

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.

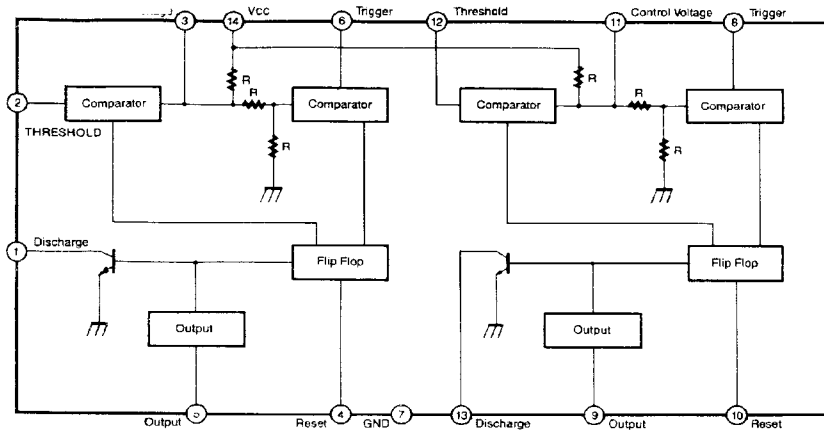
FEATURES

- 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

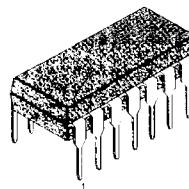
APPLICATIONS

- 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

BLOCK DIAGRAM



14 DIP



ORDERING INFORMATION

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

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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($T_A = 25^\circ\text{C}$, $V_{CC} = 5 \sim 15\text{V}$, 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}	$V_{CC} = 5\text{V}$, $R_L =$ $V_{CC} = 15\text{V}$, $R_L =$		5 16	12 30	mA mA
2 Timing Error (monostable) Initial Accuracy Drift with Temperature Drift with Supply Voltage	ACCUR t/T t/V_{CC}	$R_A = 2\text{K}$ to 100K $C = 0.1\text{ }\mu\text{F}$ $T = 1.1RC$		0.75 50 0.1		ppm/ /V
Control Voltage	V_C	$V_{CC} = 15\text{V}$ $V_{CC} = 5\text{V}$	9.0 2.6	10.0 3.33	11.0 4.0	V V
Threshold Voltage	V_{TH}	$V_{CC} = 15\text{V}$ $V_{CC} = 5\text{V}$	8.8 2.4	10.0 3.33	11.2 4.2	V V
3 Threshold Voltage	I_{TH}			30	250	nA
Trigger Voltage	V_{TR}	$V_{CC} = 15\text{V}$ $V_{CC} = 5\text{V}$	4.5 1.1	5.0 1.6	5.6 2.2	V V
Trigger Current	I_{TR}	$V_{TH} = 0\text{V}$		0.01	2.0	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}	$V_{CC} = 15\text{V}$ $I_{SINK} = 10\text{mA}$ $I_{SINK} = 50\text{mA}$ $I_{SINK} = 100\text{mA}$ $I_{SINK} = 200\text{mA}$ $V_{CC} = 5\text{V}$ $I_{SINK} = 8\text{mA}$ $I_{SINK} = 5\text{mA}$		0.1 0.4 2.0 2.5 0.25 0.15	0.25 0.75 3.2 V 0.35 0.25	V V V V V V

ELECTRICAL CHARACTERISTICS(T_A = 25 °C, 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	ppm/ °V
Drift with Temperature	t/ °C			10		
Drift with Supply Voltage	t/ V _{CC}			0.2	0.5	
2 Timing Error (astable)		R _A , R _B = 1K to 100K C = 0.1 μF V _{CC} = 15V				
Initial Accuracy	ACCUR			2.25		ppm/ °V
Drift with Temperature	t/ °C			150		
Drift with Supply Voltage				0.3		

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.

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FACT™	QST™	
FACT Quiet Series™	Quiet Series™	
FAST®	SuperSOT™-3	
FASTr™	SuperSOT™-6	
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