

DC TO DC CONVERTER CONTROLLER—YD34063

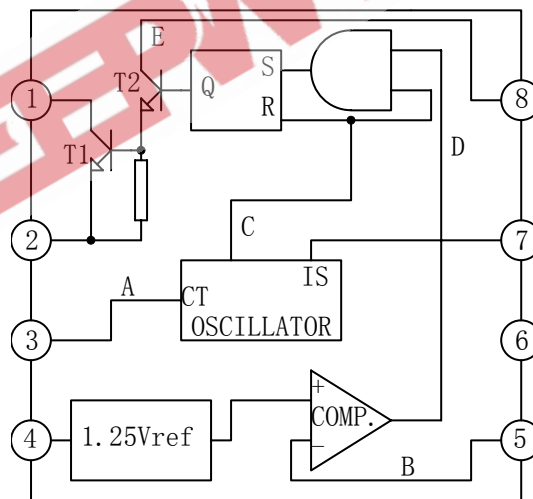
DESCRIPTION

The YD34063 is a monolithic regulator subsystem intended for use as DC to DC converter: This device contains a temperature compensated band-gap reference, a duty-cycle control oscillator, driver and high current output switch.

FEATURES

- *Operation From 3.0V to 40V
- *Short Circuit Current Limiting
- *Low Standby Current
- *Output Switch Current Of 1.5A Without External Transistors
- *Frequency Of Operation From 100Hz to 100kHz
- *Step-up, Step-down or Inverting Switch Regulators

BLOCK DIAGRAM



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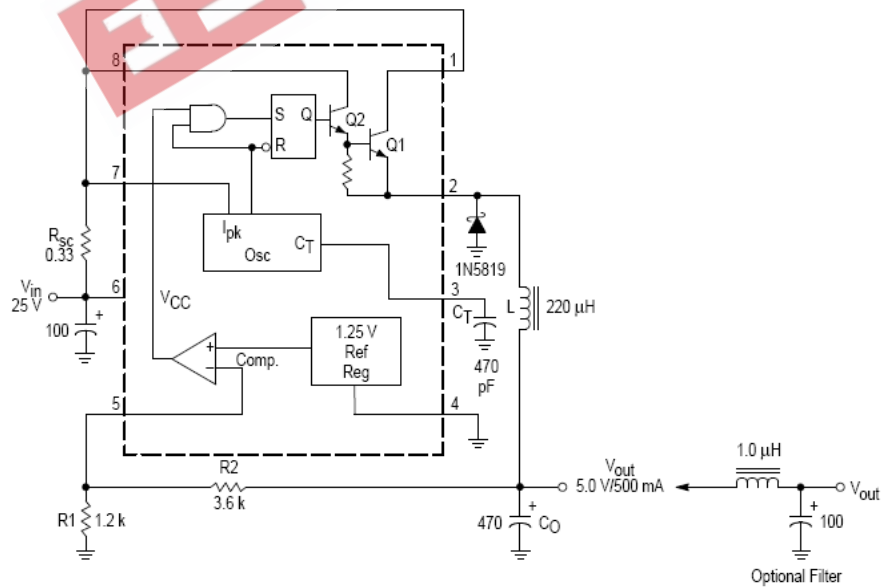
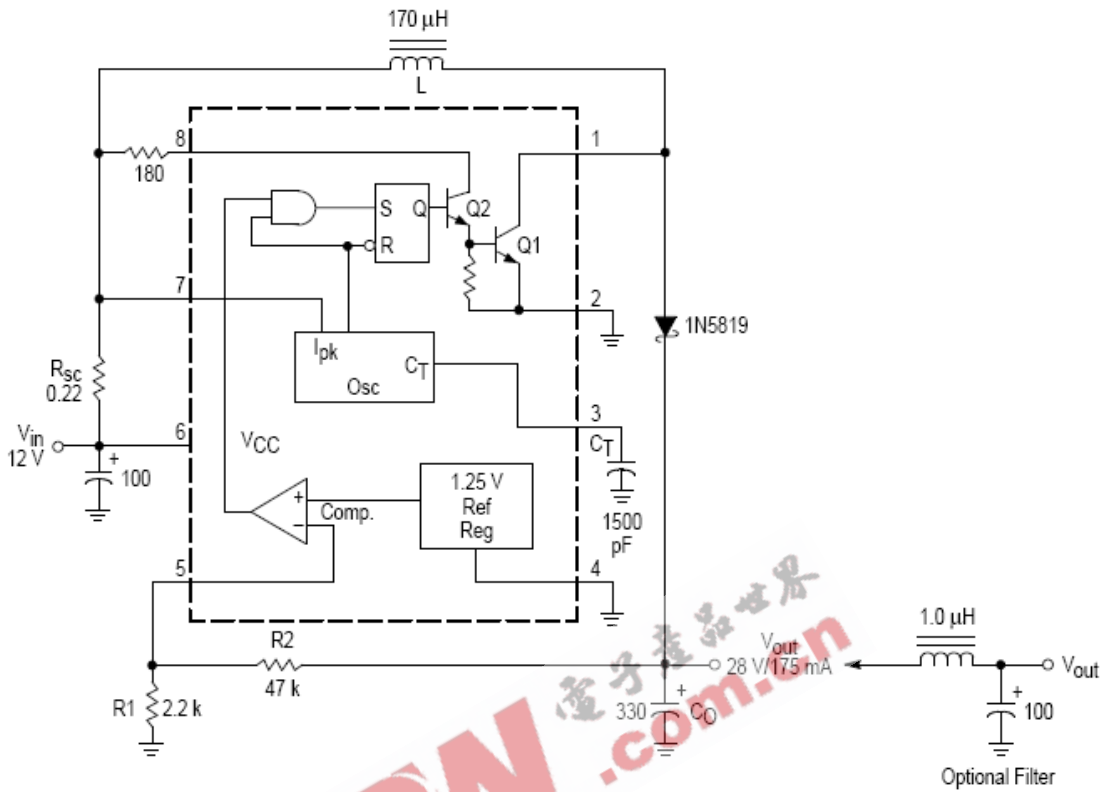
ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

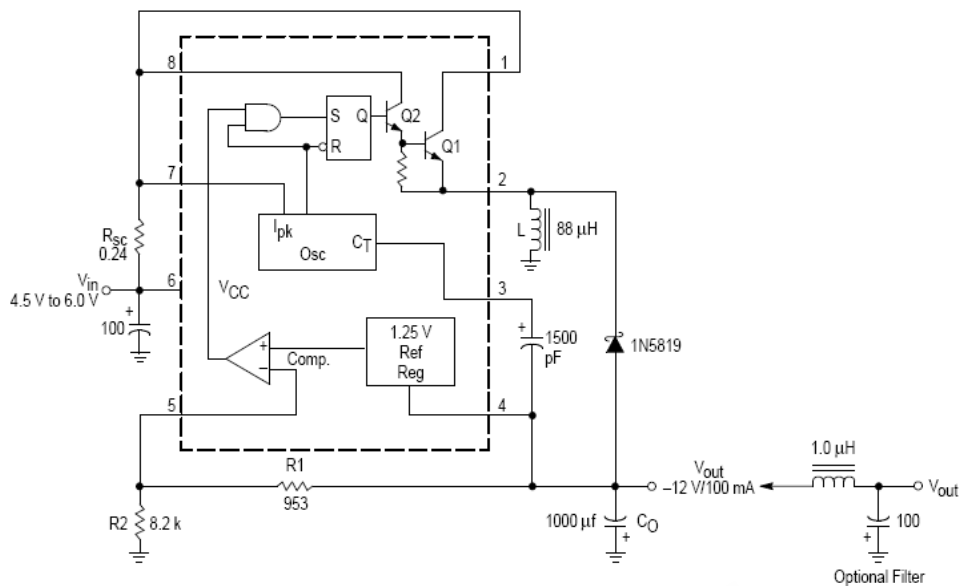
PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	Vcc	40	V
Comparator Input Voltage Range	Vi(comp)	-0.3 ~ +40	V
Switch Collector Voltage	Vc(sw)	40	V
Switch Emitter Voltage	Ve(sw)	40	V
Switch Collector to Emitter Voltage	Vce(sw)	40	V
Driver Collector Voltage	Vc(dr)	40	V
Driver Collector Current	Ic	-55~100	mA
Switch Current	Isw	1.5	A
Power Dissipation	P _D	1.25	W
Operating Junction Temperature	T _j	150	°C
Operating Temperature	Tamb	0~70	°C
Storage Temperature	Tstg	-65~150	°C

ELECTRICAL CHARACTERISTICS (Tamb=0~70°C, Vcc=5.0V, Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Oscillator						
Frequency	f _{osc}	Vpin=0V, C _T =1.0	24	33	42	kHz
Charging Current	I _{chq}	Vpin5=5 to 40V	24	35	42	μ A
Discharging Current	I _{dischg}	Vpin5=5 to 40V	140	190	260	μ A
Discharge to Charge Current Ratio	K	V7=Vcc	5.2	6.1	7.5	
Current Limit Sense Voltage	V _{IPK}		250	300	350	mV
Output Switch						
Saturation Voltage	Vce(sat)	Isw=1.0A Vc(driver)=Vc(sw)		1.0	1.3	V
Saturation Voltage	Vce(sat)	Isw=1.0A Vc(driver)=50mA		0.45	0.7	V
DC Current Gain	h _{FE}	Isw=1.0A, Vce=5.0V	50	120		
Collector OFF Current	Ic(off)	Vce=40.0V		0.01	100	μ A
Threshold Voltage	V _{th}	Tamb=25°C	1.225	1.25	1.275	V
		Tamb=0°C~70°C	1.21		1.29	
Threshold Voltage Line Regulation	Reg	Vcc=3.0~40V		1.4	5.0	mV
Input Bias Current	I _{IB}	Vin=0V		-40	-400	nA

APPLICATION CIRCUIT





OUTLINE DRAWING

DIP-8

unit:mm

