

TIMER

The KIA555P/F monolithic circuit is a highly stable device as producing accurate time delay or timing pulse. Additional terminals are provided for triggering or resetting, if desired. In the time delay or monostable mode of operation, the time is precisely controlled by one external resistor and capacitor. In the astable mode of operation, the frequency and duty cycle are accurately and independently controlled with two external resistors and one capacitor.

The circuit of the KIA555P/F may be triggered and reset on falling waveforms, and the output structure and source and sink up to 200mA or drive TTL circuit. Operation is specified for supplies of 5 to 15 volts.

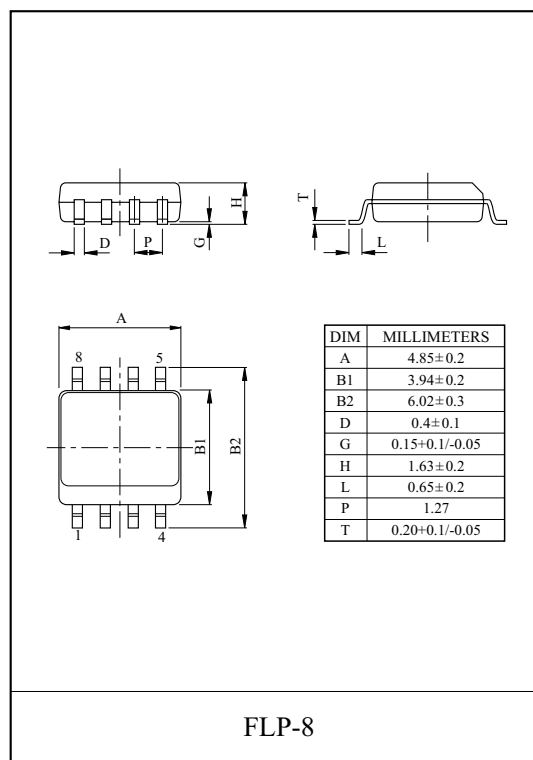
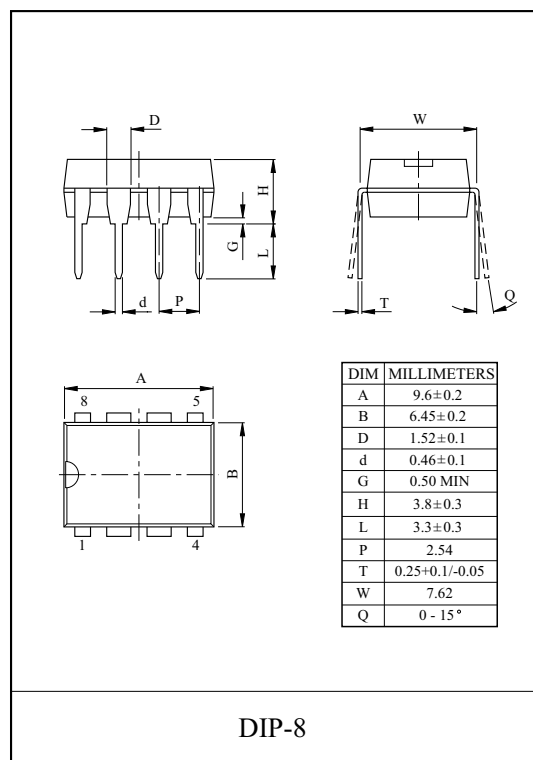
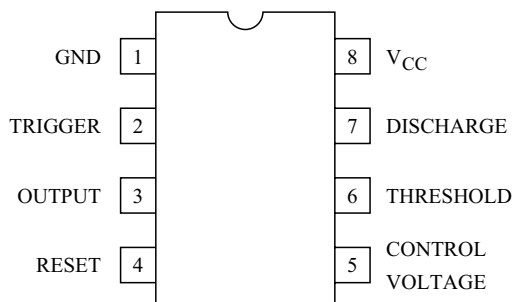
FEATURES

- Timing From Microseconds Through Hours.
- Operates in Both Astable and Monostable Modes.
- Output Can Source or Sink 200mA.
- Output TTL Compatible.
- Temperature Stability of 0.005%/°C(Typ.).
- Normally On or Normally Off Output.

MAXIMUM RATINGS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	18	V
Power Dissipation	KIA555P	P_D	600	mW
	KIA555F		240	
Operating Temperature		T_{opr}	-30 ~ 75	°C
Storage Temperature		T_{stg}	-55 ~ 125	°C

PIN CONNECTION (TOP VIEW)



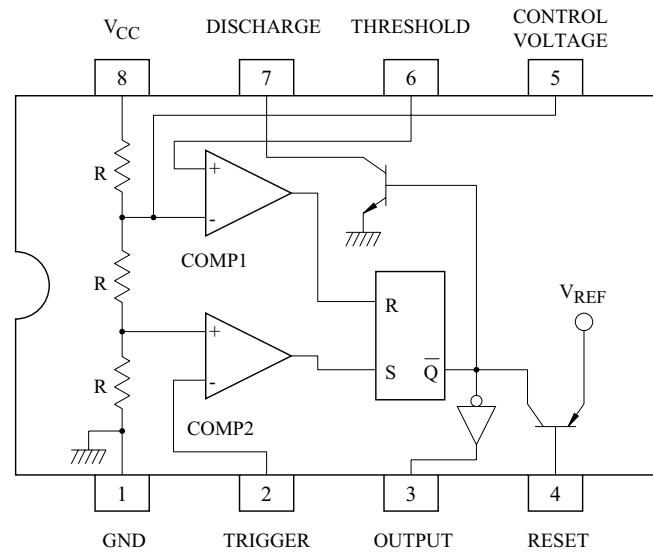
KIA555P/F

ELECTRICAL CHARACTERISTICS ($V_{CC}=5V\sim 15V$, $T_a=25\text{ }^{\circ}C$)

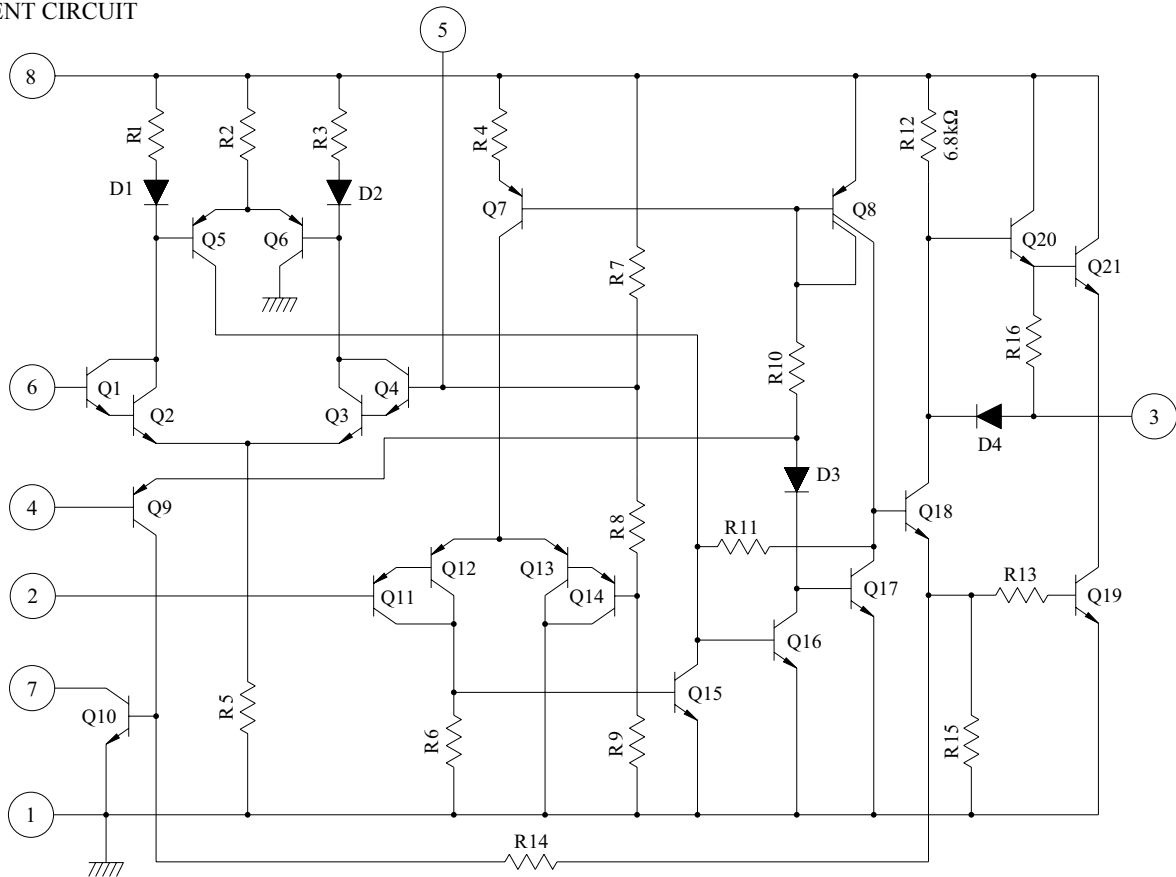
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Supply Voltage	V _{CC}	-	-		4.5	-	16	V
Supply Current	I _{CC}	-	V _{CC} =5V, R _L =∞, Low State		-	3	6	mA
			V _{CC} =15V, R _L =∞, Low State		-	10	15	
Control Voltage	V _{CT}	-	V _{CC} =5V		2.6	3.33	4	V
			V _{CC} =15V		9	10	11	
Threshold Voltage	V _{TH}	-	-		-	(2/3) V _{CC}	-	V
Threshold Current	I _{TH}	-	V _{CC} =5V, 15V		-	0.1	0.25	μA
Trigger Voltage	V _{TG}	-	V _{CC} =5V		-	1.67	-	V
			V _{CC} =15V		-	5	-	
Trigger Current	I _{TG}	-	-		-	0.5	-	μA
Reset Voltage	V _{RT}	-	-		0.4	0.7	1.0	V
Reset Current	I _{RT}	-	-		-	0.1	-	mA
Initial Accuracy	-	-	MONOSTABLE MODE R _A ,R _B =1k Ω ~ 100k Ω C=0.1μF, V _{CC} =15V		-	1	-	%
Drift with Temperature					-	50	-	ppm/ °C
Drift with Supply Voltage					-	0.1	-	%/V
Output Voltage ("L" Level)	V _{OL}	-	V _{CC} =15V	I _{sink} =10mA	-	0.1	0.25	V
				I _{sink} =50mA	-	0.4	0.75	
				I _{sink} =100mA	-	2	2.5	
				I _{sink} =200mA	-	2.5	-	
			V _{CC} =5V	I _{sink} =5mA	-	0.25	0.35	
				I _{sink} =8mA	-	-	-	
Output Voltage ("H" Level)	V _{OH}	-	V _{CC} =15V	I _{source} =100mA	12.75	13.3	-	V
				I _{source} =200mA	-	12.5	-	
			V _{CC} =5V	I _{source} =100mA	2.75	3.3	-	
Rise Time	T _r	-	-		-	100	-	nS
Fall Time	T _f	-			-	100	-	nS

KIA555P/F

BLOCK DIAGRAM



EQUIVALENT CIRCUIT



- APPLICATION ;
- DC-DC CONVERTER
 - LINEAR RAMP GENERATOR
 - PULSE GENERATOR
 - PRECISION TIMING
 - SEQUENTIAL TIMING
 - TIMING DELAY GENERATION
 - PULSE WIDTH MODULATION
 - PULSE