

Product Preview

1.3GHz Prescaler

The MC12066 is a selectable divide by 64/256 prescaler. Typical frequency synthesis applications include electronically tuned TV/CATV and communication systems as well as instrumentation.

The MC12066 is pin and functionally compatible to the Plessey SP4666, but with significantly lower power consumption.

An internal preamplifier is included which isolates the differential inputs and provides gain for the input signal. Differential PECL outputs are provided.

The MC12066 contains an internal low pass filter to reduce harmonic content to a low level. The output buffer has special pulse shaping circuitry to minimize the harmonic content.

- 1.3GHz Toggle Frequency
- Operating Supply Voltage of 4.5 to 5.5V
- Low-Power 10mA Typical at $V_{CC} = 5.0V$
- High Input Sensitivity, 5mV_{rms} at $V_{CC} = 5.0 \pm 10\%$, $T_A = -40^\circ C$ to $+85^\circ C$
- 800mV Minimum Peak-to-Peak Output Swing
- Differential PECL Outputs

TRUTH TABLE

SEL	Prescaler
L	256
H	64

MAXIMUM RATINGS

Symbol	Characteristic	Range	Unit
V_{CC}	Power Supply Voltage	7.0	Vdc
T_A	Operating Temperature Range	-40 to +85	$^\circ C$
T_{stg}	Storage Temperature Range	-65 to +175	$^\circ C$

ELECTRICAL CHARACTERISTICS ($V_{CC} = 4.5$ to $5.5V$; $T_A = -40$ to $+85^\circ C$)

Symbol	Characteristic	Min	Typ*	Max	Unit
f_{max}^1 f_{min}	Toggle Frequency (Sine Wave Input)	1.3	1.6	50	GHz MHz
I_{CC}	Supply Current at 5.5V		10		mA
V_{out}	Output Voltage (Load = 12pF)	0.8	1.2		V _{pp}
$V_{in min}$	Input Voltage Sensitivity 50-200MHz 200-1050MHz 1050-1300MHz		2.5 0.5 2.5	10 5 10	mV _{rms}
$V_{in max}$	Input Overload	200	400		mV _{rms}

* Typical measured at $+25^\circ C$, 5.0V

1. See Figure 1

This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

MC12066

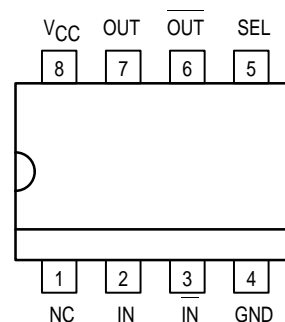
MECL PLL COMPONENTS

$\div 64/256$
PRESCALER

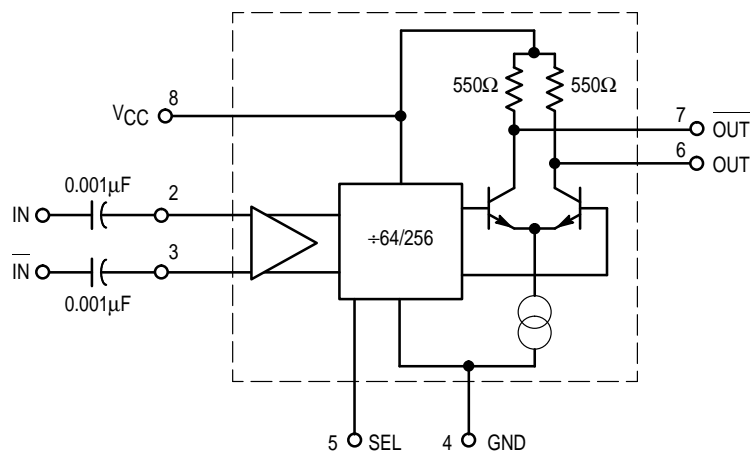


D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751-05

Pinout: 8-Lead Plastic (Top View)

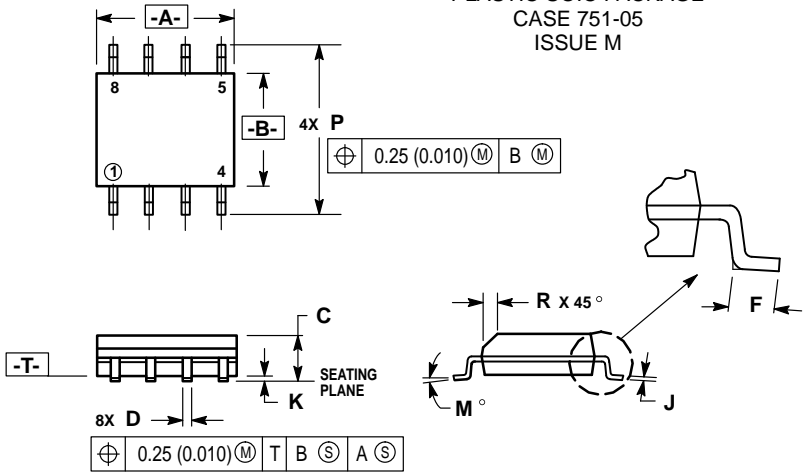


PRESCALER BLOCK DIAGRAM




OUTLINE DIMENSIONS

D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751-05
ISSUE M



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.
 3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
 4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
 5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC		0.050 BSC	
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.009
M	0°	7°	0°	7°
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

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