

SPECIFICATION

1. DESCRIPTION

The DK124 IC is specially design for off-line switch mode power supply, maximum power is 24W. Different from PWM controller and external power separated MOS combination design, the PWM controller, 700V power transistor, and high voltage starting circuit are integrated into his DK124 IC. So that to save external circuit, component use and cost. Also size and weight of the product is reduced. It is specially suitable for price sensitive flyback switch mode power supply.

2. APPLICATIONS

- Battery charger
- Power AC/DC adapters
- STB power supply
- Electromagnetic oven power supply
- DVD/VCD/VCR power supply
- Air conditioner power supply
- LED driver applications
- TV/Monitor power supply

3. MAIN FEATURES

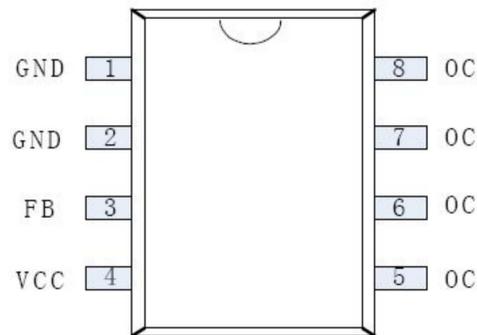
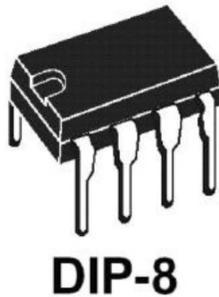
- 85V—265V wide range AC power input.
- Build-in 700V power transistor.
- Internal integrated high voltage starting circuit, no need for additional resistance.
- Internal 16mS soft-start circuit.
- Internal power compensation circuit to keep the stability of max. output power in both high and low voltage.
- Patent dynamic self-power supply, no need for auxiliary winding.

- Internal frequency modulation circuit to reduce EMI filter cost.
- Over current, Over loading, Over temperature, Over voltage and Short circuit Protection.

4. POWER RANGE

Input Voltage	85-264V AC	85-145V AC	180-264V AC
MAX. output power	12W	18W	18W

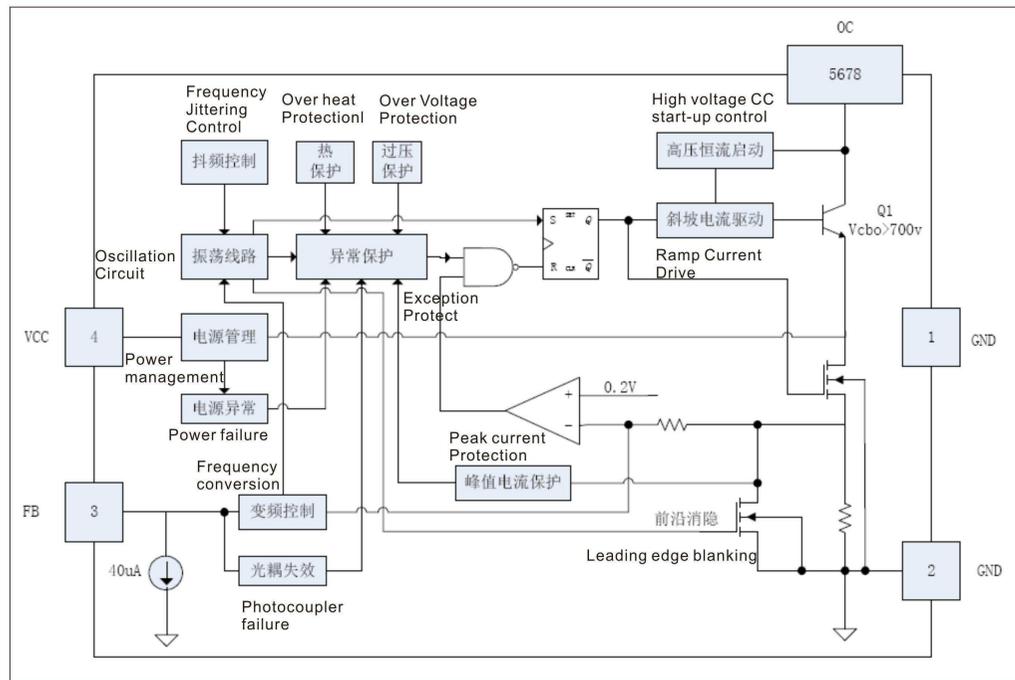
5. CONNECTION DIAGRAM (DIP-8)



PIN FUNCTION

Pin NO.	Pin Name	Function
1	GND	Ground reference of IC
2	GND	Ground reference of IC
3	Fb	Feedback control pin
4	Vcc	IC Power supply
5,6,7,8	OC	Output pin of power transistor

6. BLOCK DIAGRAM



7. ABSOLUTE MAXIMUM RATINGS



SHENZHEN DONGKE SEMICONDUCTOR CO., LTD

OFF-LINE SWITCH MODE POWER CONTROLLER -DK124

Symbol	Parameter	Value	Unit
Vcc	Supply voltage	-0.3V--8	V
Ivcc	Current of supply voltage	100	mA
Vpin	Pin voltage	-0.3--Vcc+0.3	V
Vcol	Collector to GND voltage	-0.3--780	V
Ip	Peak current	1.5	A
Pd	Dissipation power	1	W
Tc	Case operating temperature	-20--+140	°C
Tstg	Storage temperature	-55--+150	°C
Tsol	Soldering temperature	+280	°C/5S

8. ELECTRICAL CHARACTERISTIC

Parameter	Condition	Value			Unit
		Min.	Typ.	Max.	
Vcc (Work Power Supply)	AC input: 85V-265V	4.65	4.95	5.25	V
Start threshold Voltage	AC input: 85V-265V	4.75	5.05	5.35	V
Restart Voltage	AC input: 85V-265V	3.3	3.6	3.9	V
Protect Voltage of VCC	AC input: 85V-265V	6.25	6.55	6.85	V
Current of Vcc	Vcc=5V, Fb=1.5V			50	mA
High voltage start current	AC input: 85V-265V	0.3	0.6	1.2	mA
Start time	AC input: 85V	--	--	500	mS
BJT Voc Breakdown voltage	Ioc=1mA	700	--	--	V
Collector Protection Voltage	Check OC voltage	540	600	660	V
Peak Current Protection	Vcc=5V, Fb=1.5V---2.8V	1100	1300	1500	mA
PWM Output frequency	Vcc=5V, Fb=1.5V---2.5V	61	65	69	Khz