

SIMPLE SWITCHER 3A STEP-DOWN VOLTAGE REGULATOR—YD2576

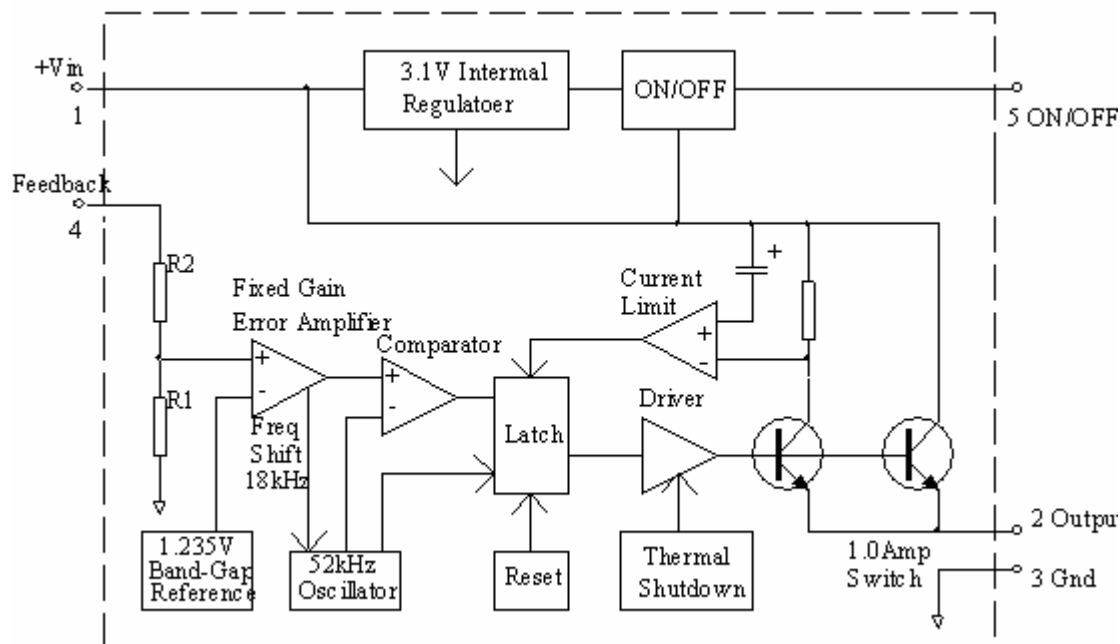
DESCRIPTION

The YD2576 series of regulators are monolithic integrated circuits that provide all the active functions for a step-down(buck) switching regulator, capable of driving 3A load with excellent line and regulation.

FEATURES

- *Guaranteed 3A output current
- *Requires only 4 external components
- *52kHz fixed frequency internal oscillator
- *High efficiency
- *thermal shutdown and current limit protection

BLOCK DIAGRAM



注: R1=2.2K,R2=6.8K.

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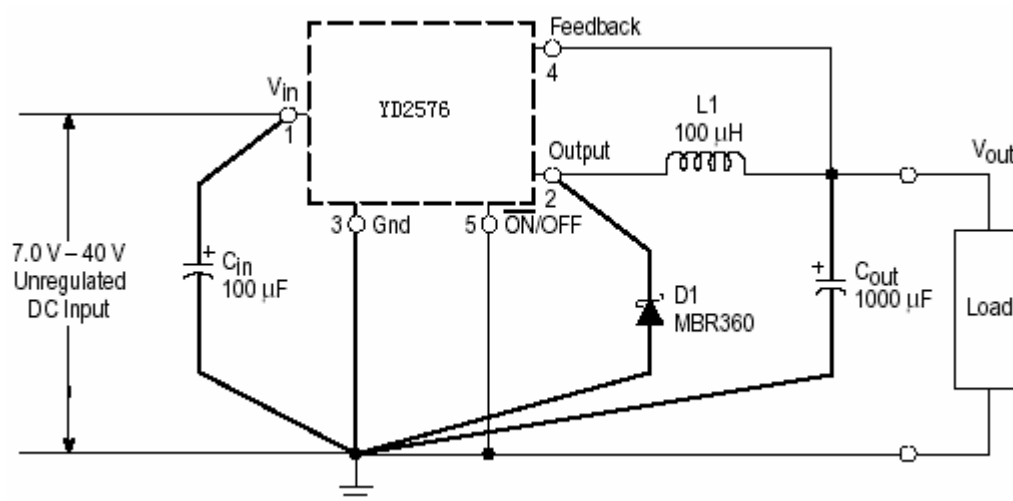
ABSOLUTE MAXIMUM RATINGS (T_{amb}=25℃)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{cc}	45	V
Power Dissipation	P _b	15	W
Operating Temperature	T _{opr}	-25 to +75	℃
Storage Temperature	T _{stg}	-65 to +150	℃

ELECTRICAL CHARACTERISTICS (V_{cc}=12V, T_{amb}=25℃, Unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V _{out}	I _{load} =0.5A	4.9	5	5.1	V
Output Voltage	V _{out}	0.5A ≤ I _{load} ≤ 3A	4.8	5	5.2	V
		8V ≤ V _{in} ≤ 40V	4.75	5	5.25	V
Efficiency	η	I _{load} =3A		77		%
Oscillator Frequency	F _{osc}	T _j =25℃		52		kHz
		T _j =0to+125℃	47		58	kHz
		T _j =-40to+125℃	42		63	kHz
Saturation Voltage	V _{sat}	T _j =25℃		1.5	1.8	V
		T _j =-40to+125℃			2	V
Max Duty Cycle	DC		94	98		%
Current Limit	I _{cL}	T _j =25℃	4.2	5.8	6.9	A
		T _j =-40to+125℃	3.5		7.5	A
Output Leakage	I _L	T _j =25℃		0.8	2	mA
		T _j =-40to+125℃		6	20	mA
Quiescent Current	I _q	T _j =25℃		5	9	mA
		T _j =-40to+125℃			11	mA
Standby Quiescent Current	I _{stby}	Pin5=5V		50	200	uA
Standby Threshold	V _{STB}			2		V

APPLICATION CIRCUIT



OUTLINE DRAWING

