

KA555/KA555I

Single Timer

Features

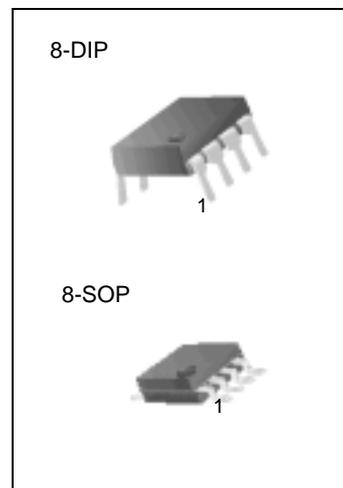
- High Current Drive Capability (200mA)
- Adjustable Duty Cycle
- Temperature Stability of 0.005%/°C
- Timing From μSec To Hours
- Turn Off Time Less Than $2\mu\text{Sec}$

Applications

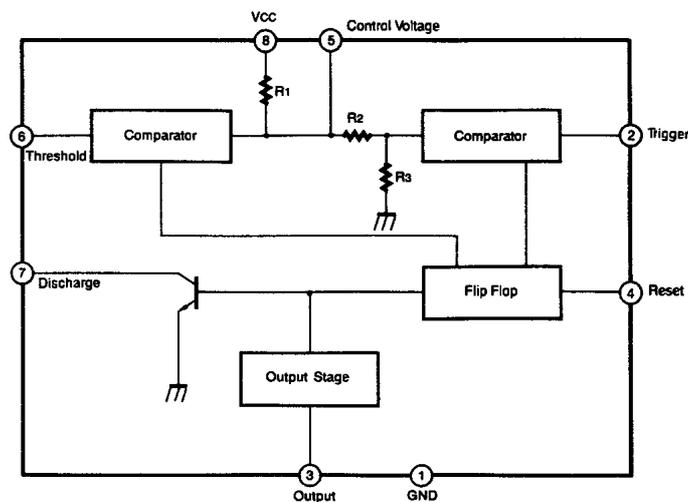
- Precision Timing
- Pulse Generation
- Time Delay Generation
- Sequential Timing

Description

The KA555/KA555I is a highly stable controller capable of producing accurate timing pulses. With monostable operation, the time delay is controlled by one external resistor and one capacitor. With astable operation, the frequency and duty cycle are accurately controlled with two external resistors and one capacitor.



Internal Block Diagram



Absolute Maximum Ratings (TA = 25°C)

Parameter	Symbol	Value	Unit
Supply Voltage	VCC	16	V
Lead Temperature (soldering 10sec)	TLEAD	300	°C
Power Dissipation	PD	600	mW
Operating Temperature Range KA555/KA555I	TOPR	0 ~+ 70	°C
Storage Temperature Range	TSTG	- 65 ~ + 150	°C

Electrical Characteristics

(TA = 25°C, VCC = 5 ~ 15V, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	VCC		4.5	-	16	V
Supply Current *1(low stable)	ICC	VCC = 5V, RL = ∞	-	3	6	mA
		VCC = 15V, RL = ∞	-	7.5	15	mA
Timing Error *2 (Monostable) Initial Accuracy Drift with Temperature Drift with Supply Voltage	ACCUR Δt/ΔT Δt/ΔVCC	RA = 1KΩ to 100KΩ C = 0.1μF	-	1.0 50 0.1	3.0 - 0.5	% ppm/°C %/V
Timing Error *2(astable) Initial Accuracy Drift with Temperature Drift with Supply Voltage	ACCUR Δt/ΔT Δt/ΔVCC	RA = 1KΩ to 100KΩ C = 0.1μF	-	2.25 150 0.3	-	% ppm/°C %/V
Control Voltage	VC	VCC = 15V	9.0	10.0	11.0	V
		VCC = 5V	2.6	3.33	4.0	V
Threshold Voltage	VTH	VCC = 15V	-	10.0	-	V
		VCC = 5V	-	3.33	-	V
Threshold Current *3	ITH	-	-	0.1	0.25	μA
Trigger Voltage	VTR	VCC = 5V	1.1	1.67	2.2	V
		VCC = 15V	4.5	5	5.6	V
Trigger Current	ITR	VTR = 0V	-	0.01	2.0	μA
Reset Voltage	VRST	-	0.4	0.7	1.0	V
Reset Current	IRST	-	-	0.1	0.4	mA
Low Output Voltage	VOL	VCC = 15V ISINK = 10mA ISINK = 50mA	-	0.06 0.3	0.25 0.75	V V
		VCC = 5V ISINK = 5mA	-	0.05	0.35	V
High Output Voltage	VOH	VCC = 15V ISOURCE = 200mA ISOURCE = 100mA	12.75	12.5 13.3	-	V V
		VCC = 5V ISOURCE = 100mA	2.75	3.3	-	V
Rise Time of Output	tR	-	-	100	-	ns
Fall Time of Output	tF	-	-	100	-	ns
Discharge Leakage Current	ILKG	-	-	20	100	nA

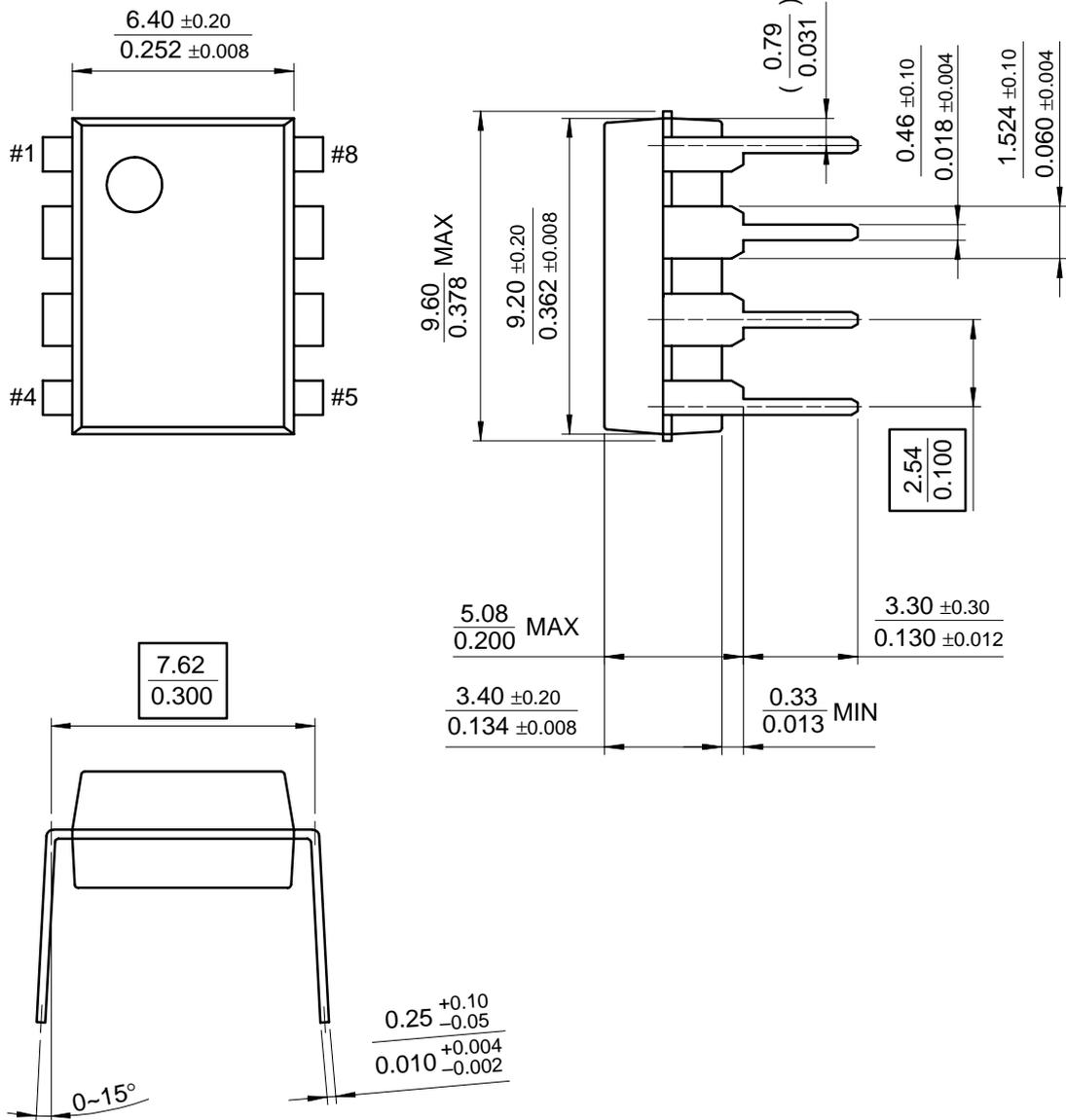
Notes:

- Supply current when output is high is typically 1mA less at VCC = 5V
- Tested at VCC = 5.0V and VCC = 15V
- This will determine maximum value of RA + RB for 15V operation, the max. total R = 20MΩ, and for 5V operation the max. total R = 6.7MΩ

Mechanical Dimensions

Package

8-DIP



Ordering Information

Product Number	Package	Operating Temperature
KA555	8-DIP	0 ~ +70°C
KA555D	8-SOP	
KA555I	8-DIP	-40 ~ +85°C

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