

Low power consumption, Low ESR Cap. CMOS Linear Regulator

PRELIMINARY DATASHEET

General Description

Datasheet Brief

FH6115 series are highly precise, low power consumption, positive voltage regulators manufactured using CMOS technologies. The series provides large currents with a significantly small dropout voltage.

It can provide 300mA output current when input/output voltage differential drops to 400mV ($V_{OUT}=2.8V$).

FH6115 can provide output value in the range of 1.1V~5.5V in 0.1V steps. It also can be customized on command.

The series is compatible with low ESR ceramic capacitors. The current limiter's fold back circuit also operates as a short protect for the output current limiter and the output pin.

FH6115 has well load transient response and good temperature characteristic, and it uses trimming technique to guarantee output voltage accuracy within $\pm 2\%$.

FH6115 is available in 3-pin SOT23/SOT89 packages, it also can available in these packages with lead.

Key Features

- Output voltage range: 1.0V ~ 5.0V
- Input voltage: up to 6.0V
- Dropout Voltage: 200mV@ $I_{OUT}=100mA$
400mV@ $I_{OUT}=200mA$
- Highly Accuracy: 2% ($\pm 1\%$ customized)
- Low power consumption: 2.0uA(typ.)
- Large output current: 300mA ($V_{IN}=4.3V, V_{OUT}=3.3V$)
- Output voltage range: 1.1V ~ 5.5V
(customized on command in 0.1V steps)
- Excellent Input Stability
- Output current limit
- Be available to regulator and reference voltage
- RoHS Compliant and Lead (Pb)-Free Halogen-Free

Package type

- 3-pin SOT-89-3L, SOT-23-3L

Typical Application

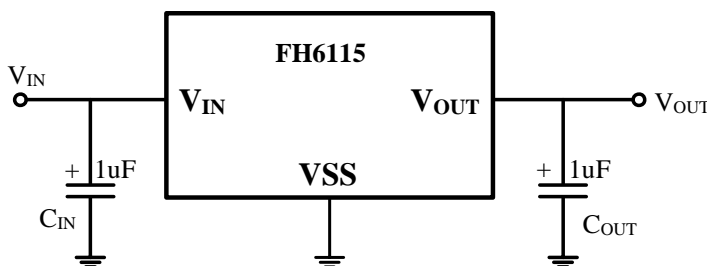
- Communication tools
- Portable AV systems
- Portable games
- Mobile phones
- Cameras, Video systems
- Reference voltage sources

Device Information (1)

PART NUMBER	PACKAGE	BODY SIZE (NOM)
FH6115	SOT-23 (3)	2.92mm x 1.30mm
	SOT-89 (3)	4.5mm x 4.095mm

(1) For all available packages, see the orderable addendum at the end of the data sheet.

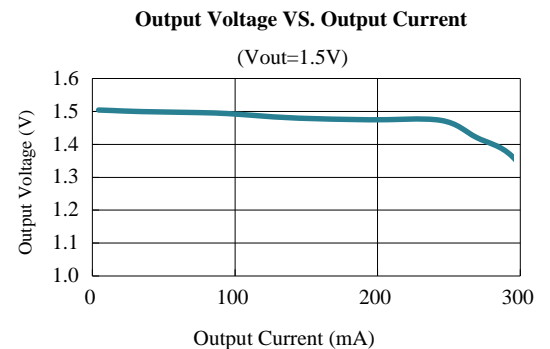
Typical Application Circuit



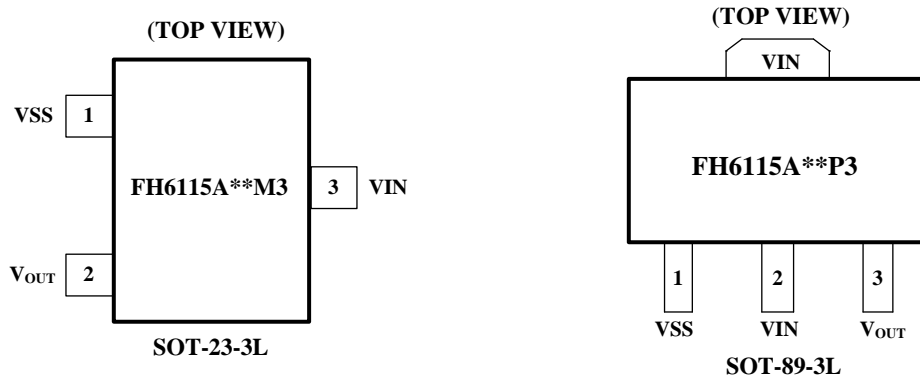
Note: Input capacitor ($C_{IN}=1\mu F$) and output capacitor ($C_{OUT}=1\mu F$) are recommended in all application circuit. Ceramic capacitor is recommended.

Figure 1. FH6115 Application Circuits

Electrical Characteristics



Pin Configuration



Pin Assignment

Pin		Name	Function
M3 SOT-23-3L	P3 SOT-89-3L		
1	1	VSS (GND)	Ground
2	3	V _{OUT}	Output It is recommended to use a ceramic capacitor with effective capacitance in the range of 0.1μF to 10μF to get good power supply decoupling. This ceramic capacitor should be placed as close as possible to OUT pin.
3	2	VIN	Input

Block Diagram

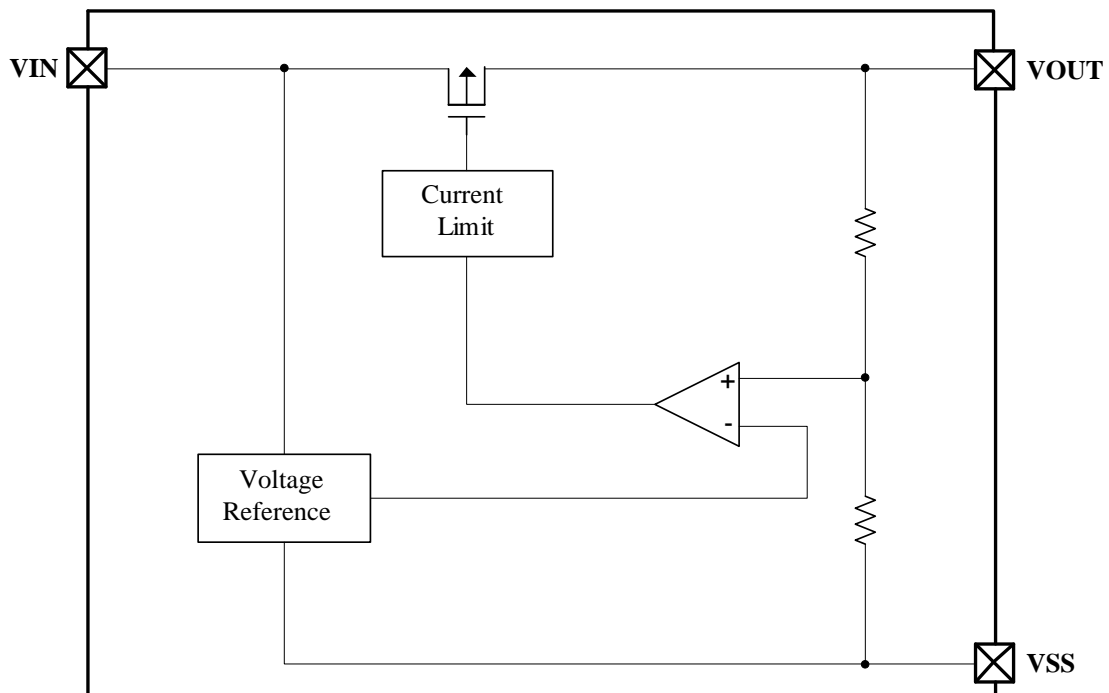
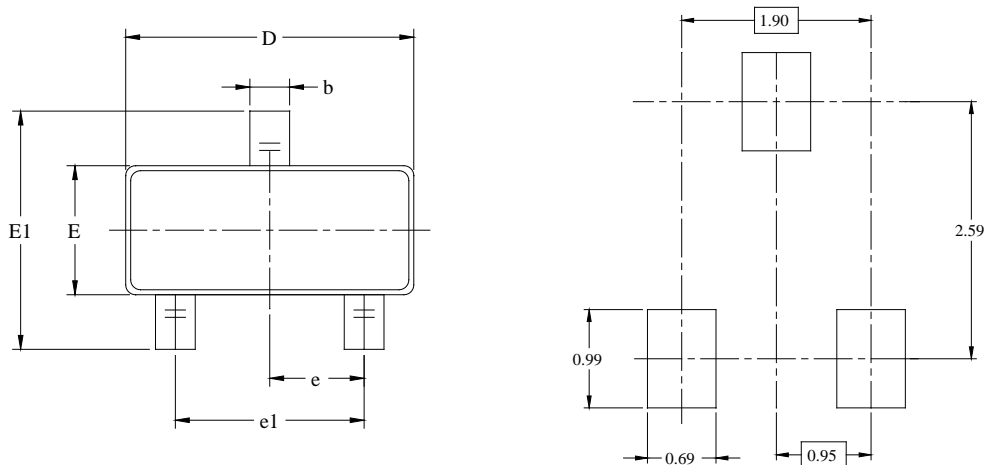


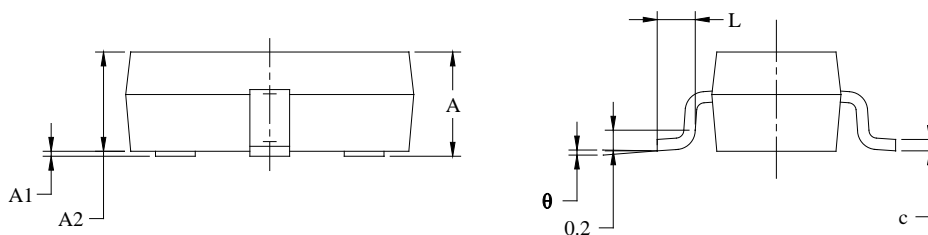
Figure 2. FH6115 Block Diagram

PACKAGE OUTLINE DIMENSIONS

SOT-23-3L



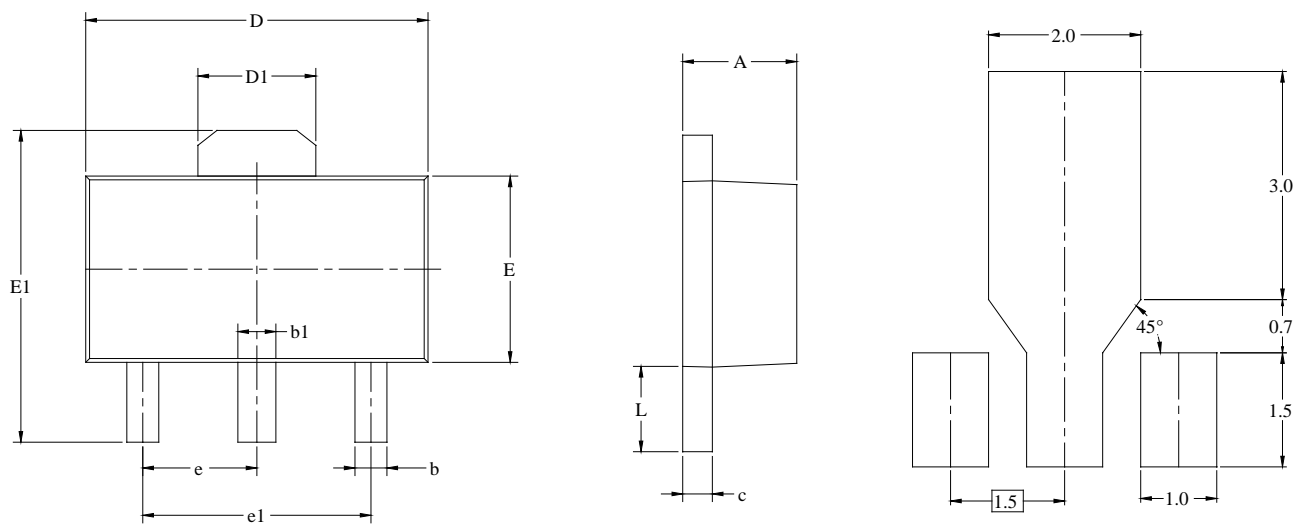
RECOMMENDED LAND PATTERN (Unit: mm)



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 OUTLINE DIMENSIONS

SOT-89-3L



RECOMMENDED LAND PATTERN (Unit: mm)

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

ORDERING INFORMATION

Part Number	Input Voltage	Output Function	Operating Temperature	Package Type	Top Mark	SPQ
FH6115A**M3	~ 6.0V	<ul style="list-style-type: none"> ** → Output voltage e.g., 15 = 1.5V 18 = 1.8V 33 = 3.3V 44 = 4.4V 	-40°C to +85°C	SOT-23-3L	* * * *	3000EA/Reel
FH6115A**P3	~ 6.0V	<ul style="list-style-type: none"> The selectable voltage values are: 1.0V / 1.2V / 1.5V / 1.8V / 2.0V / 2.5V / 2.8V / 3.0V / 3.3V / 3.6V / 3.8V / 4.4V / 5.0V Enable can be set 	-40°C to +85°C	SOT-89-3L	* * * *	1000EA/Reel

Note:

- FH6115 devices are Pb-free and RoHs compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice.
- 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>)



ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.



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