

300mA Low Dropout CMOS Voltage Regulators

PRELIMINARY DATASHEET

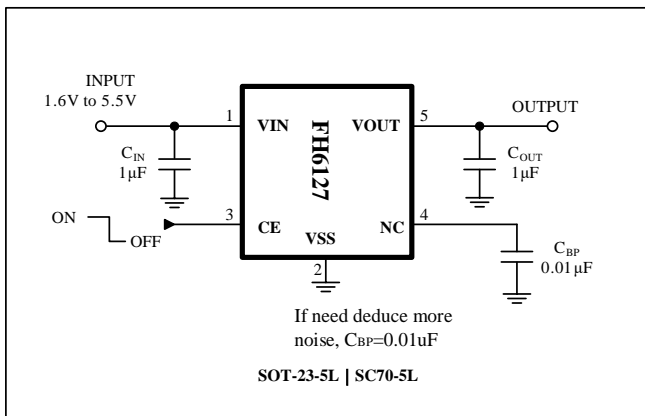
General Description

Datasheet Brief

The **FH6127** 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 50mV increments within a range of 0.85V~1.8V. 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 current limiter's feedback circuit also operates as a short protect for the output current limiter and the output pin. The CE function enables the output to be turned off, resulting in greatly reduced power consumption.

Typical Application Circuit



Caution:

- The above connection diagram and constant will not guarantee successful operation.
- Perform thorough evaluation using the actual application to set the constant.

Application Conditions

Input capacitor (C_{IN}): 1.0µF or more

Output capacitor (C_L): 1.0µF or more (tantalum capacitor)

Caution A general series regulator may oscillate, depending on the external components selected.

Check that no oscillation occurs with the application using the above capacitor.

Features

- Output Voltage Range: 0.85V to 1.8V (selectable in 50mV steps)
- Highly Accurate : $\pm 2\%$ (less than 1.5V is $\pm 30\text{mV}$)
- Dropout Voltage : 300mV @100mA (1.5V TYP)
- High Ripple Rejection: 60dB (10kHz)
- Low Power Consumption: 50µA (TYP.)
- Maximum Output Current: 300mA ($V_{IN} \geq 2.5\text{V}$)
- Standby Current: less than 0.1µA
- Internal protector: current limiter and short protector
- Small packages: SOT-23-5L, SOT-353 ect.

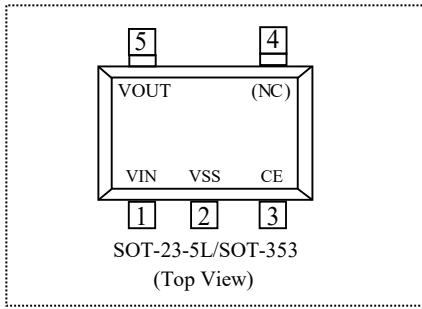
Package

- SOT-23-5L
- SOT-353(SC70-5)

Applications

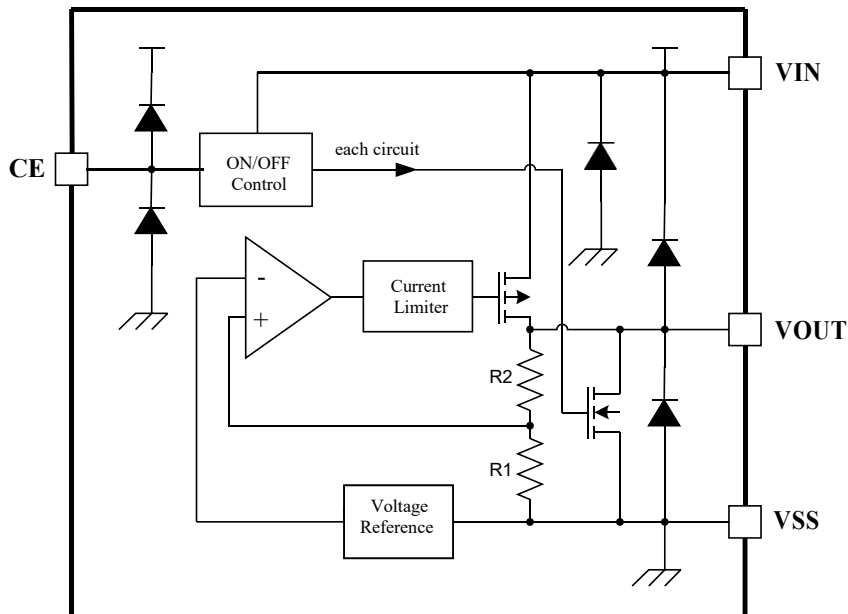
- Mobile phones
- Cordless phones
- Modem
- Portable games
- Portable AV equipment
- Reference voltage
- Battery powered equipment
- PCMCIA cards

■ Pin Configuration



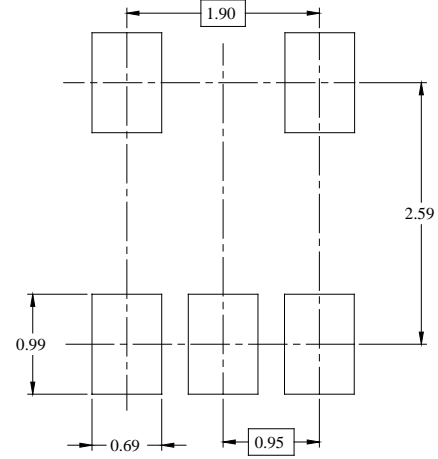
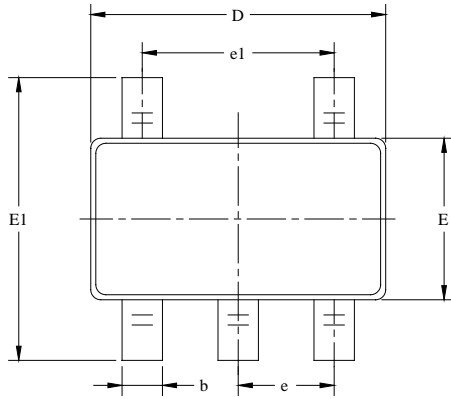
Pin Number	Pin Name	Function Description
SOT-23-5L/SOT-353		
1	VIN	Power Supply
2	VSS	Ground
3	CE	Chip Enable
4	NC	Not connect
5	VOUT	Output Pin

■ Function Block Diagram

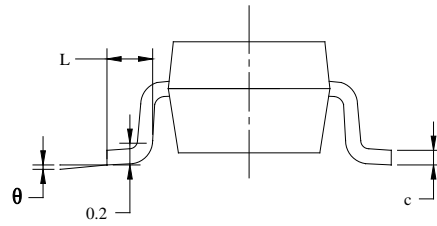
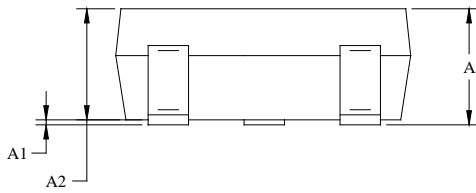


PACKAGE OUTLINE DIMENSIONS

SOT-23-5L



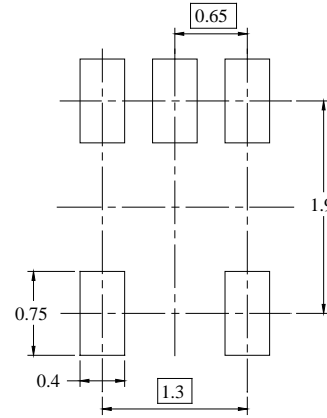
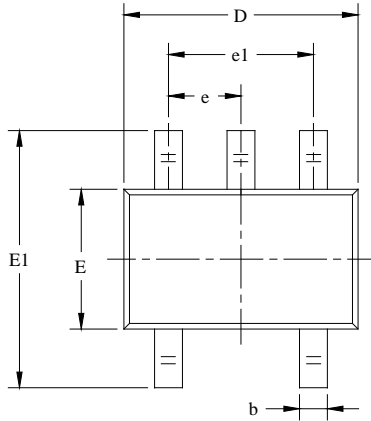
RECOMMENDED LAND PATTERN(Unit: mm)



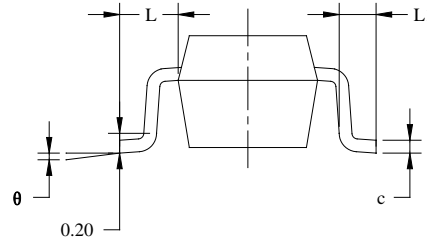
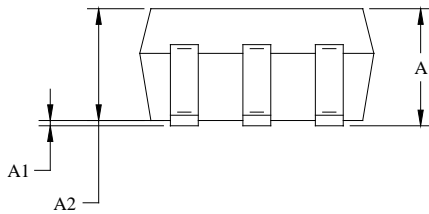
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037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

Package Information

- Type: SOT-353 (SC70-5L)



RECOMMENDED LAND PATTERN(Unit: mm)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.65 TYP		0.026 TYP	
e1	1.300 BSC		0.051 BSC	
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

ORDERING INFORMATION

Part Number	Input Voltage	Output Function	Operating Temperature	Package Type	Top Mark	SPQ
FH6127C**M5	~ 5.0V	<ul style="list-style-type: none"> ** → Output voltage e.g., 15=1.5V 18=1.8V 44=4.4V 	-40°C to +85°C	SOT-23-5L	* ** *	3000EA/Reel
FH6127C**S5	~ 5.0V	<ul style="list-style-type: none"> The selectable voltage values are: 1.2V / 1.5V / 1.8V / 2.5V / 2.8V / 3.0V / 3.3V / 3.6V / 4.4V Enable can be set 	-40°C to +85°C	SOT353 (SC70-5L)	* ** *	3000EA/Reel

Note:

- **FH6127** devices are Pb-free and RoHs compliant.
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- If you have any other custom purchase needs, please contact our sales department.
- FOCMCU Inc. reserves the right to amend and legally interpret the electrical parameters of this chip device. (<http://www.fordevices.com>)



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➤ Update by Mar.2022