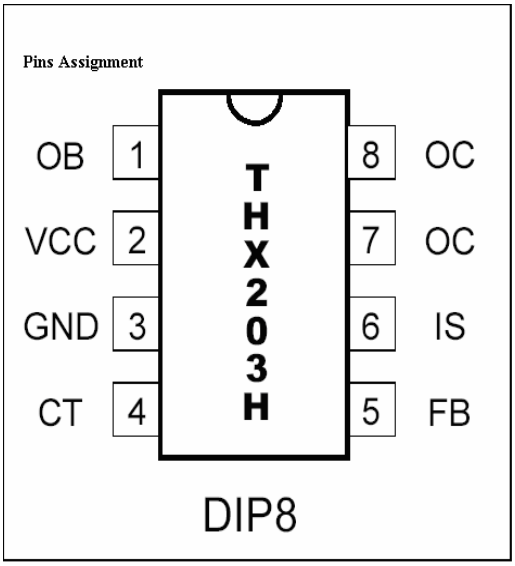
Introduction

PWM controller of high-performance current mode is specially designed for AC/DC transformer with high performance and price ratio, which supplies continuous output power of 12W within the range of wide-voltage between 85V and 265V, the output power of peak value can be up to 18W. The combination of optimized reasonable circuit design and bipolar facture technology with high performance and price ratio economizes the whole cost ultimately. The power controller can be applied to the typical flyback circuit topology so as to form a simple AC/DC transformer. The startup circuit inside IC is designed as a particular current inhalation way, so it can start up with the magnification function of the power switch tube itself, which lessens the power consumption for starting the resistance remarkably; when the output power is lower, IC will reduce the working frequency automatically, therefore, the standby power consumption becomes extremely low. When the power tube is closed, the interior circuit will bias it reversely, utilize the characteristic of high pressure resistance CB of bipolar transistor directly, and improve its pressure resistance capacity to the high voltage of 700V, which ensures the security of the power tube.



Meanwhile, the perfect function of overload and saturation prevention is provided inside of IC, which can keep away some abnormal status, such as overload, saturation of transformer, and output short circuit, so as to improve the reliability of the power supply. The current limit and clock frequency can be set up by exterior components.

Now the standard encapsulation and the environmental protection leadless encapsulation that meets European standard of DIP8 are supplied.

Characteristics

- Set-in high-voltage power switch tube of 700V and few peripheral components
- With the modulation of lock pulse width, the testing is according to the pulse limit current.
- With the function of output frequency reduction, the non-output power consumption can be less than 0.3W.
- Inner-built ramp and anti-feedback compensation function
- The independent upper-limit current testing controller deals with over-current and over-load of the controller real-timely.
- The period emission pole is turned off and it outputs by deflected voltage, and the pressure resistance of the power tube is improved.
- Set-in current limit resistance with temperature compensation, which makes the current limit precise
- Set-in heat protection circuit
- Startup is accomplished with the magnification function of the switch power tube, and the power consumption of startup resistance is reduced more than10 times.
- Few peripheral components
- Low startup and operating current
- VCC over-voltage automatic limit
- Continuous wide-voltage output power reaches 12W, and the output power of peak value arrives at 18W.

Applied Field

- Adaptor (for example, travel charger, out power station)
- Open Frame (for example, DVD, DVB)

Reference Frame of Interior Circuit

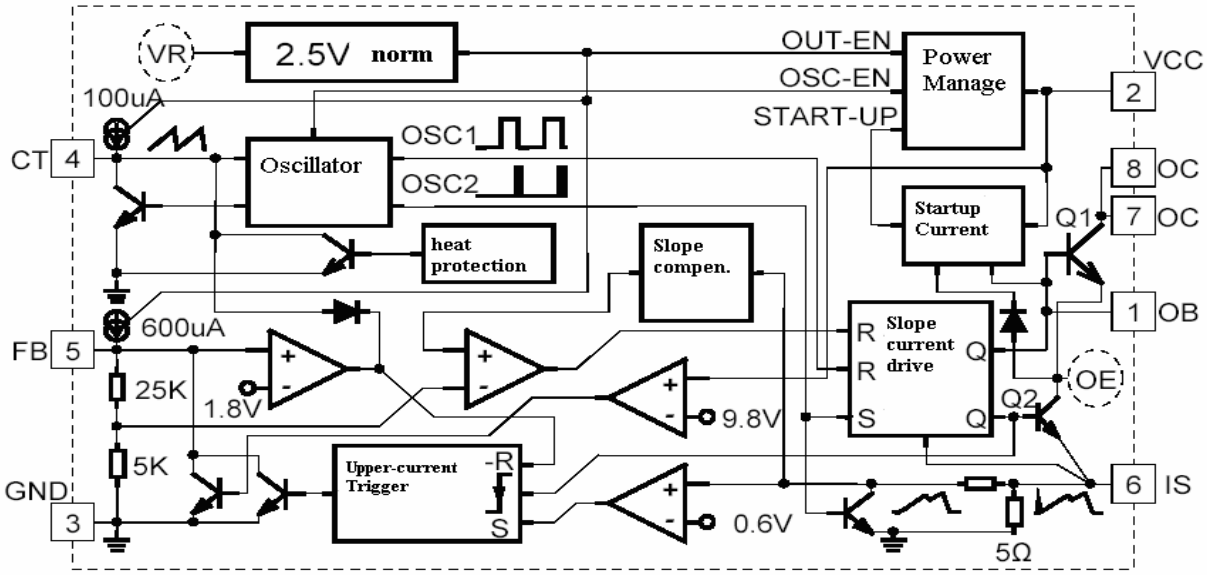


Figure 1. Frame of Interior Current

Description of Pins' function

Pins	Symbol	Pins Description
1	OB	base electrode of power tube, control terminal of start-up current, external startup resistance
2	VCC	supply electric pins
3	GND	meet grounding pins
4	CT	oscillate capacitance pins, external timing capacitance
5	FB	feedback pins
6	IS	switching current sampling and limit enactment, sampling resistance of external current
7,8	OC	output pins, meet switching transformer

*: During PCB layout, the security distance should be kept more than 1mm between Pin6 and Pin7, so as to avoid discharging.

Limit parameter

Power supply voltage VCC ·····16V
Startup input voltage·····16V
Pins input voltage····· VCC+0.3V
Endurance voltage of OC collector····· －0.3-700V
Switching current of peak value ·····800mA
Total dissipation power·····1000mW
Operating temperature range ·····0---＋125℃
Deposit temperature range····· －55---＋150℃
Welding temperature ·····＋260℃,10S

Recommended working condition

Item	Minimum	Typical	Maximum	Unit
Power supply voltage, VCC	4.8	5.5	9.0	V
Pins input voltage	-0.3	-	Vcc	V
Reverse voltage of peak value	-	-	520	V
Switching current of peak value	-	-	600	mA
Timing capacitance	650	680	920	PF
Oscillating frequency	45	61	65	KHz
Operating temperature	0		70	℃