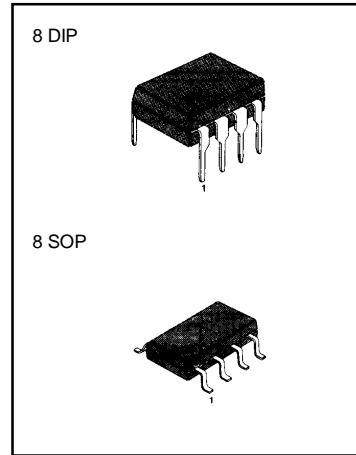


DC TO DC CONVERTER CONTROLLER

The KA34063A is a monolithic regulator subsystem intended for use as DC to DC converter. This device contains a temperature compensated bandgap reference, a duty-cycle control oscillator, driver and high current output switch. It can be used for step down, step-up or inverting switching regulators as well as for series pass regulators.

FEATURES

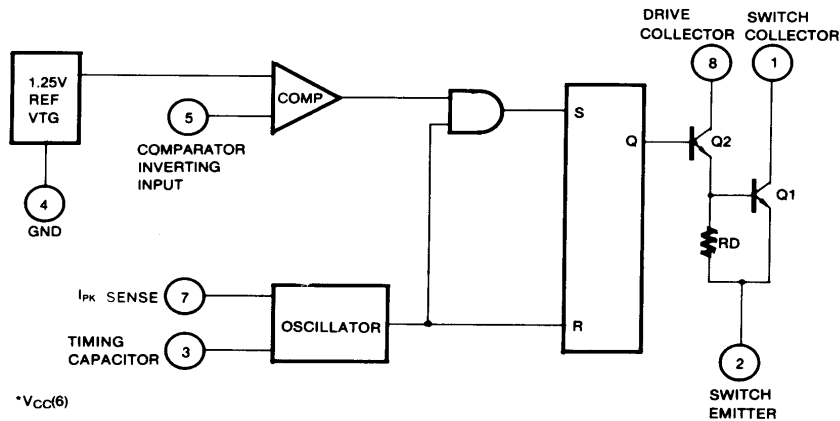
- Operation From 3.0 to 40V Input
- Short Circuit Current Limiting
- Low Standby Current
- Output Switch Current of 1.5A Without External Transistors
- Output Voltage Adjustable
- Frequency Of Operation From 100Hz to 100KHz
- Step-Up, Step-Down or Inverting Switching Regulators



ORDERING INFORMATION

Device	Package	Operating Temperature
KA34063A	8 DIP	0 ~ + 70 °C
KA34063AD	8 SOP	0 ~ + 70 °C

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	40	V
Comparator Input Voltage Range	$V_{I(Comp)}$	- 0.3 ~ + 40	V
Switch Collector Voltage	$V_{C(SW)}$	40	V
Switch Emitter Voltage	$V_{E(SW)}$	40	V
Switch Collector To Emitter Voltage	$V_{CE(SW)}$	40	V
Driver Collector Voltage	$V_{C(DR)}$	40	V
Switch Current	I_{SW}	1.5	A

ELECTRICAL CHARACTERISTICS

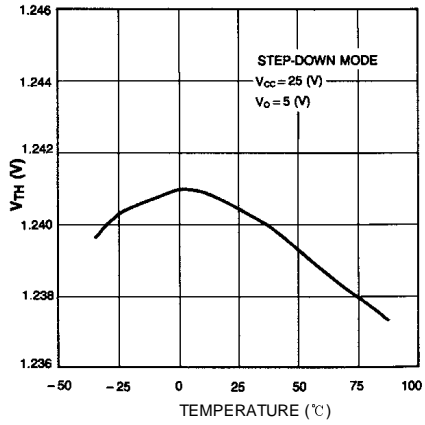
(V_{CC} = 5.0V, T_A = 0 °C to + 70 °C, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
OSCILLATOR						
Charging Current	I_{CHG}	V _{CC} = 5 to 40V T _A = 25 °C	22	31	42	μ A
Discharging Current	I_{DISCHG}	V _{CC} = 5 to 40V T _A = 25 °C	140	190	260	μ A
Oscillator Amplitude	$V_{(OSC)}$	T _A = 25 °C		0.5		V
Discharge To Charge Current Ratio	K	V ₇ = V _{CC} T _A = 25 °C	5.2	6.1	7.5	
Current Limit Sense Voltage	$V_{SENSE(C.L)}$	$I_{CHG} = I_{DISCHG}$ T _A = 25 °C	250	300	350	mV
OUTPUT SWITCH						
Saturation Voltage 1 (Note)	$V_{CE(SAT)1}$	$I_{SW} = 1.0A$ V _{C(driver)} = V _{C(SW)}		0.95	1.3	V
Saturation Voltage 2 (Note)	$V_{CE(SAT)2}$	$I_{SW} = 1.0A,$ V _{C(driver)} = 50mA		0.45	0.7	V
DC Current Gain (Note)	$G_{I(DC)}$	$I_{SW} = 1.0A,$ V _{CE} = 5.0V, T _A = 25 °C	50	180		
Collector off State Current (Note)	$I_{C(OFF)}$	V _{CE} = 40V, T _A = 25 °C		10	100	nA
COMPARATOR						
Threshold Voltage	V_{TH}		1.21	1.24	1.29	V
Threshold Voltage Line Regulation	ΔV_{TH}	V _{CC} = 3 to 40V		2.0	5.0	mV
Input Bias Current	I_{BAIS}	V _I = 0V		50	400	nA
TOTAL DEVICE						
Supply Current	I_{CC}	V _{CC} = 5 to 40V C _T = 0.001μ F V ₇ = V _{CC} V ₅ > V _{TH} pin2 = GND		2.7	4.0	mA

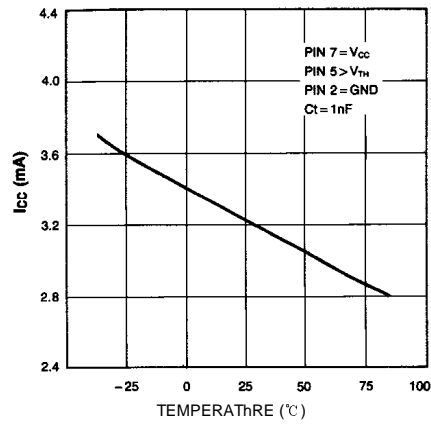
(Note)

Output switch tests are performed under pulsed conditions to minimize power dissipation

TEMPERATURE DRIFT (V_{TH})
KA34063A



TEMPERATURE DRIFT (I_{CC})
KA34063A



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FACT Quiet Series™	Quiet Series™	
FAST®	SuperSOT™-3	
FASTr™	SuperSOT™-6	
GTO™	SuperSOT™-8	
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PRODUCT STATUS DEFINITIONS

Definition of Terms

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