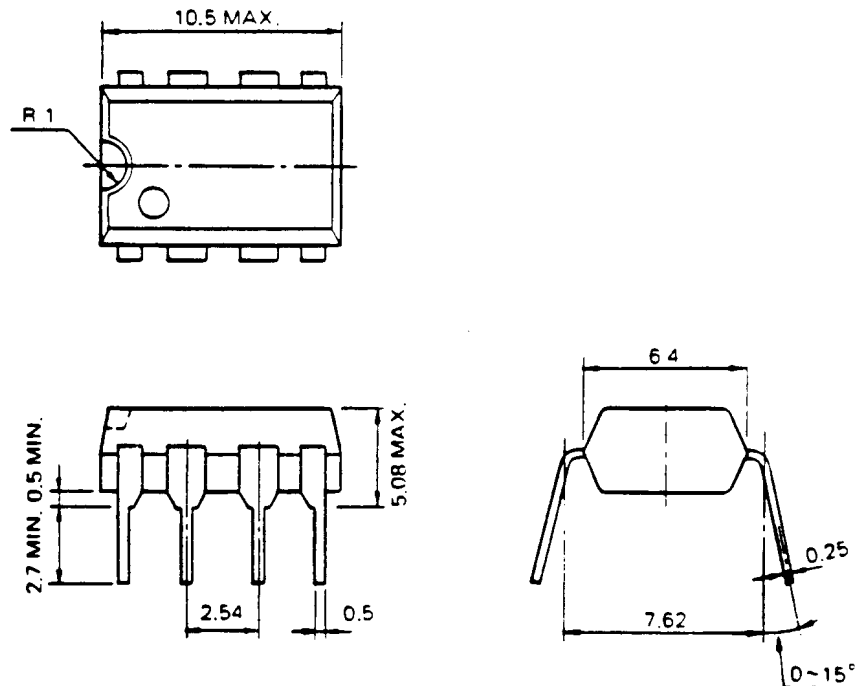


NEC[®]**150 MHz DIVIDE-BY-16/17
LOW POWER PRESCALER****UPB556C****DESCRIPTION**

The μ PB556C is a VHF two-modulus prescaler intended for use in PLL Digital Tuning Systems in conjunction with μ PD1700 series. Advanced bipolar process technology is utilized to realize high frequency operation with extremely low power consumptions. The device provides $\div 16$ and $\div 17$ division ratio for NEC's original pulse swallowing method, and is guaranteed to operate up to 130 MHz over the -35°C to $+75^{\circ}\text{C}$ temperature range with a V_{CC} variation from $+2.55\text{ V}$ ~ $+4.5\text{ V}$. An included amplifier allows it to be operated with small amplitude signal of 150 mVp-p.

FEATURES

- High frequency operation: 150 MHz ($\div 16$)
130 MHz ($\div 17$)
- NEC's original pulse swallowing operation: $\div 16/\div 17$
- Small input amplitude: $V_{in} = 150\text{ m Vp-p}$ (MIN.)
- Single supply voltage: $V_{CC} = 2.55\text{ V}$ ~ 4.5 V
- Low supply current: $I_{CC} = 9.4\text{ mA}$ (TYP.)
- Incorporated buffer amplifier: $V_O = 1.2\text{ Vp-p}$ (TYP.)
- Small package: 8 pin plastic dual in-line package (DIP)

PACKAGE DIMENSIONS (Unit: mm)

ABSOLUTE MAXIMUM RATINGS

Supply Voltage	V_{CC}	-0.5 to 6.0	V
Input Voltage	V_i	-0.5 to V_{CC}	V
Output Current	I_O	10	mA
Junction Temperature	T_j	+125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^{\circ}\text{C}$

RECOMMENDED OPERATING CONDITIONS

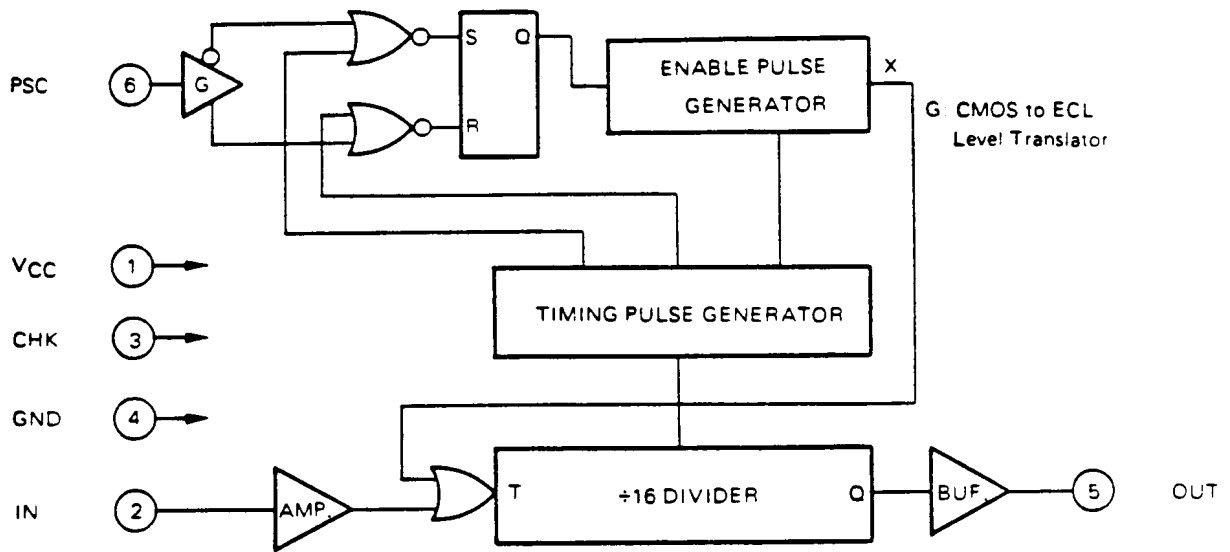
Supply Voltage Range	V_{CC}	2.55 to 4.5	V
Ambient Temperature	T_a	-35 to +75	$^{\circ}\text{C}$
Output Load Capacitance	C_L	less than 10 pF	

ELECTRICAL CHARACTERISTICS ($V_{CC} = 2.55 \sim 4.5 \text{ V}$, $T_a = -35 \text{ to } +75 \text{ }^{\circ}\text{C}$)

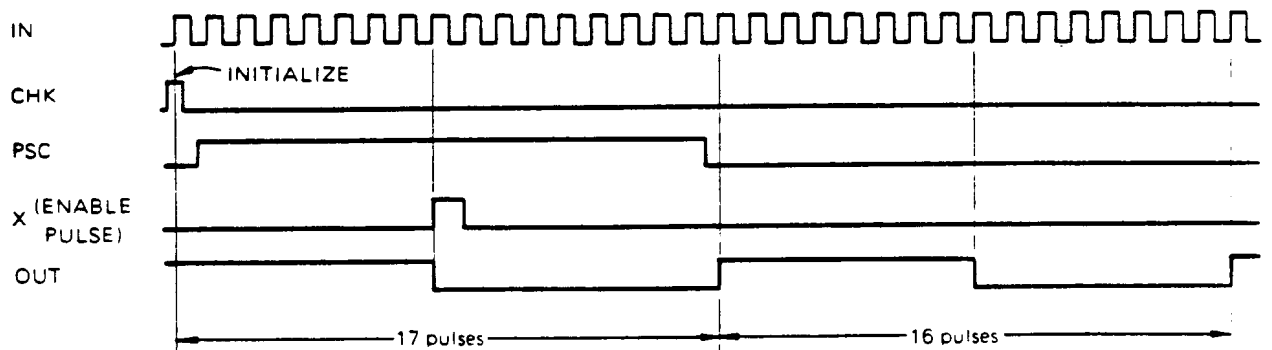
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Power Supply Current	I_{CC}		9.4		mA	$V_{CC} = 5.0 \text{ V}$
Power Consumption	P_C		28		mW	$T_a = 25 \text{ }^{\circ}\text{C}$
Frequency Response	f_{in}	1.0		150	MHz	$V_{in} \geq 0.15 \text{ V}_{p-p}$, $\div 16$
Frequency Response	f_{in}	1.0		130	MHz	$V_{in} \geq 0.15 \text{ V}_{p-p}$, $\div 17$
Output Voltage	V_O	0.9	1.2		V _{p-p}	OUT terminal
Input Voltage	V_{in}	0.15		2.0	V _{p-p}	IN terminal
High Level Input Voltage	V_{IH}	$0.8V_{CC}$			V	PSC terminal
Low Level Input Voltage	V_{IL}			$0.2V_{CC}$	V	PSC terminal

Note: CHK terminal should be connected to GND.

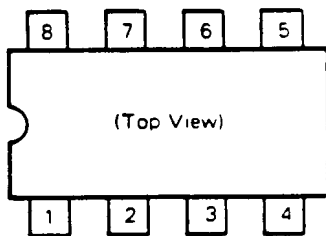
BLOCK DIAGRAM (Top View)



TIMING CHART



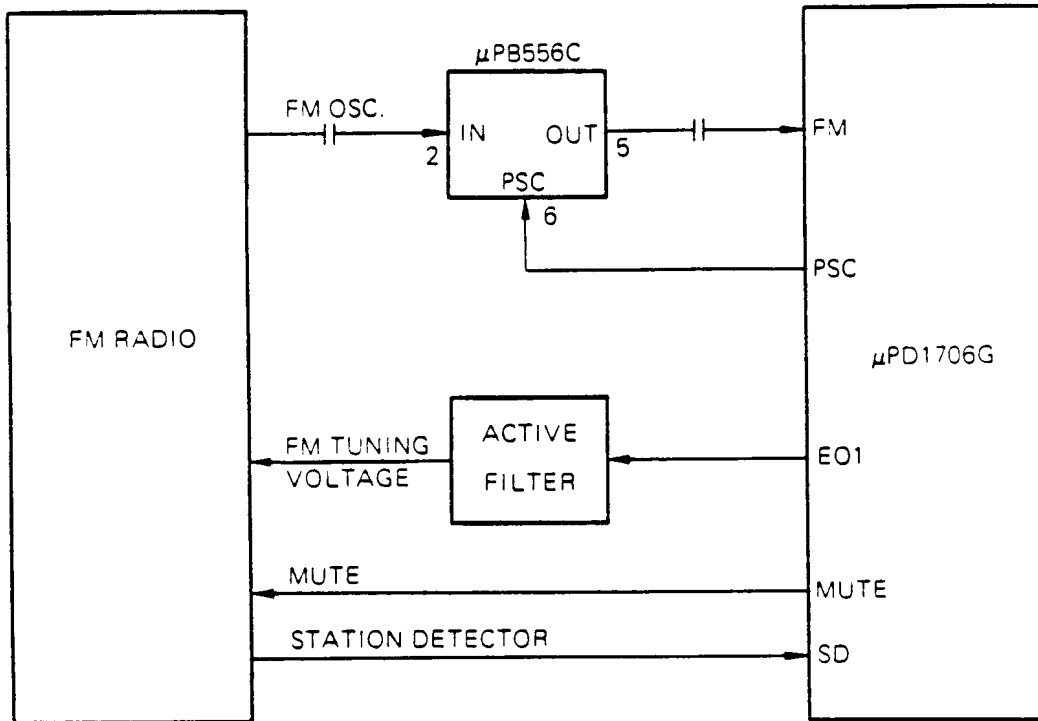
CONNECTION DIAGRAM



Pin Number	Symbol	Function
1	VCC	Power Supply (VCC)
2	IN	Signal Input
3	CHK	Check (Connect to GND)
4	GND	GND
5	OUT	Output
6	PSC	Division Ratio Control*
7	NC	No Connection
8	NC	No Connection

*: When PSC terminal fixed high or low level, the μ PB556C functions as a $\div 16$ prescaler.

APPLICATION



EXCLUSIVE AGENT FOR NEC Corporation RF & MICROWAVE SEMICONDUCTOR PRODUCTS—U.S. & CANADA

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