

BST75701

1. Product Overview

BST75701 is a single-channel LDO voltage regulator with a low dropout voltage of 300mV , an output current of 3A , and an adjustable output voltage of 1.22V~5V . It has undervoltage lockout, enable control function, low quiescent current, and fast transient response characteristics. It is mainly used to provide stable DC voltage for subsequent DSP, FPGA, ASIC and microprocessor.

2. Product Features

- Maximum input voltage 5.5V.
- Output voltage 1.22V~ 5V adjustable.
- Output voltage accuracy $\pm 3\%$.
- Output load capacity 3A.
- Low dropout voltage 300mV.
- Fast transient response.
- Overcurrent protection, undervoltage protection, enable control.
- Temperature range $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$.
- Use TO-263 metal ceramic package.
- Quality Grade B.

3. Functional Block Diagram

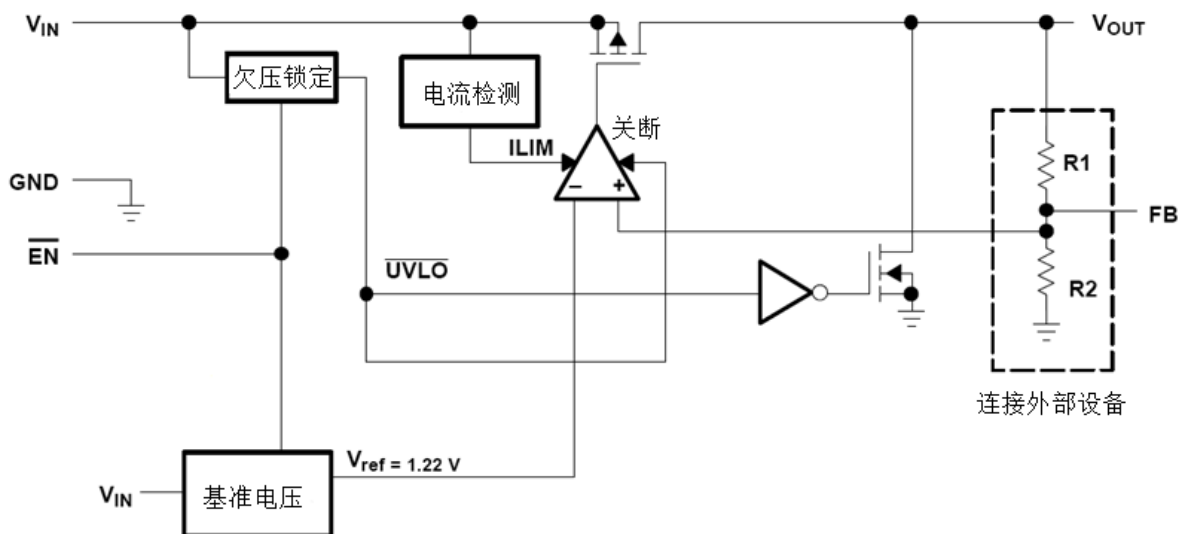


Figure 1. Functional Block Diagram

Pin Information

Pin Assignment Diagram

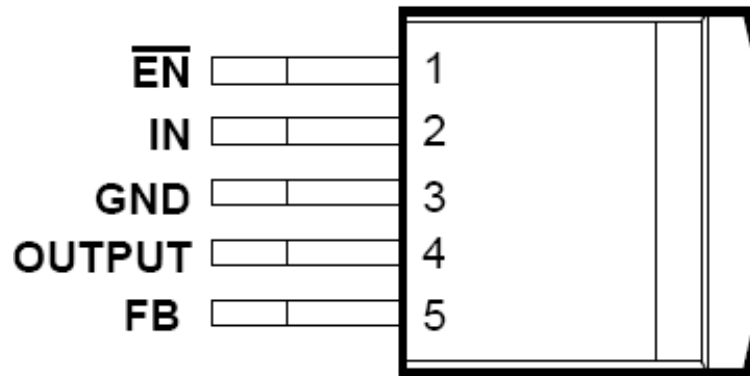


Figure 2. BST 75701 Pinout

Pin Description

Table 1. Pin Description

Pins TO-263	Pin Name	Functional Description
1	$\overline{EN}$	Enable input
2	IN	Input voltage
3	GND	land
4	OUTPUT	Output voltage
5	FB	Feedback input voltage

4. Product appearance

Metal ceramic TO-263 package

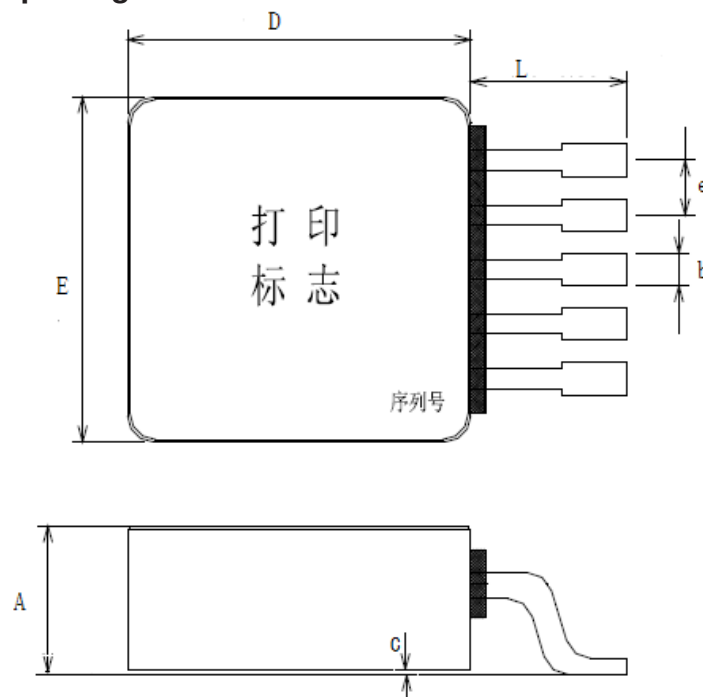


Figure 3. Metal ceramic TO263 package dimensions

Table 2. Dimensional parameters (unit: mm)

Dimension symbols	Numeric		
	Minimum	Nominal	maximum
D	10.40	—	10.80
E	10.40	—	10.80
A	3.80	—	4.95
L	—	—	5.15
e	—	1.68	—
b	0.85	—	1.15
c	0.05	—	0.30

5. Electrical parameters

Table 3. Electrical properties

characteristic	symbol	condition Unless otherwise specified $V_I=2.8V$ or $V_I=V_O+1$, $I_O=1mA$, $\overline{EN}=0V$ $-55^\circ C \leq T_A \leq 125^\circ C$	Limit value		unit
			Minimum	maximum	
Output voltage	V_{Out}	$1.22V \leq V_O \leq 5.0V$, $V_I=5.5V$	1.22	5	V
Output voltage accuracy	—	$1.22V \leq V_O \leq 5.0V$, $V_I=5.5V$	$0.97V_O$	$1.03V_O$	V
Maximum output current	I_O	—	3	—	A
Quiescent Current	I_q	—	—	200	uA
Output voltage linear regulation	—	$2.8V \leq V_I \leq 5.5V$	—	0.1	%/V
Load Regulation	—	$1mA \leq I_O \leq 3A$	—	1	%/A
Output current limit	I_{Limite}	—	5.5	14	A
Standby current	I_S	$\overline{EN}=V_I$	—	10	uA
FB input current	I_{FB}	$FB=1.5V$	-1	1	uA
Input ripple rejection	$PSRR$	—	40	—	dB
$\overline{EN}$ Input Current	$I_{(\overline{EN})}$	$\overline{EN}=0V$	-1	1	uA
		$\overline{EN}=V_I$	-1	1	uA
$\overline{EN}$ High level input voltage	V_H	—	2	—	V
$\overline{EN}$ Low level input voltage	V_L	—	—	0.7	V
Low dropout voltage	V_D	$I_O=3A$, $V_I=3.2V$	—	300	mV
Discharge current	I_{DIS}	—	10	—	mA
Undervoltage protection threshold	V_{UVLO}	V_I rising	2.2	—	V