output voltage       | $V_O$  | $I_O=40mA$ $T_j=25$                    | 11.5 | 12  | 12.5 | V       |
|                      |        | $I_O=1mA$ to 40mA<br>$V_I=14V$ to 27V  | 11.4 | 12  | 12.6 | V       |
|                      |        | $I_O=1mA$ to 70mA $V_I=19V$            | 11.4 | 12  | 12.6 | V       |
| Input regulation     | $V_O$  | $V_I=14.5V$ to 27V $T_j=25$            |      | 55  | 250  | mV      |
|                      |        | $V_I=16V$ to 27V $T_j=25$              |      | 49  | 200  | mV      |
| Ripple rejection     | RR     | $V_I=15V$ to 25V $f=120Hz$<br>$T_j=25$ | 37   | 42  |      | dB      |
| Output regulation    | $V_O$  | $I_O=1mA$ to 100mA<br>$T_j=25$         |      | 22  | 100  | mV      |
|                      |        | $I_O=1mA$ to 40mA<br>$T_j=25$          |      | 13  | 50   | mV      |
| Output noise voltage | $V_N$  | $f=10Hz$ to 100KHz<br>$T_j=25$         |      | 70  |      | $\mu V$ |
| Dropout voltage      | $V_D$  | $T_j=25$                               |      | 1.7 |      | V       |
| Bias current         | $I_Q$  | $T_j=25$                               |      | 4.3 | 6.5  | mA      |
|                      |        | $T_j=125$                              |      |     | 6.0  | mA      |
| Bias current change  | $I_Q$  | $V_I=16V$ to 27V                       |      |     | 1.5  | mA      |
|                      |        | $I_O=1mA$ to 40mA                      |      |     | 0.1  | mA      |

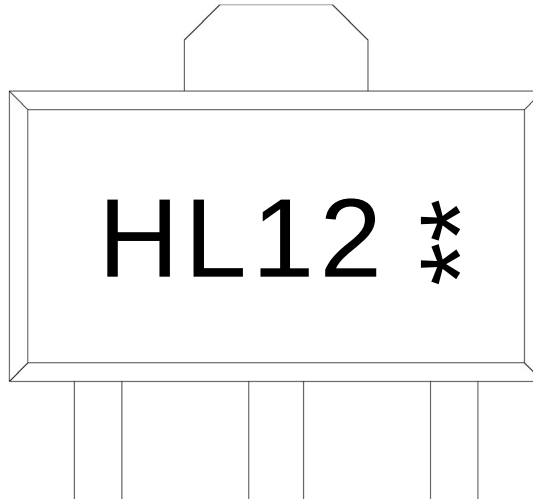
/ Electrical Characteristic Curve



单位: mm



/ Marking Instructions



H

L12

\*\*

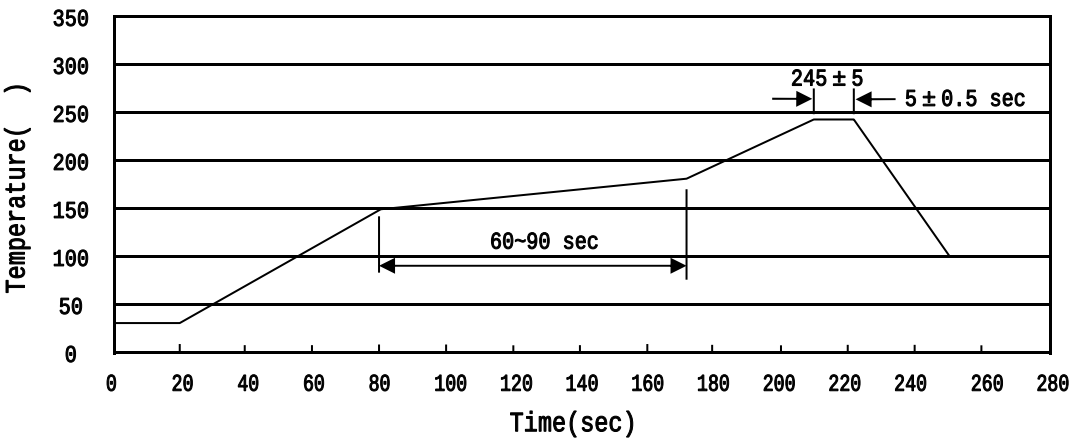
Note:

H: Company Code

L12: Product Type Code

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

( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5                      10±1 sec.                      Temp.:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| SOT-89               | 1,000              | 7                       | 7,000                  | 6                            | 42,000                 | 7 ×12                                   | 180×120×180 | 390×385×205 |

/ Notices