

GENERAL DESCRIPTION

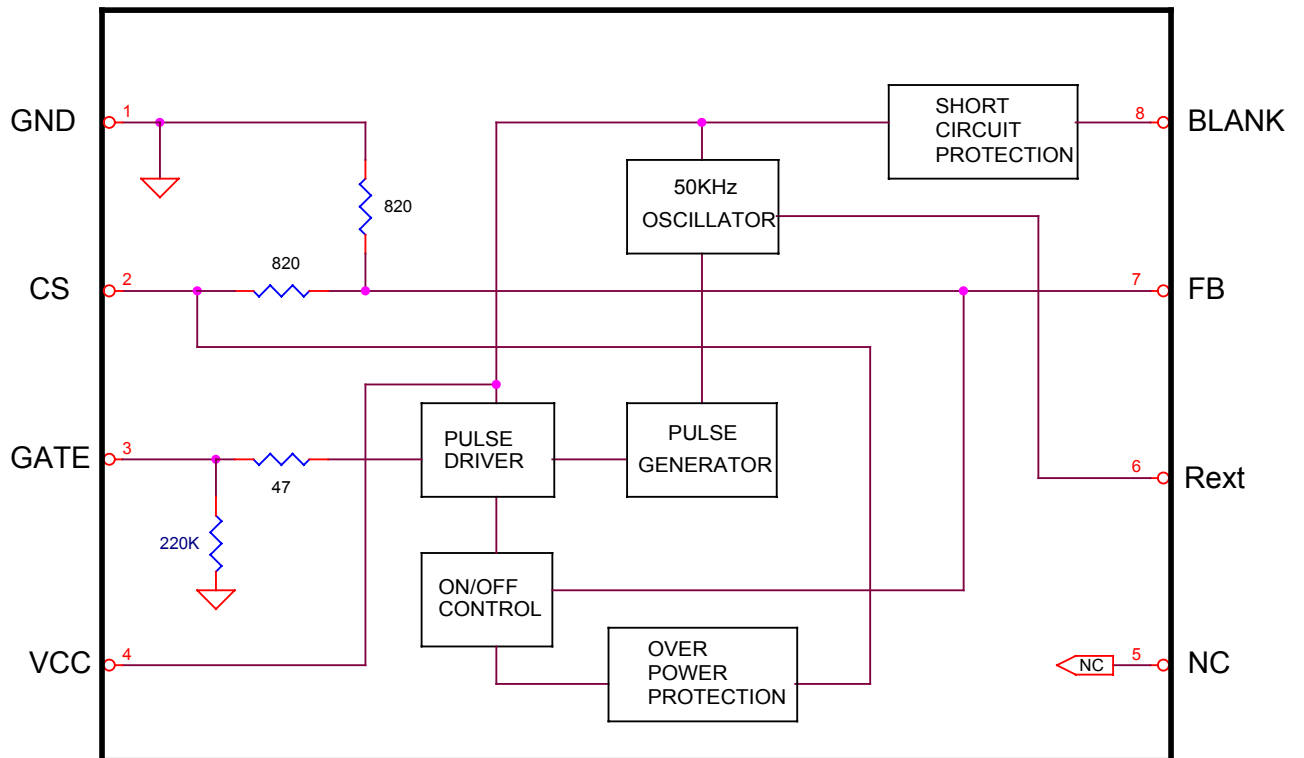
The N3860 is the low cost integrated, current mode PWM controller, specifically designed for using in the low power output, any universal and single input AC/DC converters, DC/DC converters, battery chargers, AC adapters or stand-by switching power supplies.

The N3860 features a burst mode function at light load condition, when output power works at light load and the duty of gate driver is under 1us, the N3860 will enter the burst mode condition to reduce operating frequency, this special function helps decrease power consumption to be Green Mode Requirement. The N3860 is capable of powers to 40W maximum for a universal line input.

FEATURES

- Low Start-up Current
- Low Operating Supply Current
- Current Mode Control
- 10V~30V Range For VCC Voltage
- Fixed 50KHz Operating Frequency
- Over Power & Short Circuit Protection
- Pulse Output For Driving MOSFET
- Green Mode Requirement
- Burst Mode at Light Load Condition
- Very Low Cost Solution
- Built-in Resistor of Gate Connection
- SOP-8 and DIP-8 Package

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	LIMITS	UNITS
Power supply voltage	Vcc	30	V
CS to GND Voltage	Vso	-0.3 to 5	V
Power Dissipation at Ta =50 , SOP/DIP	PTOT	1000/1200	mW
Junction Temperature	Tj	- 25 ~ 150	
Storage Temperature	TSTG	- 55 ~ 150	
Lead Temperture(Soldering) 10S	TLEAD	300	

THERMAL DATA

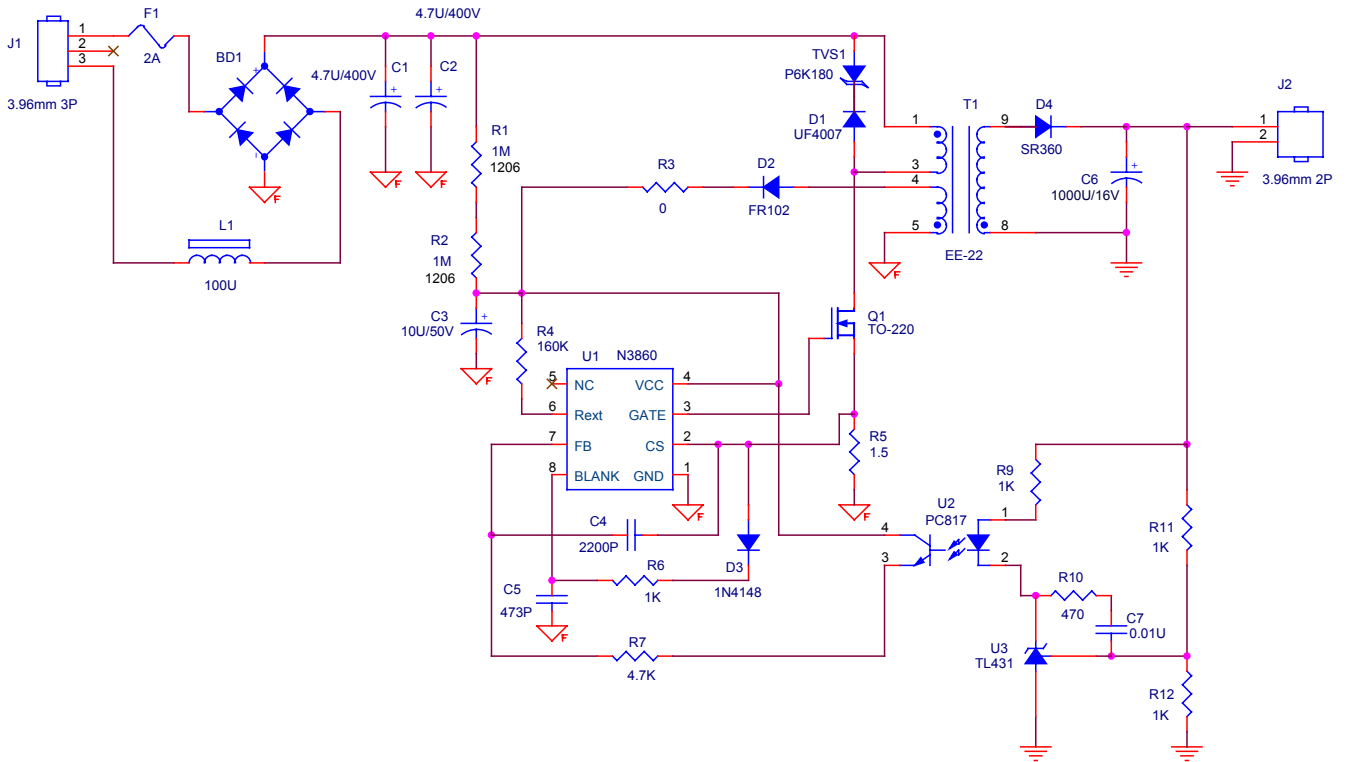
PARAMETER	SYMBOL	SOP- 8	DIP-8	UNIT
Thermal Resistance Junction to Ambient	θ_{ja}	53	45	/W
Thermal Resistance Junction to Case	θ_{jc}	23	15	/W

ELECTRICAL SPECIFICATIONS

(Vcc =15V ,Ta = - 25 to 125 ;unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Operating Voltage Range	Vcc		10	15	30	V
Operating Supply Current	Icc			1.4		mA
Start-up Current	Istart			30		uA
Turn-on Threshold Voltage	Vcc(th)	Ta = 25	9	9.5	10	V
Frequency Range	fs		45	50	55	KHz
Rise Time	tr			300		nS
Fall Time	tf			300		nS
Max.Current Sense Voltage	Vcs(max)			1.3		V
Minimum Turn On Time	Tonmin			1		uS

TYPICAL APPLICATION

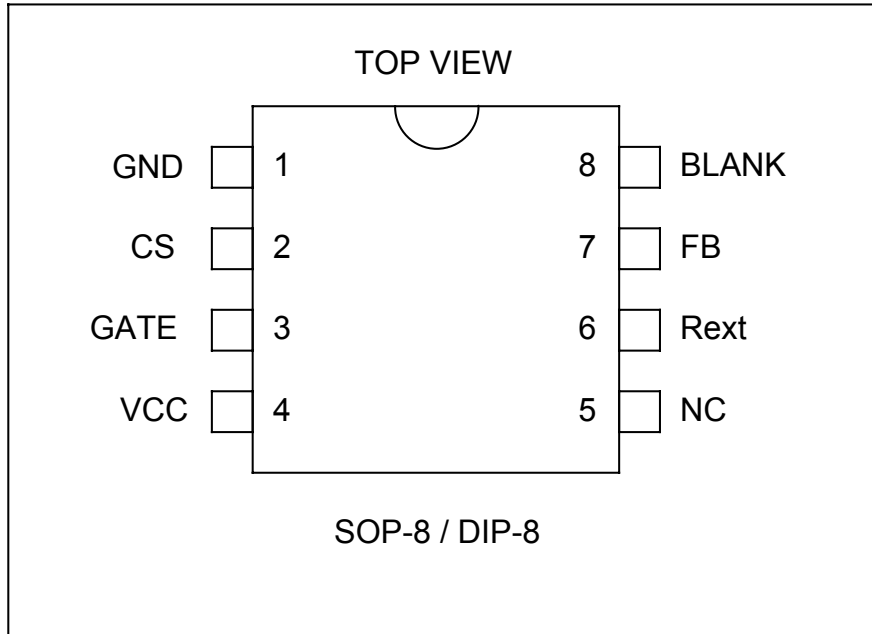


The maximum peak switch current is :

$$I_{PK} = 1.3 / R_s$$

DEVICE SELECTION GUIDE

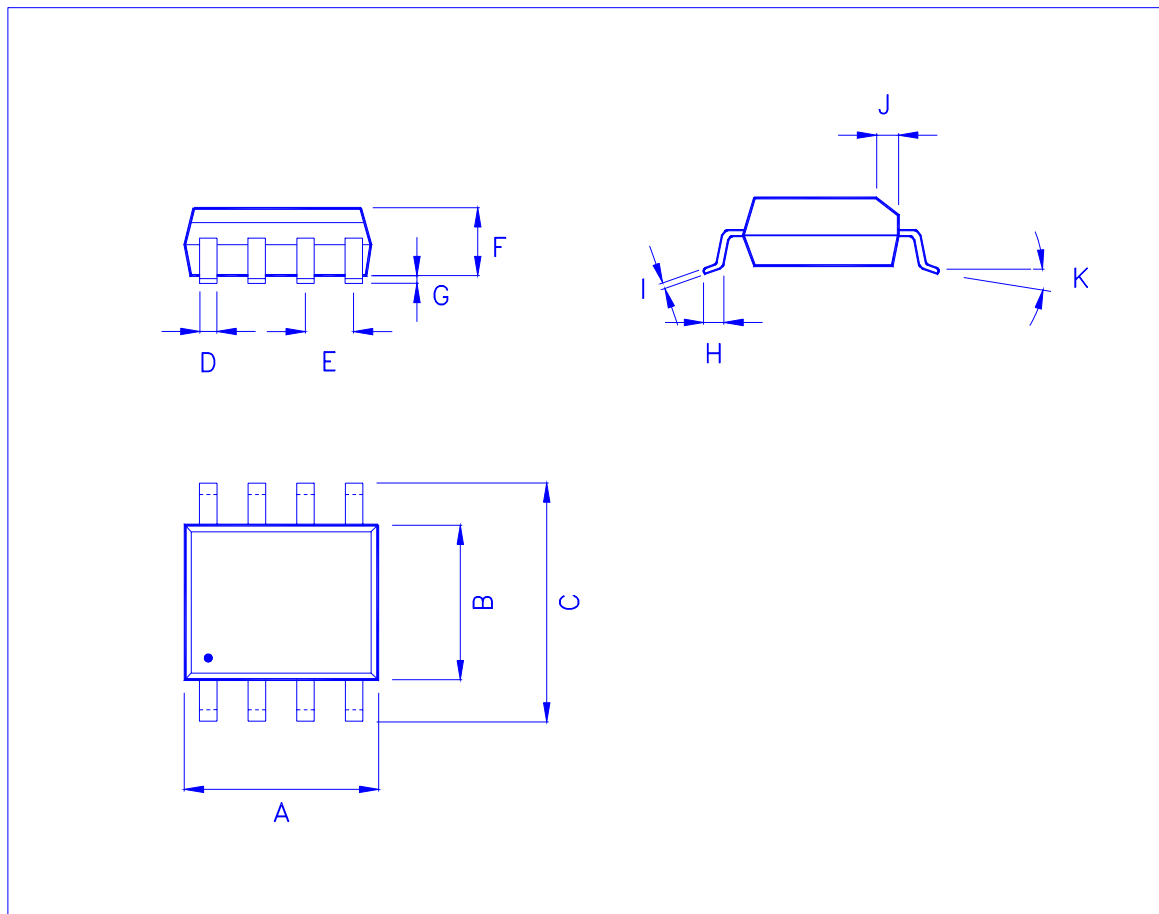
DIP-8		SOP-8	
SnPb	Pb Free	SnPb	Pb Free
N3860P	N3860PG	N3860V	N3860VG

PIN CONFIGURATIONS**PIN FUNCTIONS**

NO	FUNCTION	DESCRIPTION
1	GND	Ground , current return for both the signal and drive circuit .
2	CS	Current sense input pin ,connect to a current sense resistor for power limiting .
3	GATE	Gate driver ,connect to the gate of external power MOSFET .
4	VCC	Supply Voltage of this IC .
5	NC	Not connect.
6	Rext	External resistor,connects 160KΩ resistor to VCC pin(recommend for 1%).
7	FB	Voltage feedback input.
8	BLANK	Set the blanking time to blank the OPP operation ,during device start up section .

SOP-8 (D) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8		5.0	H	0.4		1.27
B	3.8		4.0	I	0.18		0.25
C	5.8		6.2	J		0.22	
D	0.33		0.51	K	0°		8°
E		1.27		L			
F			1.75	M			
G	0.1		0.3	N			



DIP-8 MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	8.8		9.6	H	7.95		9.75
B	6.2		7.0	I			
C	0.35	0.45	0.55	J			
D		2.54		K			
E	0.5		0.8	L			
F	3.05	3.28	3.56	M			
G	7.48	7.62	8.13	N			

