KA558/KA558B

Quad Timer

Features

- Wide Supply Voltage Range: 4.5V To 16V
- 100 mA Output Current Per Section
- Edge Triggered Without Coupling Capacitor
- Time Period Equals RC
- Output independent Of Trigger Conditions

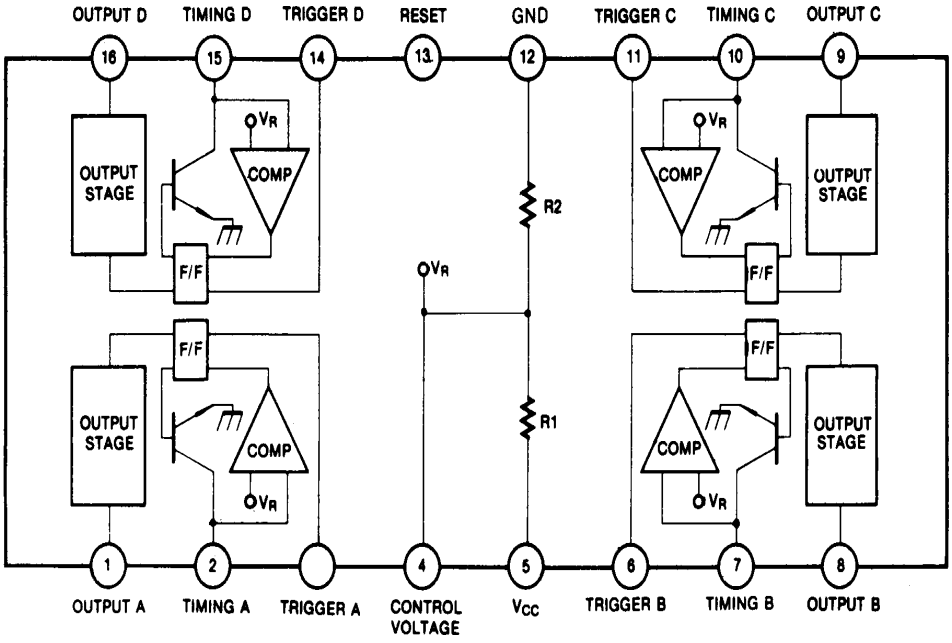
Applications

- Quad One-Shot
- Sequential Timing
- Precision Timing
- Time Delay Generation

Description

The KA558/KA558B series are monolithic Quad Timers which can be used to produce four entirely independent timing functions. These highly stable, general purpose controllers can be used in a monostable mode to produce accurate time delays, from microseconds to hours. The time is precisely controlled by one external resistor and one capacitor in the time delay mode. A stable mode can be operated using two of four time sections.

Internal Block Diagram



Absolute Maximum Ratings (T_A = 25°C)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Lead Temperature (soldering 10sec)	T_{LEAD}	300	°C
Power Dissipation	P_D	600	mW
Operating Temperature Range KA558/KA558B	T_{OPR}	0 ~ + 70	°C
Storage Temperature Range	T_{STG}	-65 ~ + 150	°C

Electrical Characteristics

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	V_{CC}	-	4.5	-	16	V
Supply Current	I_{CC}	V_{CC} =15V, reset voltage =15V	-	16	36	mA
Timing Error (T = RC) Initial Accuracy Drift with Temperature Drift with Supply Voltage	ACCUR $\Delta t/\Delta T$ $\Delta t/\Delta V_{CC}$	R = 2KΩ to 100KΩ, C =1μF	-	 ±2 30 0.1	 5 150 0.9	 % PPM/°C %/V
*[1]Trigger Voltage	V_{TR}	V_{CC} = 15V	-	1.5	2.4	V
*[1]Trigger Current	I_{TR}	V_{TR}= 0V	-	5.0	100	μA
*[2]Reset Voltage	V_{RST}	-	0.8	1.5	2.4	V
*[2]Reset Current	I_{RST}	-	-	50	500	μA
Threshold Voltage	V_{TH}	-	0.8	0.63 × V_{CC}	-	V
Threshold Current	I_{TH}	-	-	15	-	nA
*[3]Output Voltage	V_O	I_L = 10mA	-	0.1	0.4	V
		I_L = 100mA	-	1.0	2.0	
Output Leakage Current	I_{LKG}	-	-	10	500	nA
Propagation Delay Time	t_D	-	-	1.0	-	μS
Rise Time	t_R	I_L = 100mA	-	100	-	nS
Fall Time	t_F	I_L = 100mA	-	100	-	nS

Note :

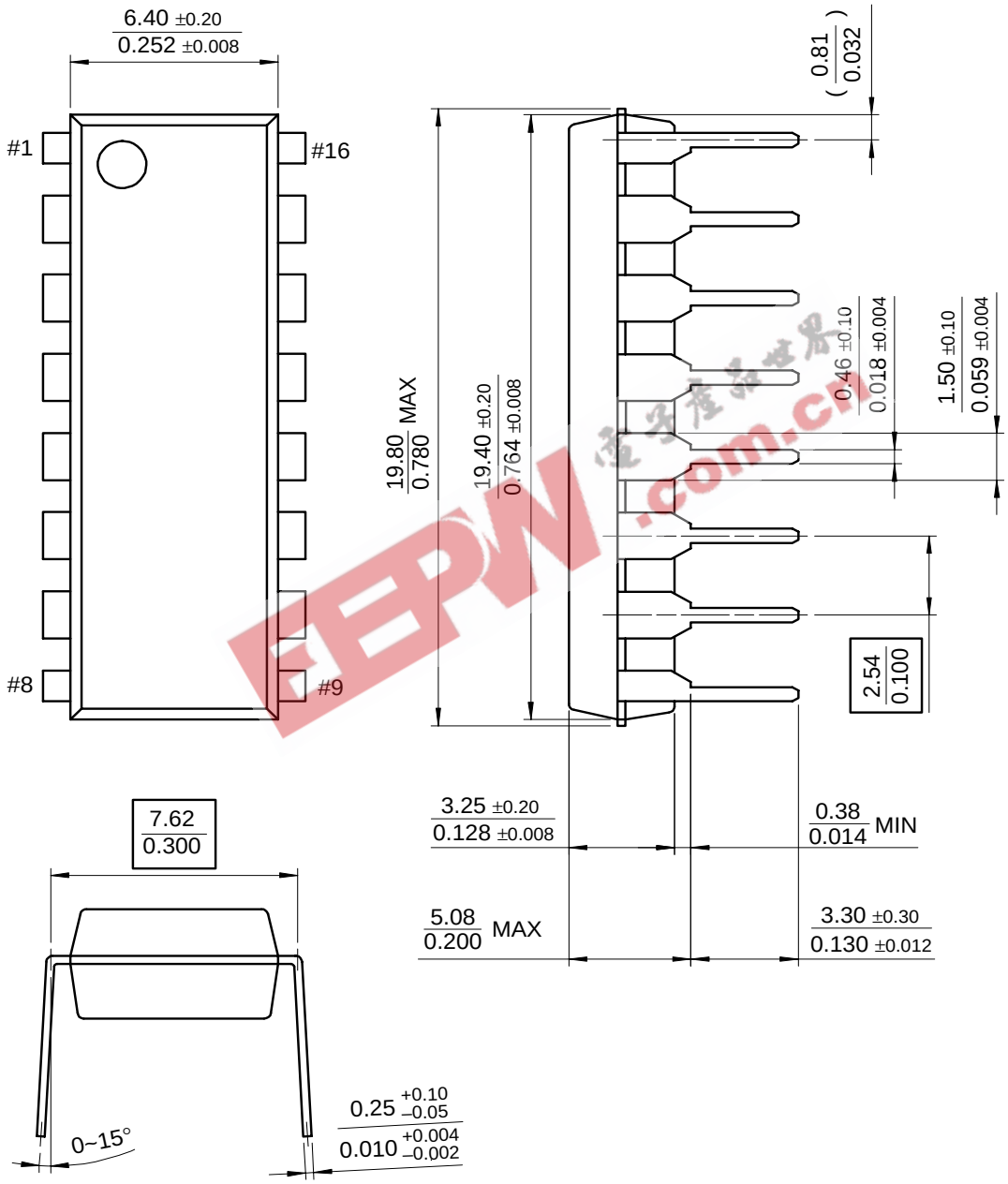
1. The trigger functions only on the falling edge of the trigger pulse only after previously being high. After reset the trigger must be brought high and then low to implement triggering.
2. For reset below 0.8V, outputs set low and trigger inhibited.
3. Output structure is open collector which requires a pull up resistor to V_{CC} to sink current. The output is normally low sinking current.

Mechanical Dimensions

Package

Dimensions in millimeters

16-DIP

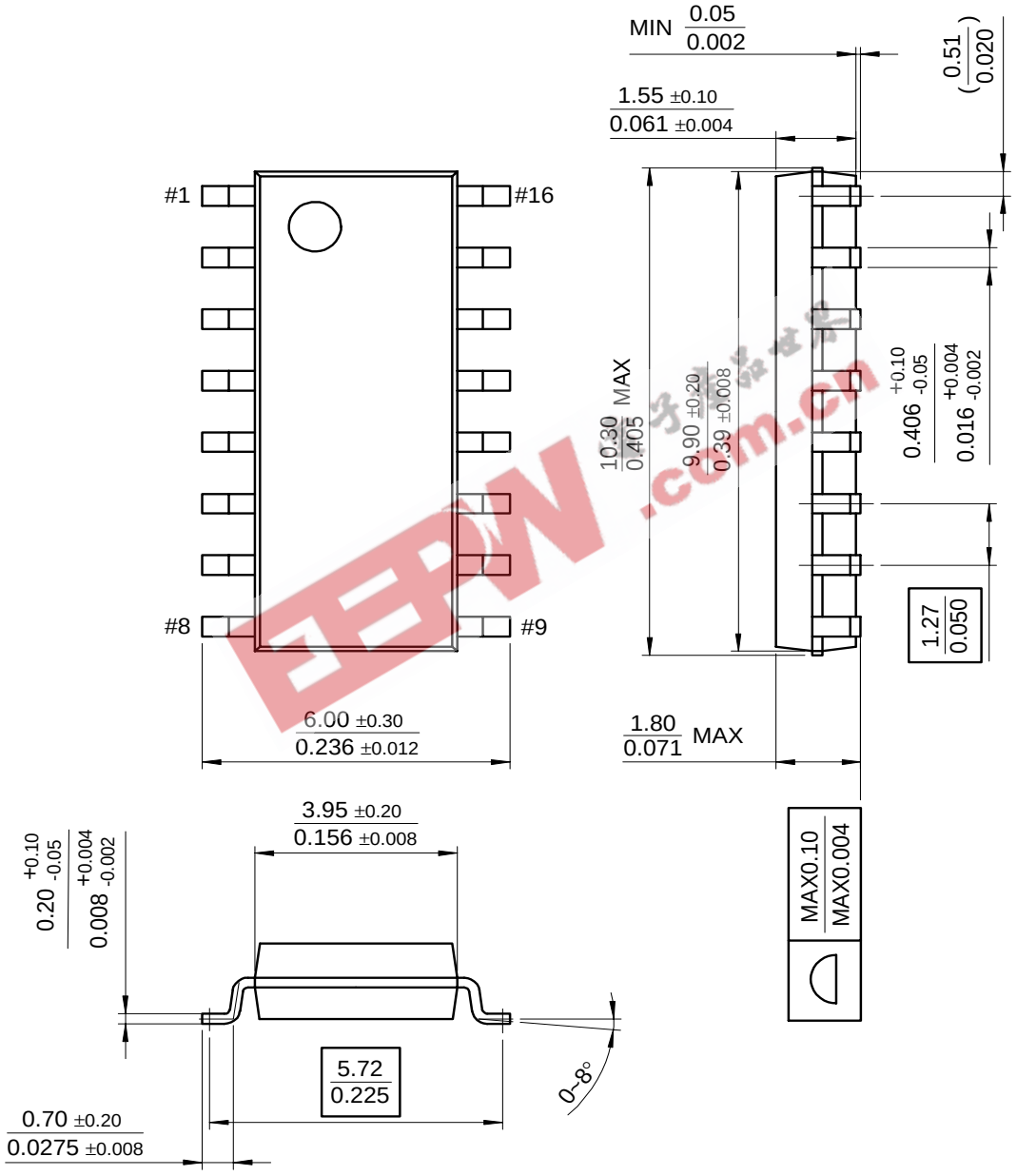


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

16-SOP



Ordering Information

Product Number	Package	Operating Temperature
KA558B	16-DIP	0 ~ + 70°C
KA558BD	16-SOP	
KA558D2		

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