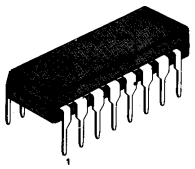
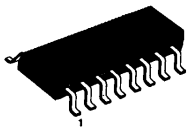
QUAD TIMER

The KA558B/I 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.

16DIP



16SOP



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

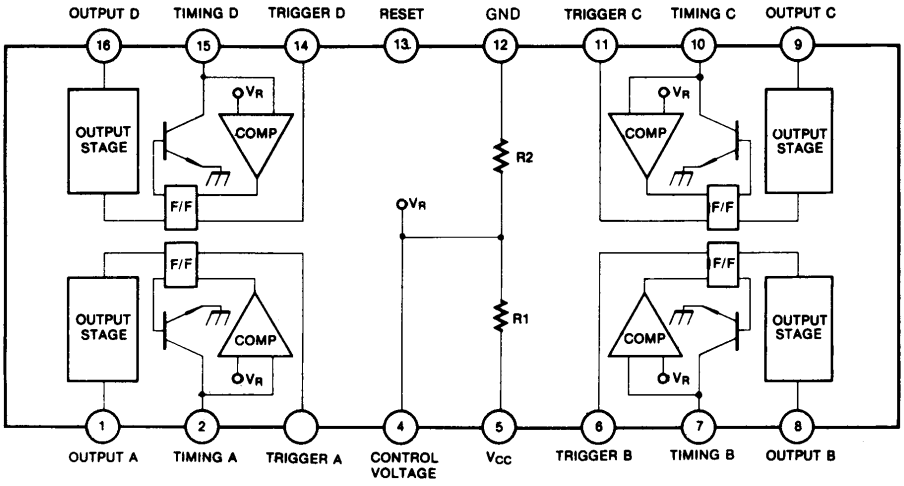
APPLICATIONS

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

ORDERING INFORMATION

Device	Package	Operating Temperature
KA558B	16 DIP	0 ~ + 70℃
KA558BI	16 DIP	- 40 ~ + 85℃
KA558D	16 - SOP - 225	0 ~ + 70℃
KA558DI	16 - SOP - 300	0 ~ + 70℃

BLOCK DIAGRAM



FAIRCHILD SEMICONDUCTOR™

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 KA558B	T_{OPR}	0 ~ + 70	℃
KA558B/I		-40 ~ + 85	℃
Storage Temperature Range	T_{STG}	-65 ~ + 150	℃

ELECTRICAL CHARACTERISTICS

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

Characteristic	Symbol	Test 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	ACCUR	R = 2KΩ to 100KΩ , C =1μ F		± 2	5	%
Drift with Temperature	Δ t/Δ T			30	150	PPM/℃
Drift with Supply Voltage	Δ t/Δ V_{CC}			0.1	0.9	%/V
[1]Trigger Voltage	V_{TR}	V_{CC} = 15V		1.5	2.4	V
[1]Trigger Current	I_{TR}	Trigger voltage = 0V		5.0	100	μ A
[2]Reset Voltage	V_{RST}	Reset	0.8	1.5	2.4	V
[2]Reset Current	I_{RST}	Reset		50	500	μ A
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		μ S
Rise Time	t_R	I_L = 100mA		100		nS
Fall Time	t_F	I_L = 100mA		100		nS

NOTES: 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.

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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