



225 MHz Prescaler

The MC12023 is a prescaler which will divide by 64. This device may be operated over a supply voltage range of 3.2 to 5.5 V.

- 225 MHz Toggle Frequency
- Low-Power 4.8 mA Maximum at 5.5 V
- Operating Supply Voltage of 3.2 to 5.5 V
- Connecting Pins 2 and 3 Allows Driving One TTL Load

MAXIMUM RATINGS

Characteristic	Symbol	Range	Unit
Power Supply Voltage	V_{CC}	0 to 8.0	Vdc
Operating Temperature Range	T_A	0 to 70	°C
Storage Temperature Range	T_{stg}	-65 to 175	°C

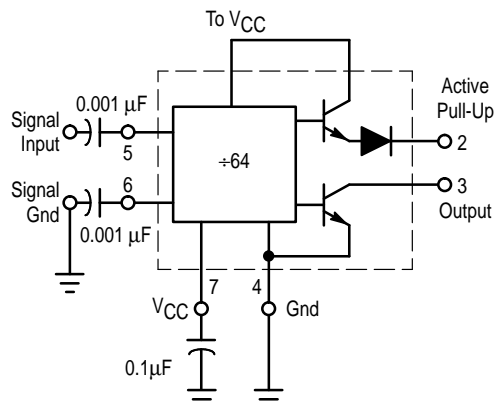
NOTE: ESD data available upon request.

ELECTRICAL CHARACTERISTICS ($V_{CC} = 3.2$ to $5.5V$; $T_A = 0$ to $+70^\circ C$)

Characteristic	Symbol	Min	Typ	Max	Unit
Toggle Frequency (Sine Wave Input)	f_{max} f_{min}	225 -	- -	- 35	MHz
Supply Current at 5.5 V	I_{CC}	-	3.50 ³	4.8	mA
Output Voltage HIGH ¹ ($V_{CC} = 3.2 V$) ²	V_{OH}	1.2	1.4	-	V
Output Voltage HIGH ¹ ($V_{CC} = 5.0 V$) ²	V_{OH}	2.5	-	-	V
Output Voltage LOW ¹ ($I_{sink} = 2.0 mA$)	V_{OL}	-	-	0.5	V
Input Voltage Sensitivity 35 MHz 50-225 MHz	V_{in}	400 200	- -	800 800	mV _{PP}

NOTES: 1. Pin 2 connected to Pin 3
2. $I_{source} = 50 \mu A$
3. $V_{CC} = 4.5 V$

Figure 1. Prescaler Block Diagram



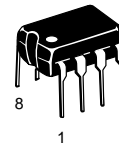
MC12023

MECL PLL COMPONENTS ÷64 PRESCALER

SEMICONDUCTOR TECHNICAL DATA

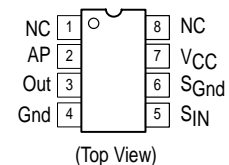


D SUFFIX
PLASTIC PACKAGE
CASE 751
(SO-8)



P SUFFIX
PLASTIC PACKAGE
CASE 626

PIN CONNECTIONS



ORDERING INFORMATION

Device	Operating Temperature Range	Package
MC12023D	$T_A = 0^\circ$ to $70^\circ C$	SO-8
MC12023P		Plastic

MC12023

OUTLINE DIMENSIONS

P SUFFIX
PLASTIC PACKAGE
CASE 626-05
ISSUE K

NOTE 2: (points to lead profile)

SEATING PLANE

NOTES:

- DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
- PACKAGE CONTOUR OPTIONAL (ROUND OR SQUARE CORNERS).
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.40	10.16	0.370	0.400
B	6.10	6.60	0.240	0.260
C	3.94	4.45	0.155	0.175
D	0.38	0.51	0.015	0.020
F	1.02	1.78	0.040	0.070
G	2.54 BSC		0.100 BSC	
H	0.76	1.27	0.030	0.050
J	0.20	0.30	0.008	0.012
K	2.92	3.43	0.115	0.135
L	7.62 BSC		0.300 BSC	
M	—	10°	—	10°
N	0.76	1.01	0.030	0.040

$\oplus \text{ } \varnothing 0.13 (0.005) \text{ (M) T A (M) B (M)}$

D SUFFIX
PLASTIC PACKAGE
CASE 751-06
(SO-8)
ISSUE T

NOTES:

- DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
- DIMENSIONS ARE IN MILLIMETER.
- DIMENSION D AND E DO NOT INCLUDE MOLD PROTRUSION.
- MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.
- DIMENSION B DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 TOTAL IN EXCESS OF THE B DIMENSION AT MAXIMUM MATERIAL CONDITION.

DIM	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.35	0.49
C	0.19	0.25
D	4.80	5.00
E	3.80	4.00
e	1.27 BSC	
H	5.80	6.20
h	0.25	0.50
L	0.40	1.25
θ	0°	7°

$\oplus 0.25 \text{ (M) C B (S) A (S)}$

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