

BST1706

1. Product Overview

BST1706 is a high-performance fixed output low-dropout linear regulator. The input voltage range is 4.3 V to 5.5 V, the output voltage is 3.3 V, and the maximum drive is 1 A. It is suitable for large loads and applications with high requirements for power supply performance. Based on an advanced design architecture, BST 1706 exhibits good power supply rejection characteristics and excellent linear and load adjustment characteristics. The input/output is connected to a 4.7uF ceramic capacitor to ensure system stability. Without the introduction of capacitor ESR, good stability can be guaranteed. Overcurrent and overheating protection functions are integrated on the chip. It uses an 8-pin ceramic CSOP8 package to meet various high-performance power supply applications.

2. Product Features

- Input voltage range: 4.3 V to 5.5 V.
- Fixed output voltage: 3.3 V.
- Input/output 4.7uF ceramic capacitors to ensure stability.
- 1 A load current: 1.55mA.
- Maximum drivable load current: 1 A.
- Minimum input - output voltage difference: 630 mV.
- $\pm 2.5\%$ Total Output Voltage Accuracy.
- With over-current and over-temperature protection.
- Ceramic CSOP8 package.

3. Functional Block Diagram

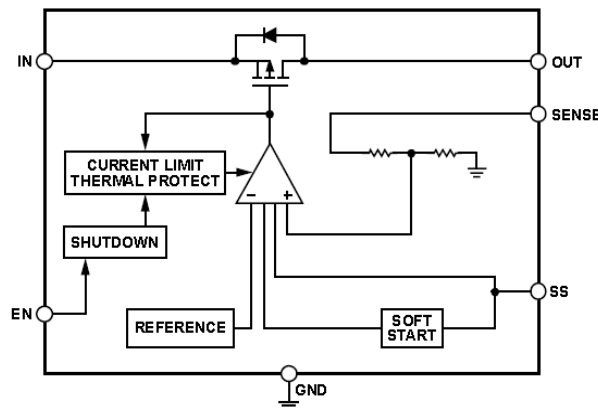


Figure 1. Functional block diagram

4. Electrical parameters

Table 1. BST1706 performance parameters

characteristic	symbol	strip Item Unless otherwise specified $V_{IN} = 4.3V, I_{OUT} = 10mA,$ $C_{IN} = C_{OUT} = 4.7\mu F$ $-55^{\circ}C \leq T_A \leq 125^{\circ}C$	Limit value			unit
			Minimum	typical	maximum	
Input voltage range	V_{IN}		4.3	—	5.5	V
Output Current	I_{OUT}		1	—	—	A
Quiescent Current	I_{GND}	$I_{OUT} = 1A$	—	—	1.55	mA
Shutdown current	$I_{GND - SD}$	$EN = GND$	—	—	3	μA
Output voltage	V_{OUT}	$T_A = 25^{\circ}C, I_{OUT} = 1A$		3.3		V
Output voltage accuracy	V_{OUTA}	$100\mu A \leq I_{OUT} \leq 1A$	-2.5	—	2.5	%
Voltage Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	$4.3V \leq V_{IN} \leq 5.5V$	-0.3	—	+0.3	%/V
Current Regulation	$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	$10mA \leq I_{OUT} \leq 1A$	—		0.001	%/mA
Minimum input-output pressure difference	$V_{DROPOUT}$	$I_{OUT} = 1A$	—	—	630	mV
Limiting threshold current	I_{LIMIT}		1.1	—	1.8	A
SS terminal leakage current	I_{SS}		0.6	—	1.6	μA
EN enable input high level voltage	V_I	$V_{IN} = 4.3V \sim 5.5V$	1.8	—	—	V
EN enable input low level voltage	V_{IL}	$V_{IN} = 4.3V \sim 5.5V$	—	—	0.5	V
EN Enable Input Leakage Current	V_{I-LKG}	$V_{EN} = V_{IN}$ or $V_{EN} = GND$	—	—	1	μA