

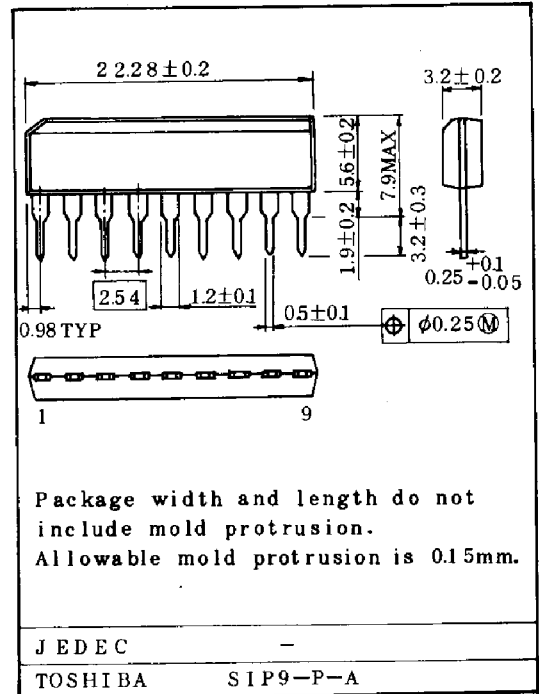
# TC5081AP

TENTATIVE

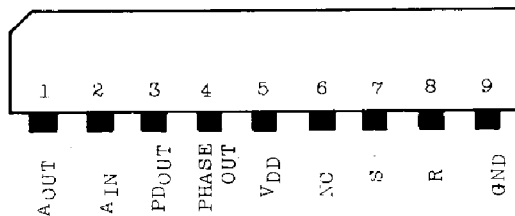
## PHASE COMPARATOR

The TC5081AP consists of a digital phase comparator and an amplifier. Three state output connected to low pass filter (using an internal amplifier) will produce DC voltage to control a VCO.

Low state pulses appear on phase out as long as the loop is unlocked and these can be utilized as lock indicator.



## PIN CONNECTION



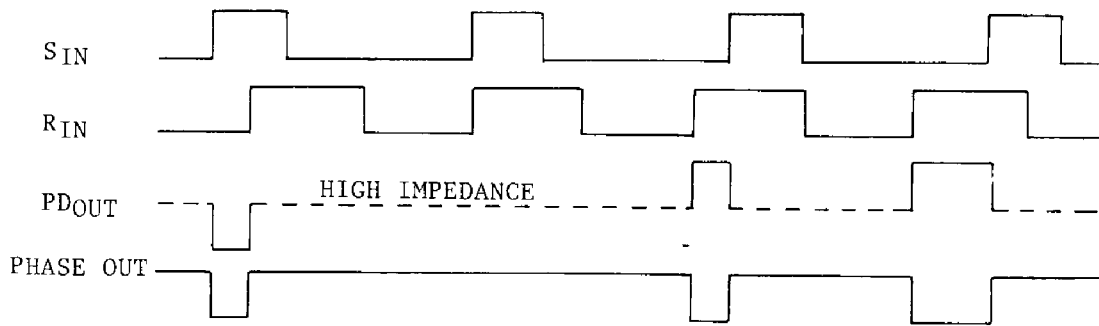
## MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>DD</sub>	10	V
Input Voltage	V <sub>IN</sub>	-0.3~V <sub>DD</sub> +0.3	V
Operating Temperature	T <sub>opr</sub>	-30~75	°C
Storage Temperature	T <sub>stg</sub>	-55~125	°C

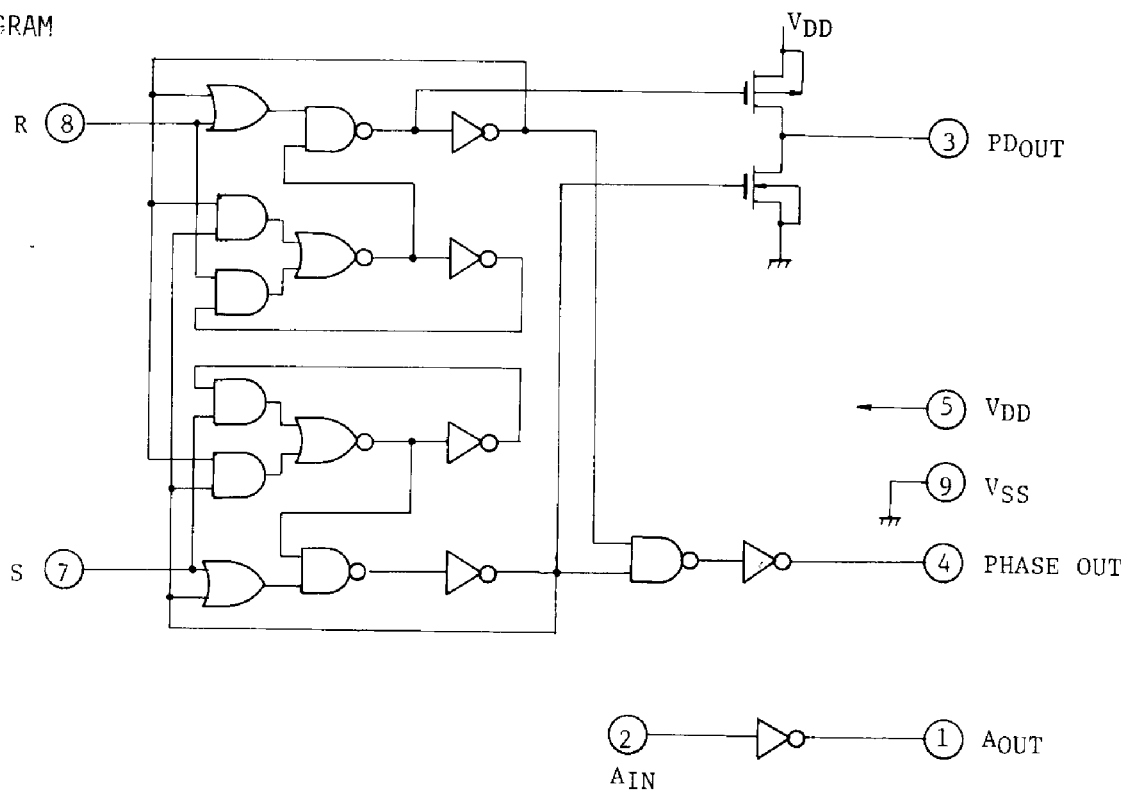
TOSHIBA CORPORATION

# TC5081AP

## PHASE COMPARATOR TIMING CHART



## LOGIC DIAGRAM

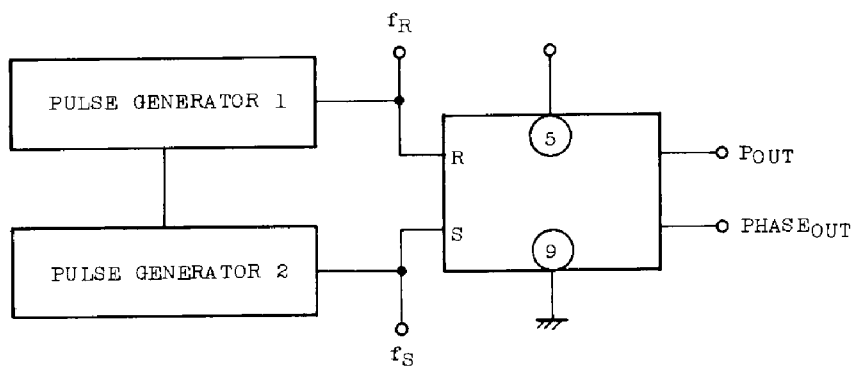


ELECTRICAL CHARACTERISTICS (Ta=-35 ~ 75°C)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Supply Voltage		V <sub>DD</sub>		-	4.5	-	8.0	V
Output Voltage	"H" Level	V <sub>OH</sub>		V <sub>DD</sub> =7.5V, V <sub>IL</sub> =1.6V V <sub>IH</sub> =6.6V, I <sub>OH</sub> =-50μA	7.3	-	-	V
	"L" Level	V <sub>OL</sub>		V <sub>DD</sub> =7.5V, V <sub>IL</sub> =1.6V V <sub>IH</sub> =6.6V, I <sub>OL</sub> =50μA	-	-	0.2	V
Quiescent Current		I <sub>DD</sub>		V <sub>DD</sub> =7.5V, V <sub>IH</sub> =7.5V V <sub>IL</sub> =0V	-	-	200	μA
3 State Leak Current		I <sub>TLH</sub>		V <sub>DD</sub> =7.5V	-	-	500	nA
		I <sub>TLL</sub>		V <sub>DD</sub> =7.5V	-	-	-500	nA
Filter Amp. Voltage Gain		A <sub>v</sub>		V <sub>DD</sub> =7.5V, R <sub>1-2</sub> =1MΩ, f <sub>IN</sub> =1kHz R <sub>g</sub> =600Ω	-	30	-	dB

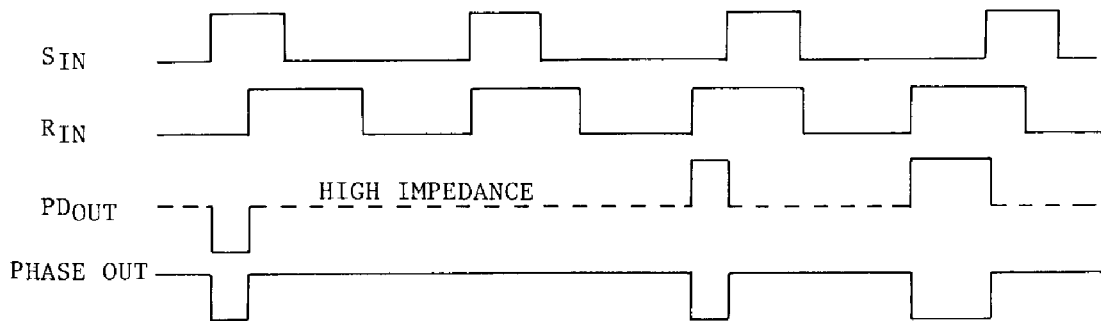
TEST CIRCUIT

V<sub>DD</sub> VS T<sub>w</sub> MIN



# TC5081AP

## PHASE COMPARATOR TIMING CHART



## LOGIC DIAGRAM

