

High Output Current, Low Dropout, CMOS Linear Regulators

PRELIMINARY DATASHEET

General Description

Datasheet Brief

The FH6121 series are highly precise, low noise, positive voltage LDO regulators manufactured using CMOS processes.

The series achieves high ripple rejection and low dropout and consists of a standard voltage source, an error correction, current limiter and a phase compensation circuit plus a driver transistor.

Output voltage is selectable in 100mV increments within a range of 1.0V ~ 5.0V.

The series is also compatible with low ESR ceramic capacitors which give added output stability.

This stability can be maintained even during load fluctuations due to the excellent transient response of the series.

The CE function enables the output to be turned off, resulting in greatly reduced power consumption.

FH6121 is available in 5-pin SOT23 and SOT89 package which is lead-free.

Package Type

- 5-pin SOT-89-5L, SOT-23-5L

Typical Application Circuit

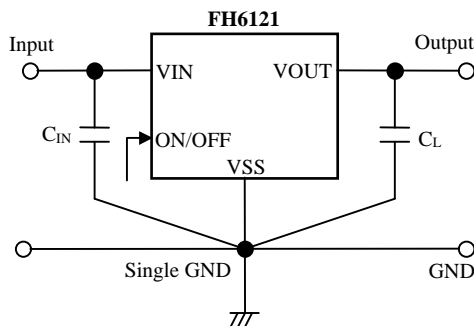


Figure 1. FH6121 Basic Application Circuit

Key Features

- Output voltage range: 1.0V to 5.0V (selectable in 100mV steps)
- Highly accurate: $\pm 2\%$
- Dropout voltage: 50mV @ 100mA (3.0V type)
- High ripple rejection: 60dB (1kHz)
- Low power consumption: 30 μ A (TYP.)
- Maximum output current: 700mA ($V_{IN} \geq V_{OUT} + 1V$)
- Standby current: less than 0.1 μ A
- Internal protector: current limiter
- Output current limit
- Short circuit protection
- Over temperature protection
- Operational Ambient Temperature: $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$

Typical Application

- Digital still cameras / Camcorders
- Digital audio equipments
- Multi-function power supplies

Typical Performance Characteristics

- Dropout Voltage vs. Output Current

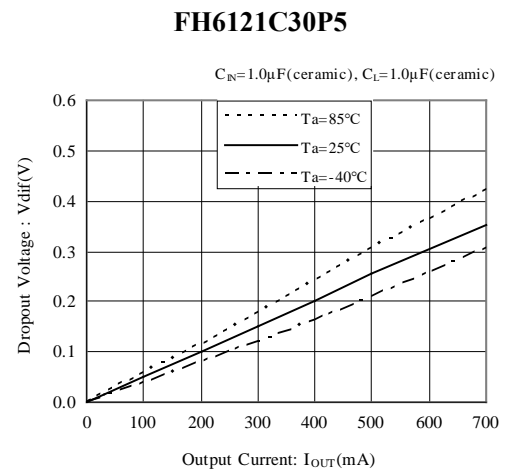
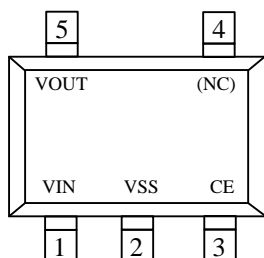
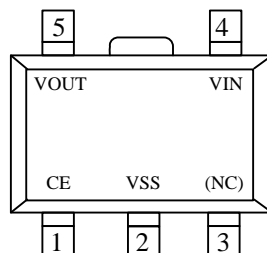


Figure 2. Typical Performance Characteristics

Pin Configuration



SOT-23-5L



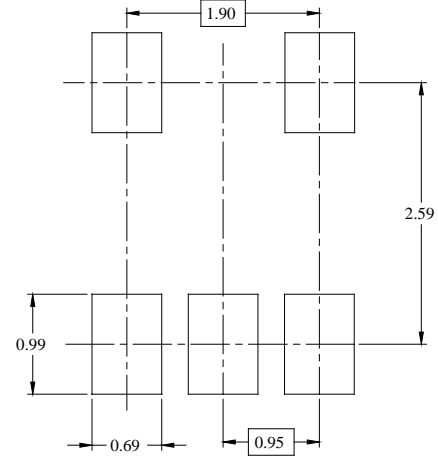
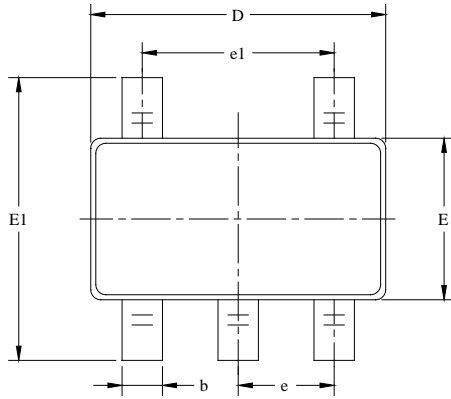
SOT-89-5L

Pin Assignment

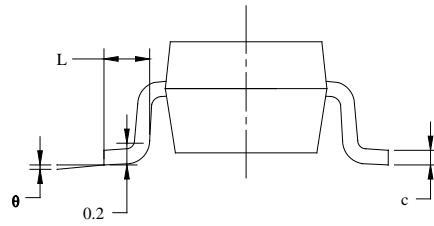
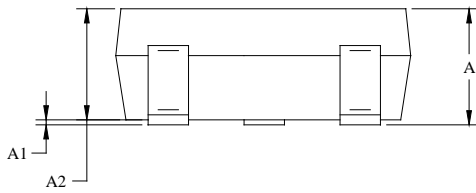
Pin Number		Pin Name	Functions
SOT-23-5L	SOT-89-5L		
1	4	VIN	Supply Power
2	2	VSS (GND)	Ground
3	1	CE (EN)	Enable Pin, ON/OFF Control
4	3	NC	No Connect
5	5	VOUT	Voltage Output

PACKAGE OUTLINE DIMENSIONS

SOT-23-5L



RECOMMENDED LAND PATTERN (Unit: mm)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

ORDERING INFORMATION

Part Number	Input Voltage	Output Function	Operating Temperature	Package Type	Top Mark	SPQ
FH6121C**M3	~ 7.0V	<ul style="list-style-type: none"> ** → Output voltage e.g., 18 = 1.8V 28 = 2.8V 33 = 3.3V 50 = 5.0V 	-40°C to +85°C	SOT-23-5L	* ** *	3000EA/Reel
FH6121C**P5	~ 7.0V	<ul style="list-style-type: none"> The selectable voltage values are: 1.8V / 2.8V / 3.3V / 5.0V Enable can be set 	-40°C to +85°C	SOT-89-5L	* ** *	1000EA/Reel

Note:

- **FH6121** devices are Pb-free and RoHs compliant.
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- If you have any other custom purchase needs, please contact our sales department.
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