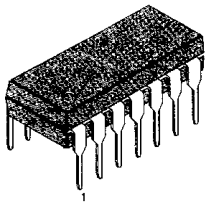
DUAL TIMER

The KA556/I series dual monolithic timing circuits are a highly stable controller capable of producing accurate time delays or oscillation.

The KA556 is a dual KA555. Timing is provided an external resistor and capacitor for each timing function.

The two timers operate independently of each other, sharing only V_{CC} and ground.
The circuits may be triggered and reset on falling wave forms. The output structures may sink or source 200mA.

14 DIP



FEATURES

- Replaces Two KA555 Timers
- Operates in Both Astable And Monostable Modes
- High Output Current
- TTL Compatible
- Timing From Microsecond To Hours
- Adjustable Duty Cycle
- Temperature Stability Of 0.005% Per ℃

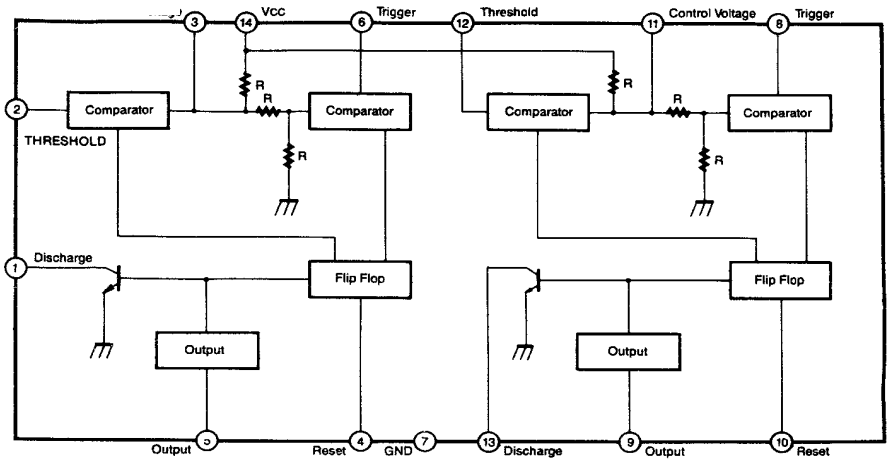
APPLICATIONS

- Precision Timing
- Pulse Shaping
- Pulse Width Modulation
- Frequency Division
- Traffic Light Control
- Sequential Timing
- Pulse Generator
- Time Delay Generator
- Touch Tone Encoder
- Tone Burst Generator

ORDERING INFORMATION

Device	Package	Operating Temperature
KA556	14 DIP	0 ~ + 70℃
KA556I	14 DIP	-40 ~ + 85℃

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (T_A = 25℃)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Lead Temperature (soldering 10sec)	T_{LEAD}	300	℃
Power Dissipation	P_D	600	mW
Operating Temperature Range KA556 KA556I	T_{OPR}	0 ~ + 70 - 40 ~ + 85	℃ ℃
Storage Temperature Range	T_{STG}	- 65 ~ + 150	℃

ELECTRICAL CHARACTERISTICS

(T_A = 25℃, V_{CC} = 5 ~ 15V, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		4.5		16	V
* 1 Supply Current (two timers) (low state)	I_{CC}	V_{CC} = 5V, R_L = ∞ V_{CC} = 15V, R_L = ∞		5 16	12 30	mA mA
* 2 Timing Error (monostable) Initial Accuracy Drift with Temperature Drift with Supply Voltage	 ACCUR Δ t/Δ T Δ t/Δ V_{CC}	R_A = 2KΩ to 100KΩ C = 0.1μ F T = 1.1RC		 0.75 50 0.1		 % ppm/℃ %/V
Control Voltage	V_C	V_{CC} = 15V	9.0	10.0	11.0	V
		V_{CC} = 5V	2.6	3.33	4.0	V
Threshold Voltage	V_{TH}	V_{CC} = 15V	8.8	10.0	11.2	V
		V_{CC} = 5V	2.4	3.33	4.2	V
* 3 Threshold Voltage	I_{TH}			30	250	nA
Trigger Voltage	V_{TR}	V_{CC} = 15V	4.5	5.0	5.6	V
		V_{CC} = 5V	1.1	1.6	2.2	V
Trigger Current	I_{TR}	V_{TH} = 0V		0.01	2.0	μ A
* 5 Reset Voltage	V_{RST}		0.4	0.6	1.0	V
Reset Current	I_{RST}			0.03	0.6	mA
Low Output Voltage	V_{OL}	V_{CC} = 15V I_{SINK} = 10mA I_{SINK} = 50mA I_{SINK} = 100mA I_{SINK} = 200mA V_{CC} = 5V I_{SINK} = 8mA I_{SINK} = 5mA		 0.1 0.4 2.0 2.5 0.25 0.15	 0.25 0.75 3.2 0.35 0.25	 V V V V V V

ELECTRICAL CHARACTERISTICS

(T_A = 25℃, V_{CC} = 5 ~ 15V, unless otherwise specified)

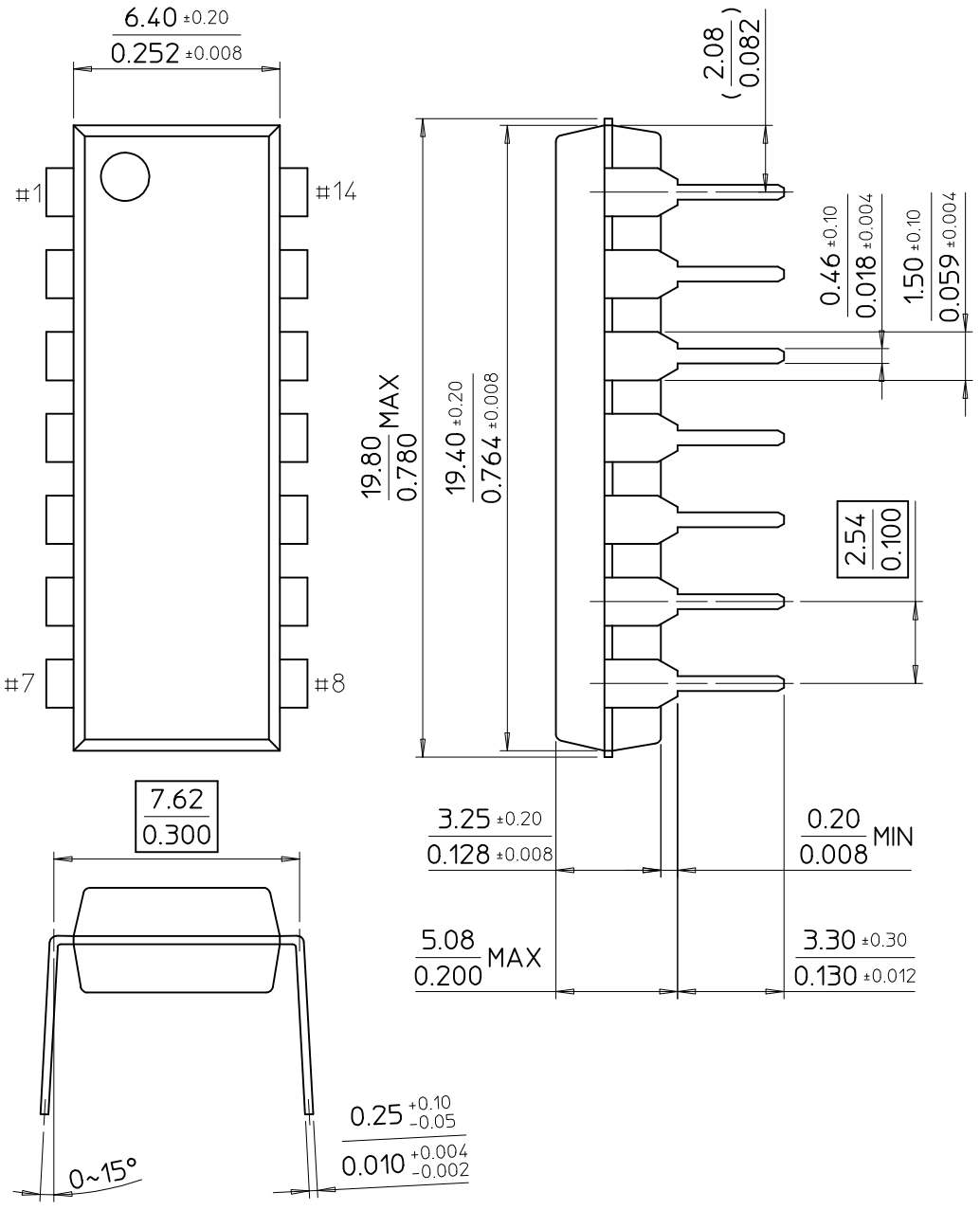
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
High Output Voltage	V_{OH}	**V_{CC} = 15V**				
		I_{SOURCE} = 200mA		12.5		V
		I_{SOURCE} = 100mA	12.75	13.3		V
		V_{CC} = 5V				
		I_{SOURCE} = 100mA	2.75	3.3		V
Rise Time of Output	t_R			100	300	nsec
Fall Time of Output	t_F			100	300	nsec
Discharge Leakage Current	I_{LKG}			10	100	nA
* 4 Matching Characteristics						
Initial Accuracy	ACCUR			1.0	2.0	%
Drift with Temperature	Δ t/Δ T			10		ppm/℃
Drfit with Supply Voltage	Δ t/Δ V_{CC}			0.2	0.5	%/V
* 2 Timing Error (astable)		**R_A,R_B = 1KΩ to 100KΩ**				
Initial Accuracy	ACCUR	**C = 0.1μ F**		2.25		%
Drift with Temperature	Δ t/Δ T	**V_{CC} = 15V**		150		ppm/℃
Drift with Supply Voltage				0.3		%/V

Notes:

* 1. Supply current when output is high is typically 1.0mA less at V_{CC} = 5V
* 2. Tested at V_{CC} = 5V and V_{CC} = 15V
* 3. This will determine the maximum value of R_A + R_B for 15V operation.
  The maximum total R = 20MΩ , and for 5V operation the maximum total R = 6.6MΩ .
* 4. Matching characteristics refer to the difference between performance characteristics of each timer section in the monostable mode.
* 5. As reset voltage lowers, timing is inhibited and then the output goes low.

14–DIP–300

Dimensions in Milimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.