

AN6545, AN6545SP

Low dropout voltage regulators

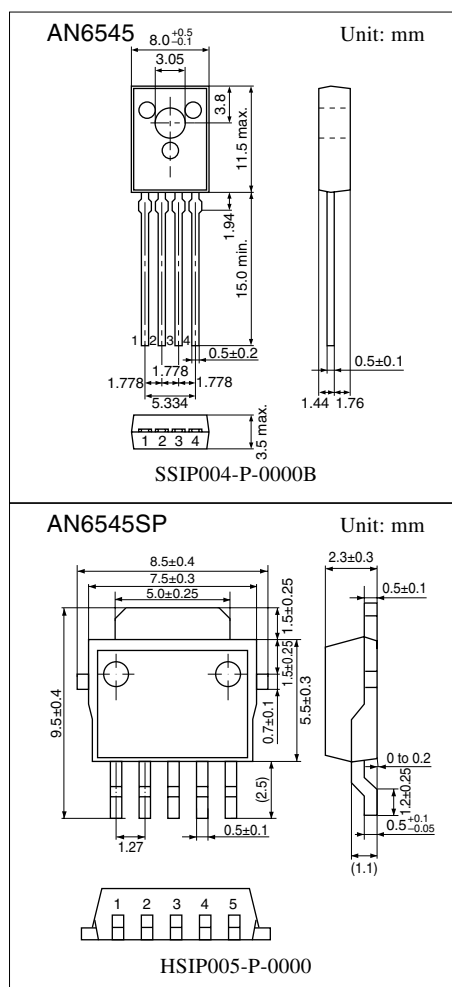
■ Overview

The AN6545 and AN6545SP are the voltage regulators with strobe pin which can turn on/off an output.

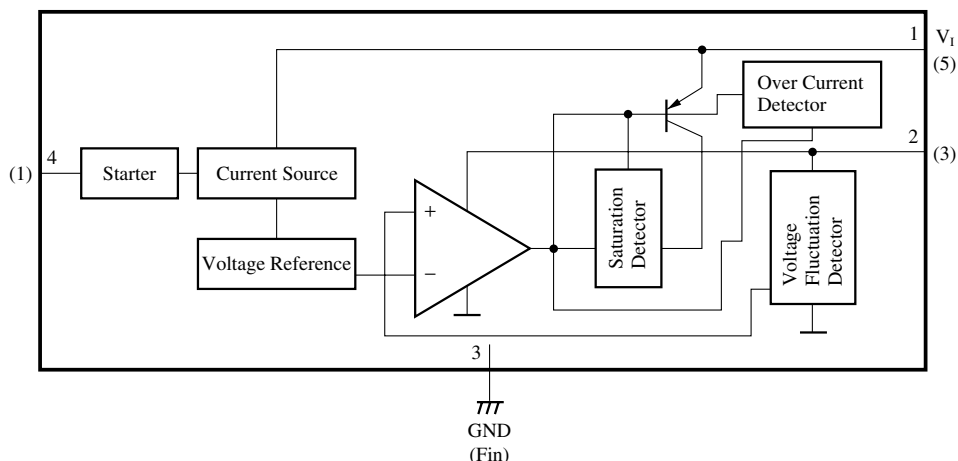
A rated load current is 150mA and an output voltage is fixed at 5V.

■ Features

- 150mA rated load current and 5V fixed output voltage
- Capable of turning off an output by setting the strobe pin to the low level
- Minimum input/output voltage difference: typ. 0.25V
- Built-in overcurrent protection circuit



■ Block Diagram (AN6545)



Note) The number in () shows the pin number for the AN6545SP

■ Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

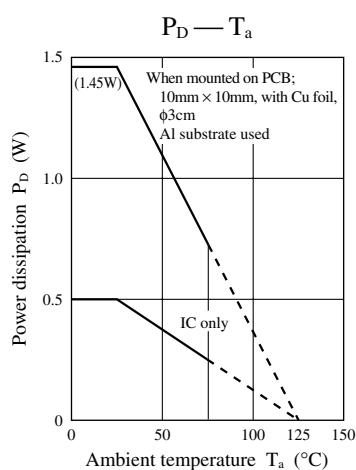
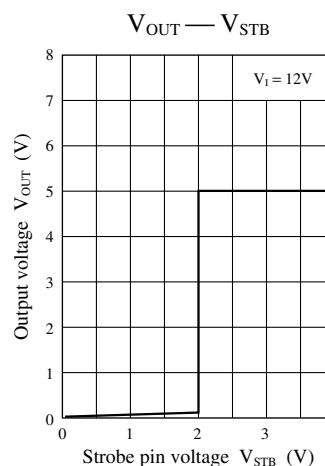
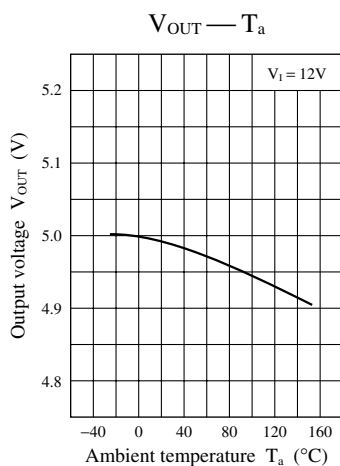
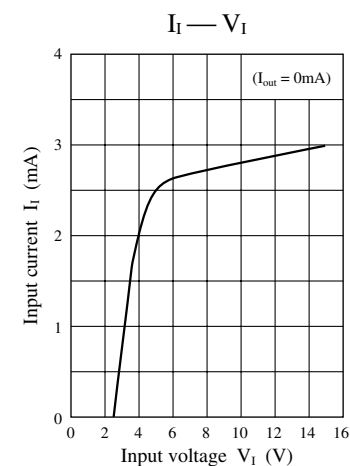
Parameter		Symbol	Rating	Unit
Supply voltage		V_I	14.4	V
Power dissipation	AN6545	P_D	1300 *	mW
	AN6545SP		500	mW
Operating ambient temperature		T_{opr}	-20 to +75	$^\circ\text{C}$
Storage temperature	AN6545	T_{stg}	-55 to +150	$^\circ\text{C}$
	AN6545SP		-55 to +125	$^\circ\text{C}$

* Mounted onto the PCB

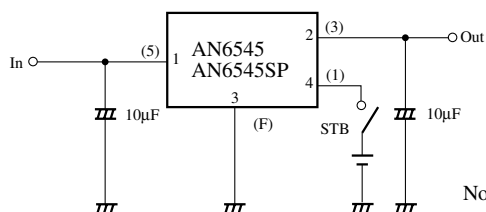
■ Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Output voltage	V_O	$V_I = 12\text{V}$, $I_O = 150\text{mA}$	4.8	5	5.2	V
Output voltage range	V_t	$V_I = 6$ to 14.4V , $I_O = 0$ to 150mA	4.7	5	5.3	V
Bias current under no load	I_{Bias}	$V_I = 12\text{V}$, $I_O = 0\text{mA}$	—	2.9	4	mA
Load regulation	REG_L	$V_I = 12\text{V}$, $I_O = 0$ to 150mA	—	—	100	mV
Line regulation	REG_{IN}	$V_I = 6$ to 14V , $I_O = 150\text{mA}$	—	—	100	mV
Minimum input/output voltage difference	$V_{DIF(min)}$	$V_I = 4.5\text{V}$, $I_O = 150\text{mA}$	—	—	5	V
Rush current	I_{rush}	$V_I = 4.5\text{V}$, $I_O = 0\text{mA}$	—	2.5	—	mA
Output short-circuit current	$I_{O(short)}$	$V_I = 12\text{V}$	350	—	550	mA
Bias current fluctuation to load	ΔI_{bias}	$V_I = 12\text{V}$, $I_O = 0$ to 150mA	—	—	10	mA
Off-state cathode current	I_{OFF}	$V_I = 12\text{V}$, $V_S = 0\text{V}$	—	—	2	μA
Strobe pin input current	I_S	$V_I = 12\text{V}$, $V_S = 2.5\text{V}$	—	—	200	μA
Strobe pin threshold voltage	$V_{S(TH)}$	$V_I = 12\text{V}$	0.8	2	2.4	V
Ripple rejection ratio	RR	$V_I = 10$ to 14V , $I_O = 150\text{mA}$, $f = 120\text{kHz}$	—	55	—	dB

■ Main Characteristics



■ Application Circuit Examples (AN6545)



Note) The number in () shows the pin number for the AN6545SP

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

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