

Dimensions (Unit: mm)

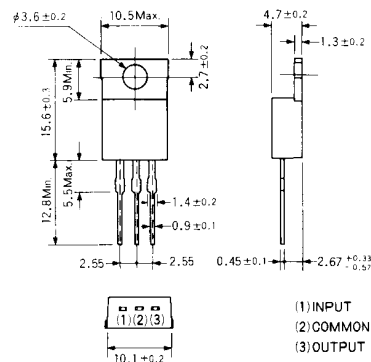


Fig. 1

Standard Application

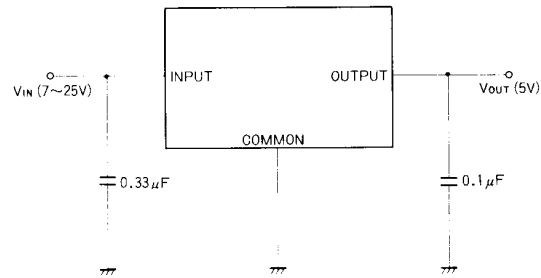


Fig. 2

The BA17805 and BA178M05 are 3-pin voltage regulators with a rated output voltage of +5V.

When an unregulated dc voltage exceeding 7 V is applied to the input, the devices provide a regulated dc voltage of 5 V at the output. Featuring excellent ripple regulation characteristics, the devices provide a stable dc voltage supply.

**Features**

1. Internal overcurrent protection and thermal protection circuits.
2. Excellent ripple regulation.
3. Provides stable +5 V voltage supply with no external components required.
4. Both the 1 A (BA17805) and 0.5 A (BA178M05) voltage regulators are available in the TO-220 package to ensure a wide application range.
5. Pin-compatible with equivalent regulators.

**Applications**

Regulated 5 V power supply

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>in</sub>	35	V
Power dissipation	P <sub>d</sub>	2	W
Operating temperature range	T <sub>opr</sub>	-25 ~ 75	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 125	°C

**Electrical Characteristics (Unless otherwise specified, Ta=25°C, V<sub>IN</sub>=10V, I<sub>O</sub>=500mA)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output voltage	V <sub>O</sub>	—	5.0	—	V	—
Input regulation	I.R.	—	3	—	mV	V <sub>IN</sub> =7 ~ 25V
Ripple regulation	R.R.	—	78	—	dB	V <sub>IN</sub> =8 ~ 18V, f=120Hz
Load regulation	L.R.	—	100	—	mV	I <sub>O</sub> =5mA ~ 1.5A
Output voltage temperature coefficient	T <sub>CVO</sub>	—	-1.1	—	mV/°C	I <sub>O</sub> =5mA, Ta=0 ~ 125°C

**Electrical Characteristics (Unless otherwise specified, Ta=25°C, V<sub>IN</sub>=10V, I<sub>O</sub>=350mA)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Output voltage	V <sub>O</sub>	—	5.0	—	V	—
Input regulation	I.R.	—	3	—	mV	V <sub>IN</sub> =7 ~ 25V, I <sub>O</sub> =200mA
Ripple regulation	R.R.	—	80	—	dB	V <sub>IN</sub> =8 ~ 18V, f=120Hz, I <sub>O</sub> =30mA
Load regulation	L.R.	—	30	—	mV	I <sub>O</sub> =5 ~ 500mA
Output voltage temperature coefficient	T <sub>CVO</sub>	—	-1.0	—	mV/°C	I <sub>O</sub> =5mA, Ta=0 ~ 125°C

Voltage Regulators