520MHz Dual Modulus Prescaler

The MC12025 is a dual modulus prescaler which divides by 64 and 65. Supply voltages of 4.75 to 5.25V may be connected to Pin 8.

- 520MHz Toggle Frequency
- Low-Power 9.5mA Typical
- Control Input Is Compatible WIth Standard CMOS and TTL
- Operating Supply Voltage of 5.0V ±0.25V
- Propagation Delay 30ns Typical

MAXIMUM RATINGS

Symbol	Characteristic	Range	Unit
Vcc	Power Supply Voltage, Pin 8	-0.5 to 7.0	Vdc
T _A	Operating Temperature Range	-40 to +85	°C
T _{stg}	Storage Temperature Range	-65 to +175	°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 4.75 \text{ to } 5.25V; T_A = -40 \text{ to } +85^{\circ}\text{C}$)

		100 0)			
Symbol	Characteristic	Min	Тур	Max	Unit
f _{max} f _{min}	Toggle Frequency (Sine Wave Input)	520		30	MHz
Icc	Supply Current		9.5	13.5	mA
VIH	Control Input HIGH (÷64)	2.0			V
V _{IH}	Control Input LOW (÷65)			0.8	V
V _{out}	Output Voltage	8.0	1.2		VPP
V _{in}	Input Voltage Sensitivity 30MHz 100–520MHz	400 100		800 800	mVPP
tPLL	PLL Response Time1			t _{out} -42 2	ns

^{1.} tp_L = The period of time the PLL has from the rising output transition to the Modulus Control input edge transition to ensure proper modulus selection

2. t_{out} = Period of output waveform

PRESCALER BLOCK DIAGRAM VCC O Modulus 1 Control O Input Signal Input 0.001µF 6 Output 4 GND

MC12025

MECL PLL COMPONENTS

÷64/65
DUAL MODULUS
PRESCALER

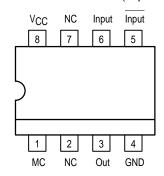


P SUFFIX 8-LEAD PLASTIC PACKAGE CASE 626-05



D SUFFIX 8-LEAD PLASTIC SOIC PACKAGE CASE 751-05

Pinout: 8-Lead Plastic (Top View)

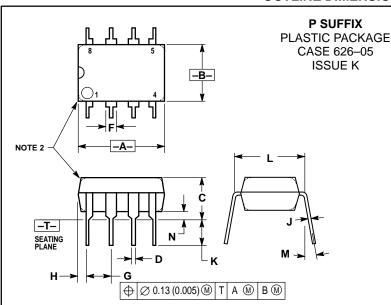




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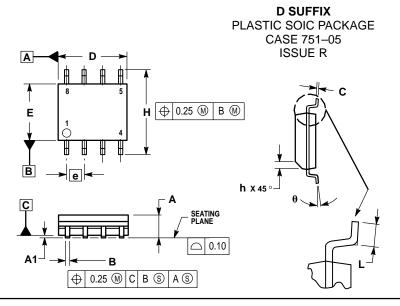
OUTLINE DIMENSIONS



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.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
Α	9.40	10.16	0.370	0.400
В	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
Η	0.76	1.27	0.030	0.050
7	0.20	0.30	0.008	0.012
K	2.92	3.43	0.115	0.135
L	7.62		0.300	BSC
М		10°		10°
N	0.76	1.01	0.030	0.040



NOTES:

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

	MILLIMETERS		
DIM	MIN	MAX	
Α	1.35	1.75	
A1	0.10	0.25	
В	0.35	0.49	
С	0.18	0.25	
D	4.80	5.00	
Е	3.80	4.00	
е	1.27 BSC		
Н	5.80	6.20	
h	0.25	0.50	
L	0.40	1.25	
θ	0°	7°	

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How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution; P.O. Box 5405; Denver, Colorado 80217. 303–675–2140 or 1–800–441–2447

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 602–244–6609 INTERNET: http://Design_NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, 6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 81–3–3521–8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park, 51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298



MC12025/D