

# AN6546SP

## Fixed/Adjustable Dual Output Voltage Regulator

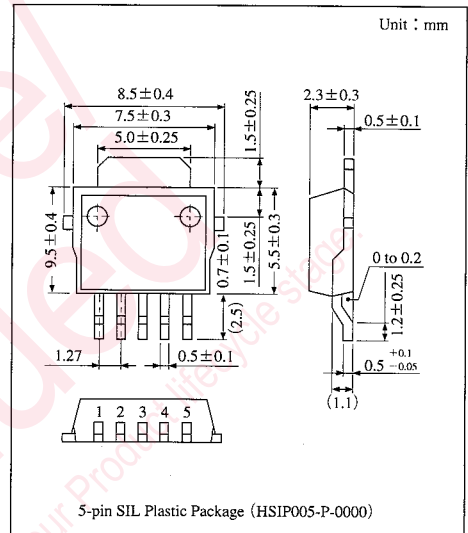
### Overview

The AN6546SP is a voltage regulator with strobe pin which can turn on/off an output.

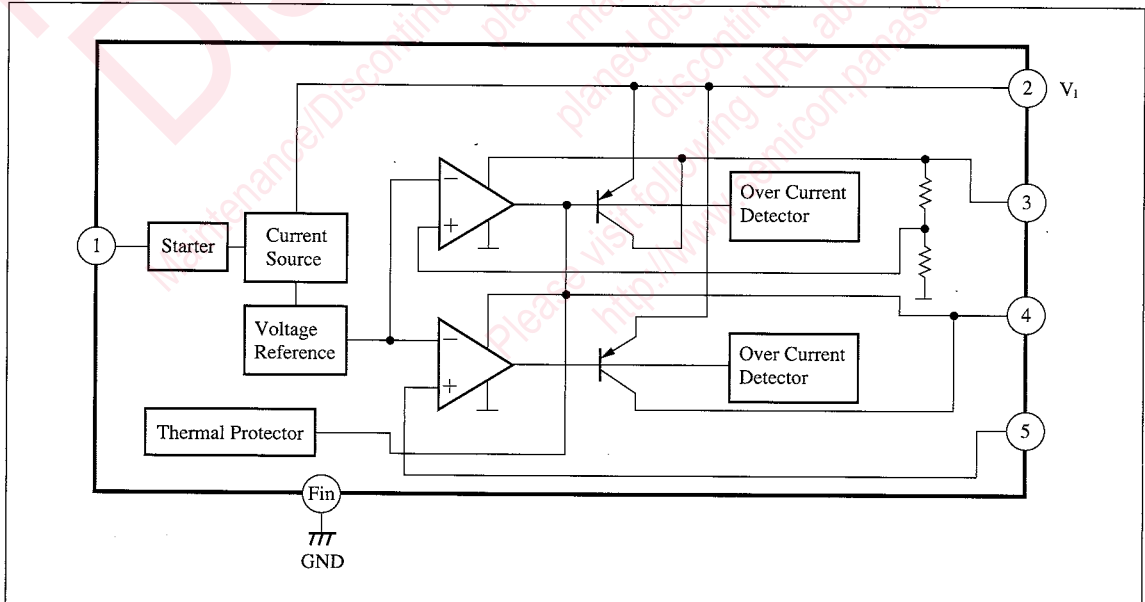
It has two output pins ; one for 5V fixed output, and the other for adjustable output which can be set optionally with an external resistor.

### Features

- Built-in two outputs ; 50mA rated load current and 5V output voltage, 75mA rated load current and adjustable output 2V to  $V_{IN} - 1V$
- Capable of turning off two outputs by setting the strobe pin to the "L" level
- Minimum input/output voltage difference ; max. 0.6V
- Built-in overcurrent protective circuit and thermal protective circuit
- Surface-mount type 5-lead SIL plastic package



### Block Diagram



Voltage  
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### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>I</sub>	20	V
Power dissipation	P <sub>D</sub>	500	mW
Operating ambient temperature	T <sub>opr</sub>	-20 to +75	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

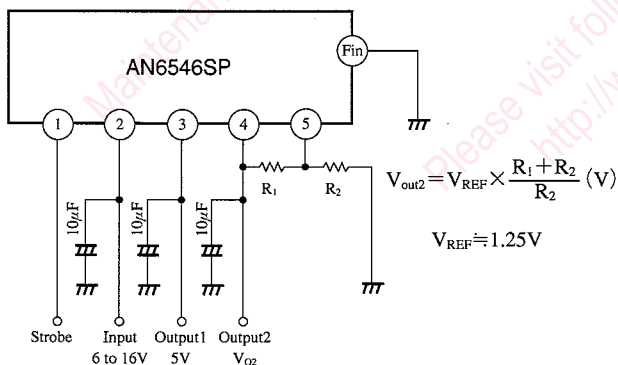
### Recommended Operating Range (Ta=25°C)

Parameter	Symbol	Range
Operating supply voltage range	V <sub>CC</sub>	6 to 16V

### Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	min	typ	max	Unit
Bias current		I <sub>bias</sub>	V <sub>I</sub> =12V, I <sub>O1</sub> =I <sub>O2</sub> =0mA	2.9	5	7.6	mA
Load bias current change		ΔI <sub>biasL</sub>	V <sub>I</sub> =12V, I <sub>O1</sub> =I <sub>O2</sub> =0 to 50mA	—	—	20	mA
Off-state input bias current		I <sub>bias(OFF)</sub>	V <sub>I</sub> =12V, V <sub>S</sub> =0V	—	—	10	μA
Output 1	Output voltage	V <sub>O1</sub>	V <sub>I</sub> =12V, T <sub>J</sub> =25°C, I <sub>O1</sub> =0 to 20mA	4.8	5	5.2	V
	Load regulation	REG <sub>L1</sub>	V <sub>I</sub> =12V, T <sub>J</sub> =25°C, I <sub>O1</sub> =0 to 50mA	—	—	100	mV
	Line regulation	REG <sub>IN1</sub>	V <sub>I</sub> =6 to 16V, T <sub>J</sub> =25°C, I <sub>O1</sub> =20mA	—	—	100	mV
	Minimum input/output voltage difference	V <sub>DEF(min)1</sub>	V <sub>I</sub> =4.5V, I <sub>O1</sub> =50mA	—	0.3	0.6	V
	Output short-circuit current	I <sub>O(short)1</sub>	V <sub>I</sub> =12V, T <sub>J</sub> =25°C, V <sub>O1</sub> =0V	55	—	120	mA
Output 2	Output voltage	min	V <sub>I</sub> =12V, T <sub>J</sub> =25°C, I <sub>O2</sub> =20mA	1.8	2	2.2	V
		max		9	10	11	V
	Load regulation	REG <sub>L2</sub>	V <sub>I</sub> =12V, T <sub>J</sub> =25°C I <sub>O2</sub> =0 to 75mA, at V <sub>O2</sub> =5V	—	—	100	mV
	Input regulation	REG <sub>IN2</sub>	V <sub>I</sub> =6 to 16V, T <sub>J</sub> =25°C I <sub>O2</sub> =20mA, at V <sub>O2</sub> =5V	—	—	100	mV
	Minimum input/output voltage difference	V <sub>DEF(min)2</sub>	V <sub>I</sub> =4.5V, T <sub>J</sub> =25°C I <sub>O2</sub> =75mA, at V <sub>O2</sub> =5V	—	—	0.6	V
Output short-circuit current	I <sub>O(short)2</sub>	V <sub>I</sub> =12V, T <sub>J</sub> =25°C, V <sub>O2</sub> =0V	80	—	140	mA	
Strobe pin threshold voltage		V <sub>S(TH)</sub>	V <sub>I</sub> =12V	0.6	2	2.5	V
Strobe pin input current		I <sub>S</sub>	V <sub>I</sub> =12V, V <sub>S</sub> =2V	—	—	100	μA

### Application Circuit

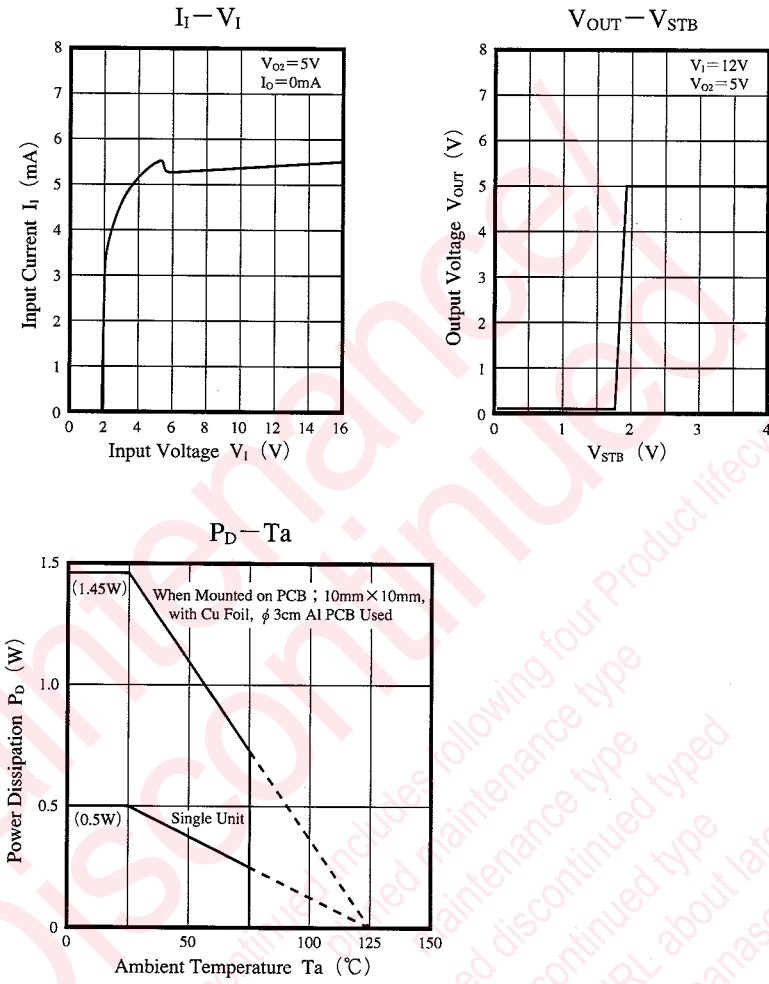


Strobe Pin	Output
"L"	OFF
"H"	ON

Threshold voltage : typ. 2V

Note) When using at a low temperature, it is recommended to use capacitors with low internal impedance (for example, tantalum capacitors) for output capacitors.

■ Characteristics Curve



Voltage Regulators

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