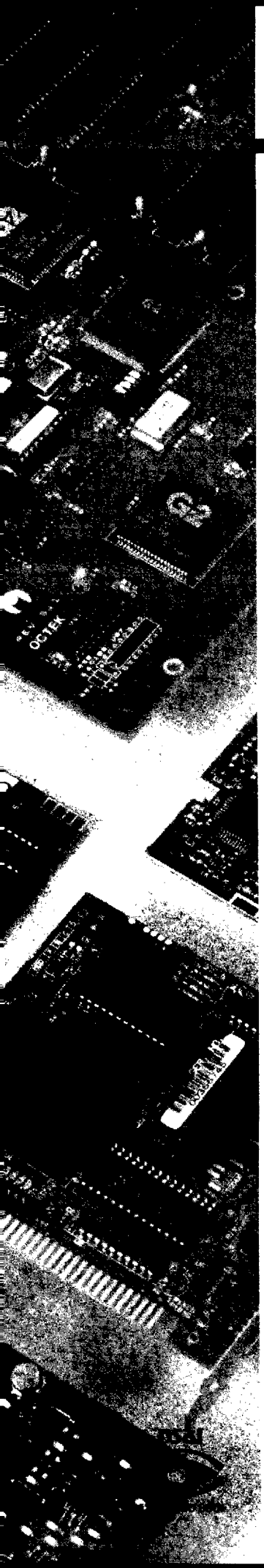

M102 Series

Master Clock Oscillators

Highly-stable, low-noise M102 Master Clock Oscillators are available in frequencies from 200MHz-1GHz, with on-board crystal references and complementary clock outputs featuring less than 3ps (RMS) typical jitter.

These high-performance, high-speed devices are designed specifically for today's most demanding applications, including network computing, ATE, base stations, and datacomm and telecomm transmission.

Packaged in small, 24-pin double-wide metal DIP packages, the M102 Series Master Clock Oscillators are available with either ECL or PECL output formats. These models operate from a single supply (+5V for PECL or -5V for ECL). Standard "K" models are specified for 0°C to +70°C operation. Extended temperature range "L" models are available for -25°C to +85°C operation.

Features:

- **200MHz to 1GHz Output Frequency**
- **Low 3ps Typical Phase Jitter**
- **10, 25, and 40ppm Stability Options**
- **ECL/PECL Differential Outputs**
- **Single Supply Operation**
- **24-pin DIP Package**
- **0°C to +70°C and -25°C to +85°C Operation**

For additional information regarding Custom Microelectronic Products and Services, please contact Micro Networks at:

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324 Clark St., Worcester, MA 01606
Tel. (508) 852-5400 • FAX (508) 853-8296
E-Mail – sales@mnc.com
Web Site – http://www.mnc.com

M102 Series

Master Clock Oscillators

Absolute Maximum Ratings

Operating Temperature Range	-25°C to +85°C
Specified Temperature Range	
M102X-XXXX.XXXX X K	0°C to +70°C
M102X-XXXX.XXXX X L	-25°C to +85°C
Storage Temperature Range	-55°C to +125°C
Supply M102E	-7.0 to 0 Volts
Supply M102P	0 to + 7.0 Volts

Ordering Information

Part Number **M102E890.0000AK**

Select device output format
Specify "E" for ECL output format or "P"
for PECL output format

Select device output frequency XXXX.XXXXMHz

Stability over temperature range:
"A" = 10ppm
"C" = 25ppm
"D" = 40ppm

Add "K" suffix for 0°C to +70°C operation
Add "L" suffix to "C" for "D" models
for -25°C to +85°C operation

Specifications

Specifications @ T_A=+25°C, Power Supply = nominal, unless otherwise indicated

	Min.	Typ.	Max.	Units
Output Frequency Range	200		1000	MHz
Frequency Stability over Temperature Range:				
M102X-XXXX.XXXX A X			±10	ppm
M102X-XXXX.XXXX C X			±25	ppm
M102X-XXXX.XXXX D X			±40	ppm
Symmetry (Note 1)	45/55	50/50	55/45	%
Rise/Fall Time: (20% to 80%)		100		psec
Output Configuration: M102E		Differential ECL		
M102P		Differential PECL		
Output Voltage: M102P		PECL Compatible		
M102E		ECL Compatible		
Output Drive			50	mA
Output Phase Jitter		3	5	psec (rms)
Power Supply Voltage: M102E	-4.5	-5.00	-5.5	Volts
M102P	+4.5	+5.00	+5.5	Volts
Power Supply Current: M102E		-95		mA
M102P		+95		mA

Notes: 1. Symmetry is measured at V_{BB}= -1.35V for M101E models and V_{BB}= V_{CC}-1.35V for M101P models.
2. The output is measured with a 50 Ohm termination resistor connected to -2V for M102E and +3V for M102P.

Specifications subject to change without notification as Micro Networks reserves the right to make improvements and changes in its products.

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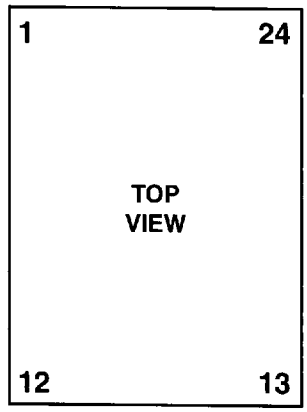
M102 Series

Master Clock Oscillators

Pin Designations

M102P Model

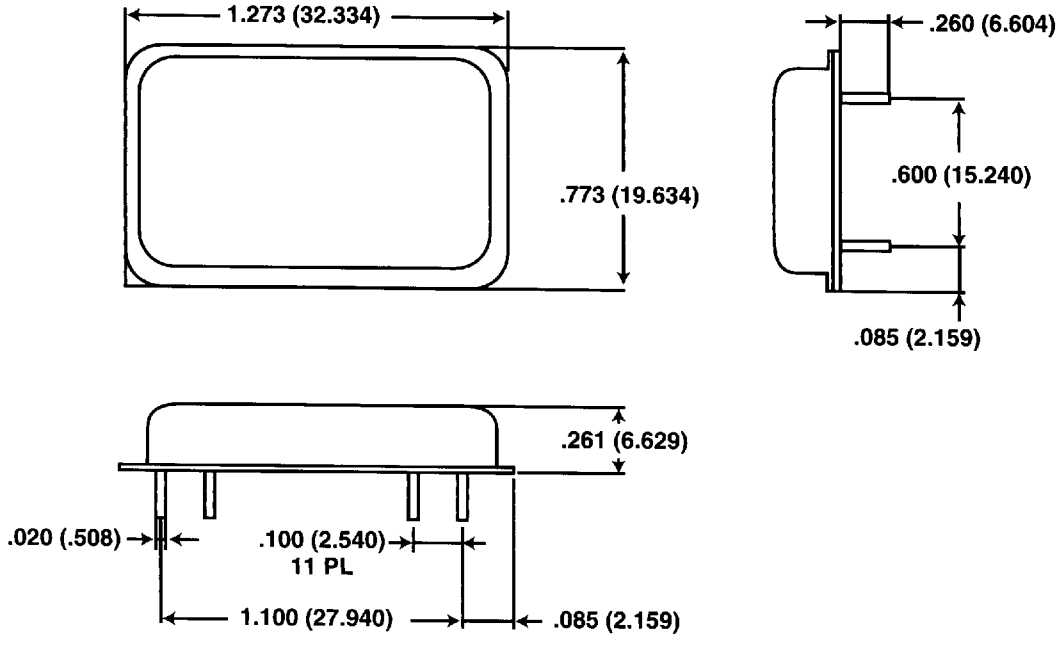
1. Ground	24. Ground
2. Ground	23. Ground
3. Ground	22. Ground
4. Ground	21. +5 Volts
5. +5 Volts	20. Ground
6. Ground	19. Test Point
7. +5 Volts	18. Ground
8. Ground	17. +5 Volts
9. +5 Volts	16. Ground
10. F Out $\overline{Q}$	15. Test Point
11. F Out Q	14. Ground
12. +5 Volts	13. +5 Volts



M102E Model

1. Ground	24. Ground
2. Ground	23. Ground
3. Ground	22. -5 Volts
4. -5 Volts	21. Ground
5. Ground	20. -5 Volts
6. -5 Volts	19. Test Point
7. Ground	18. -5 Volts
8. -5 Volts	17. Ground
9. Ground	16. -5 Volts
10. F Out $\overline{Q}$	15. Test Point
11. F Out Q	14. -5 Volts
12. Ground	13. Ground

Package Outline



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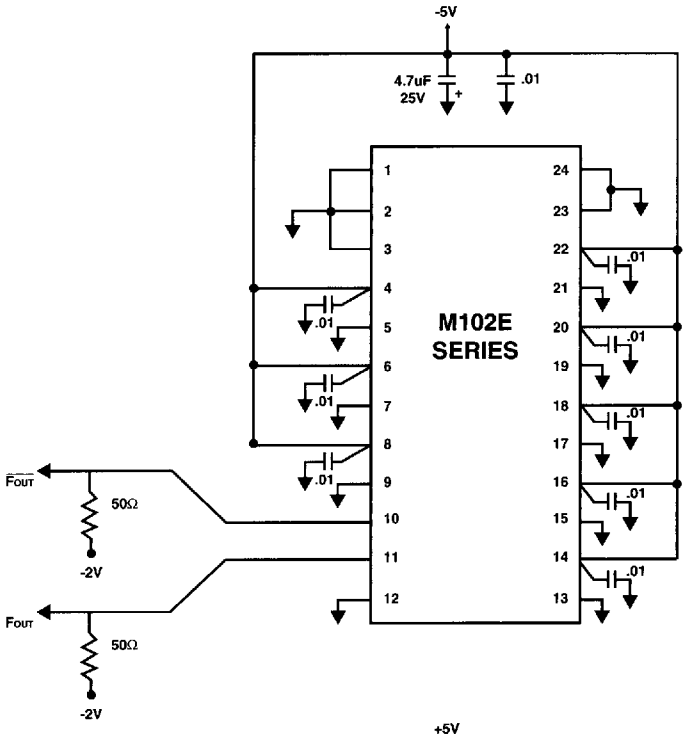
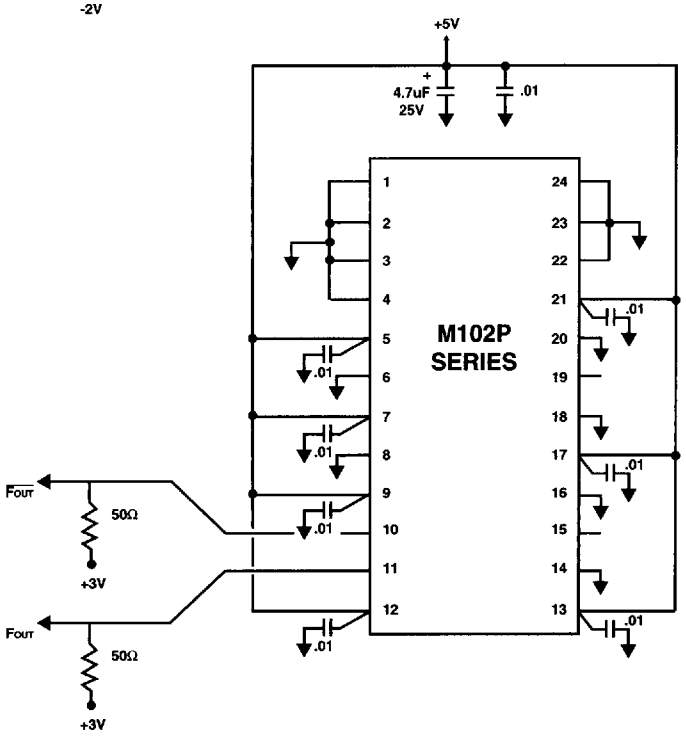
M102 Series

Master Clock Oscillators

Application Circuits





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