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# TX62FP Series 350mA Low Power LDO

## Features

- Low voltage drop: 0.17V@100mA
- High input voltage: 12V
- Low temperature coefficient
- Large Output Current: >0.35A
- Low Quiescent Current: 1.5uA
- Output voltage accuracy: tolerance  $\pm 2\%$
- Built-in current limiter
- SOT89 package

## Applications

- Battery-powered equipment
- Hand-Hold Equipment
- GRS Receivers
- Wireless LAN

## General Description

The TX62FPXX series is a group of positive voltage output, three-pin regulators, that provide a high current even when the input/output voltage differential is small. Low power consumption and high accuracy is achieved through CMOS and laser trimming technologies.

The TX62FPXX consists of a high-precision voltage reference, an error amplification circuit, and a current limited output driver. Transient response to load variations have improved in comparison to the existing series. SOT89 packages are available.

## Selection Table

| Part No.    | Output Voltage | Package | Marking |
|-------------|----------------|---------|---------|
| TX62FP3002P | 3.0V           | SOT89   | 3A0X    |
| TX62FP3302P | 3.3V           |         | 3D0X    |
| TX62FP4002P | 4.0V           |         | 4A0X    |
| TX62FP5002P | 5.0V           |         | 5A0X    |

## Order Information

TX62FP①②③④⑤

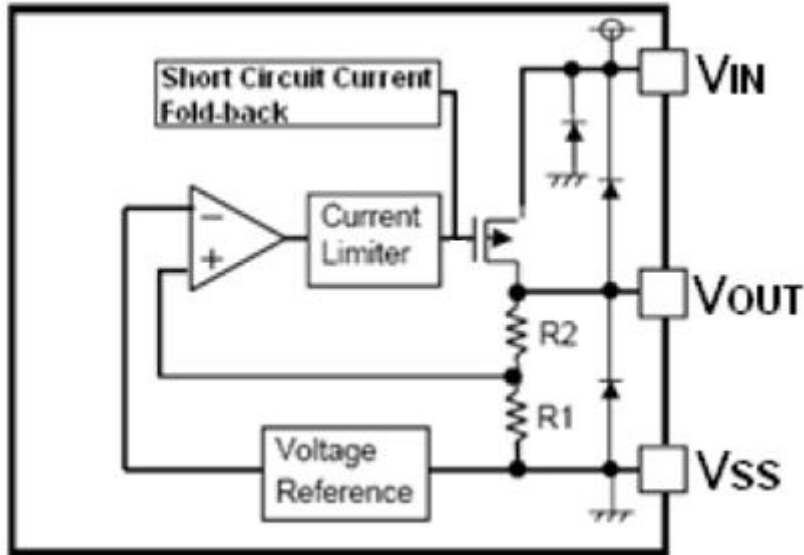
| Designator | Symbol  | Description              |
|------------|---------|--------------------------|
| ① ②        | Integer | Output Voltage(2.1~5.0V) |
| ③          | Stand   | 0                        |
| ④          | Stand   | 2                        |
| ⑤          | Stand   | P                        |

Note: "①②" stands for output voltages. Other voltages can be specially customized



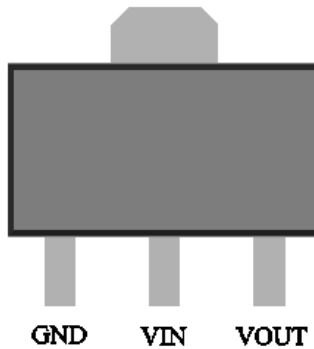
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## Block Diagram



## Pin Assignment

SOT89 (Top view)



## Absolute Maximum Ratings

Supply Voltage .....-0.3V to 13V      Storage Temperature .....-40°C to 125°C  
Operating Temperature .....-40°C to 85°C

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.



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### Electrical Characteristics

TX62FPXX for any output voltage

(Ta=25°C)

| Parameter                               | Symbol  | Conditions                       | Min.      | Typ. | Max.      | Unit   |
|---|---|----------------------------------|-----------|------|-----------|--------|
| Output Voltage                          | Vout  | Vin=Vout+1V<br>1.0mA≤Iout≤30mA   | Vout×0.98 | --   | Vout×1.02 | V      |
| Output Current*1                        | Iout  | Vin-Vout=1V                      | --        | 350  | --        | mA     |
| Low dropout*2                           | Vdrop   | Refer to the next table          |           |      |           |        |
| Line Regulation                         | $\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$ | 1.6V≤Vin≤8V<br>Iout=100mA        | --        | 0.05 | 0.2       | %/V    |
| Load Regulation                         | ΔVout   | Vin= Vout+1V<br>1.0mA≤Iout≤100mA | --        | 12   | 30        | mV     |
| Output voltage Temperature Coefficiency | $\frac{\Delta V_{OUT}}{\Delta Ta}$                    | Iout=30mA<br>0°C≤Ta≤70°C         | --        | ±100 | --        | Ppm/°C |
| PSRR                                    | PSRR  | F=1KHz<br>Vin=Vout+1V            | --        | 40   | --        | dB     |
| Supply Current                          | Iss1  | --                               | --        | 1.5  | 2.5       | uA     |
| Input Voltage                           | Vin   | --                               | --        | --   | 12        | V      |

### Electrical Characteristics by Output Voltage:

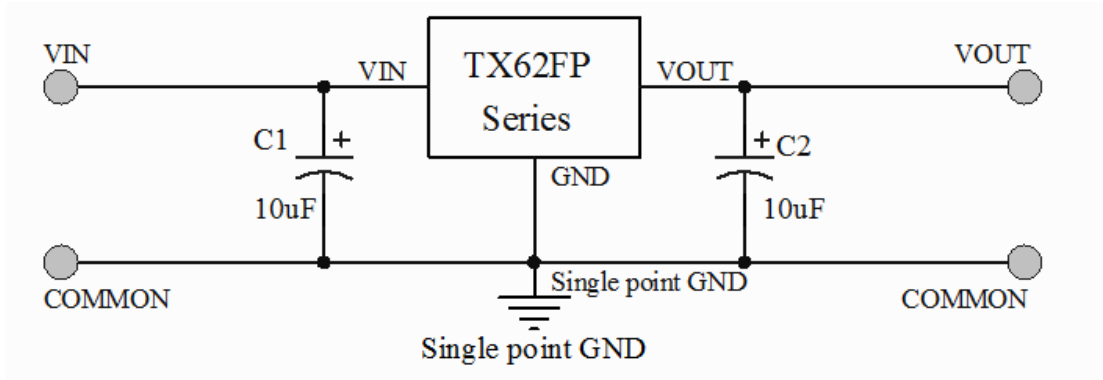
| Output Voltage Vout(V) | Dropout Voltage Vdif (V) |      |      |
|------------------------|--------------------------|------|------|
|                        | Conditions               | Typ. | Max. |
| 3.0 < Vout ≤ 4.0       | Iout=100 mA              | 0.20 | 0.24 |
| 4.0 < Vout ≤ 5.0       |                          | 0.16 | 0.18 |
| 3.0 < Vout ≤ 4.0       | Iout=200 mA              | 0.42 | 0.44 |
| 4.0 < Vout ≤ 6.0       |                          | 0.30 | 0.32 |
| 3.0 < Vout ≤ 4.0       | Iout=350 mA              | 0.73 | 0.76 |
| 4.0 < Vout ≤ 6.0       |                          | 0.51 | 0.54 |



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### Typical Application





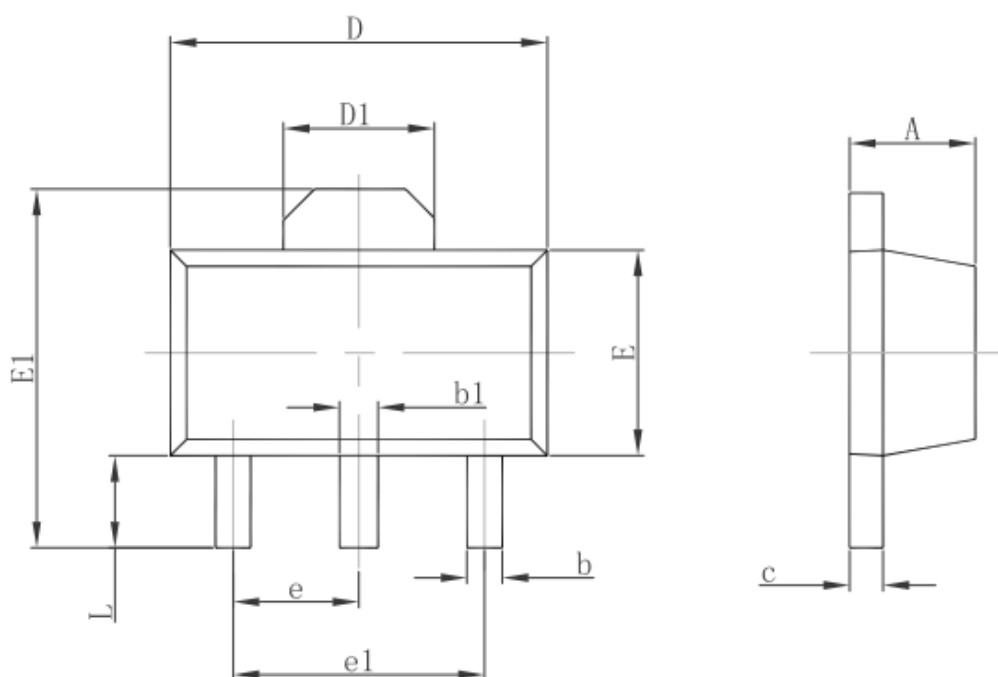
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### Package Information

#### 3-pin SOT89 Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 1.400                     | 1.600 | 0.055                | 0.063 |
| b      | 0.320                     | 0.520 | 0.013                | 0.020 |
| b1     | 0.400                     | 0.580 | 0.016                | 0.023 |
| c      | 0.350                     | 0.440 | 0.014                | 0.017 |
| D      | 4.400                     | 4.600 | 0.173                | 0.181 |
| D1     | 1.550 REF.                |       | 0.061 REF.           |       |
| E      | 2.300                     | 2.600 | 0.091                | 0.102 |
| E1     | 3.940                     | 4.250 | 0.155                | 0.167 |
| e      | 1.500 TYP.                |       | 0.060 TYP.           |       |
| e1     | 3.000 TYP.                |       | 0.118 TYP.           |       |
| L      | 0.900                     | 1.200 | 0.035                | 0.047 |



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