3-Terminal 100mA Positive Voltage Regulator

Description

The **FH78L**** series are three terminal positive regulators designed for a wide variety of applications including local, on-card regulation.

This series of regulators are complete with internal current limiting, thermal shutdown protection, and safe-area compensation which make them virtually immune from output overload. If adequate heat sinking are provided, these regulators can deliver output currents up to 100mA.

The FH78L** series are available in TO-92, SOT-89 and SOIC-8 packages.

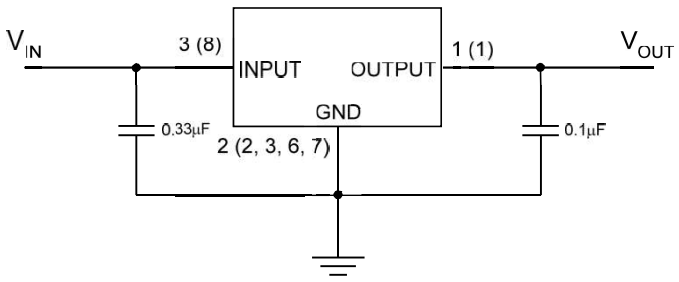
Features

- Output Current up to 100mA
- Fixed Output Voltages of 5.0V, 12.0V and 15.0V
- Output Voltage Accuracy of ±5% over the Full Temperature Range
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components
- Output Transistor Safe-area Protection

Applications

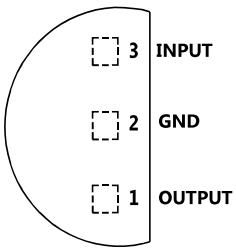
- Consumer Electronics
- Microprocessor Power Supply
- Mother Board

Typical Applications Circuit

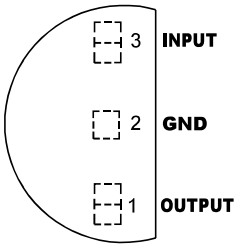


Pin Assignments

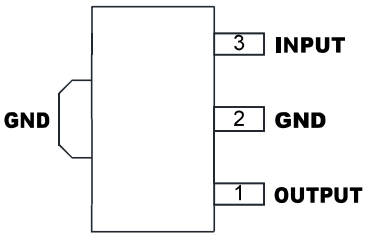
Package (TO-92(Bulk Packing))



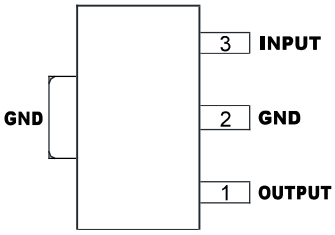
Package (TO-92(Ammo Packing))



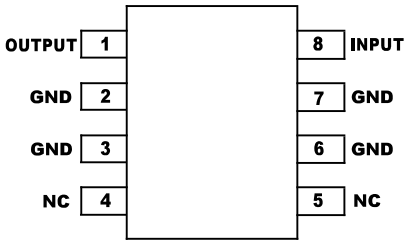
Package (SOT-89 Option 1)



Package (SOT-89 Option 2)



Package (SOIC-8)



■ Typical Application Circuit

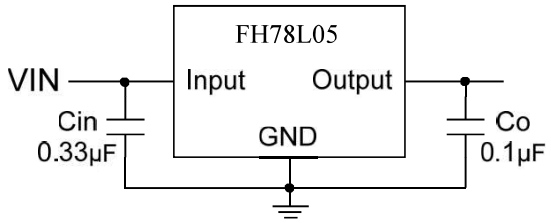


Fig.1 Fixed Output Regulator

A common ground is required between the input and the output voltages. The input voltage must remain typically 2.0 V above the output voltage even during the low point on the input ripple voltage.

- Cin is required if regulator is located an appreciable distance from power supply filter.
- Co is not needed for stability; however, it does improve transient response.

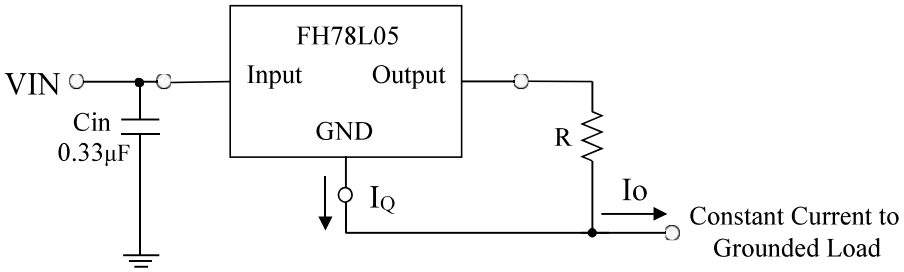


Fig.2 Constant Current Regulator

The FH78L05 regulator can also be used as a current source when connected as Fig.2. In order to minimize dissipation the FH78L05 is chosen in this application. Resistor R determines the current as follows:

$$I_O = \frac{5.0V}{R} + I_Q$$

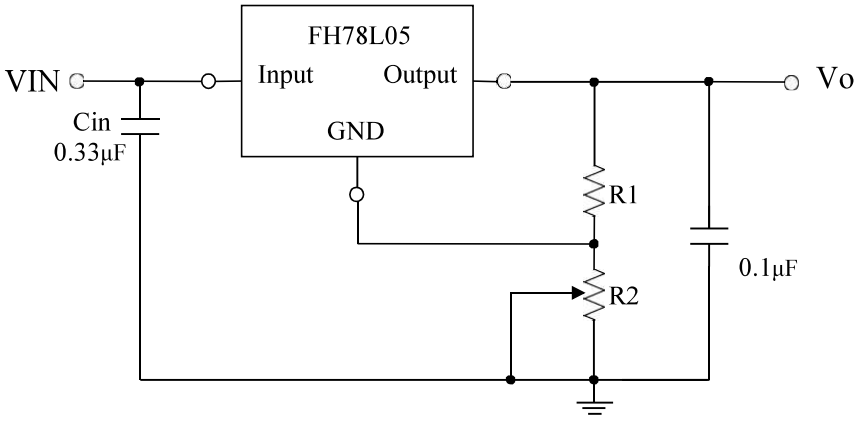
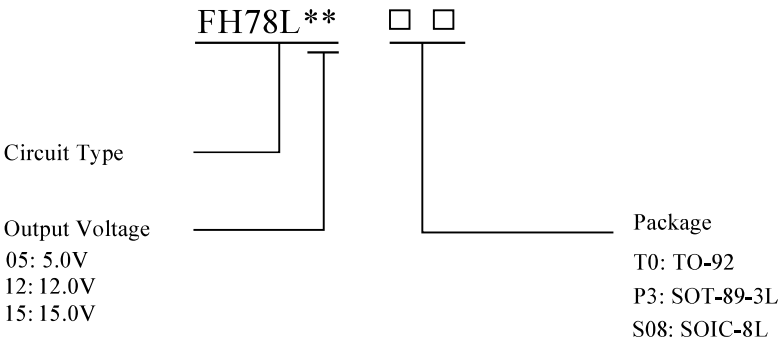


Fig.3 Adjustable Output Regulator

$Vo=5.0V+(5.0V/R1+I_Q)*R2 \quad 5.0V/R1>3*I_Q$

■ Ordering Information



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