CRYSTAL OSCILLATORS
HCMOS 3.3V or 5.0V

5 x 3.2 mm Surface Mount
0º to 70ºC or -40º to +85ºC
HCMOS WITH TRISTATE, 500 KHz to 135 MHz

FEATURES
- Wide frequency range with 3.3 or 5V supply options
- High speed – Low jitter CMOS output with tristate
- Small SMD package – 5 x 3.2mm
- Extra low profile for slimline applications
- Stability options: 100, 50 or 25 ppm
- Commercial or industrial temperature range
- Rugged, hermetic package for automated assembly

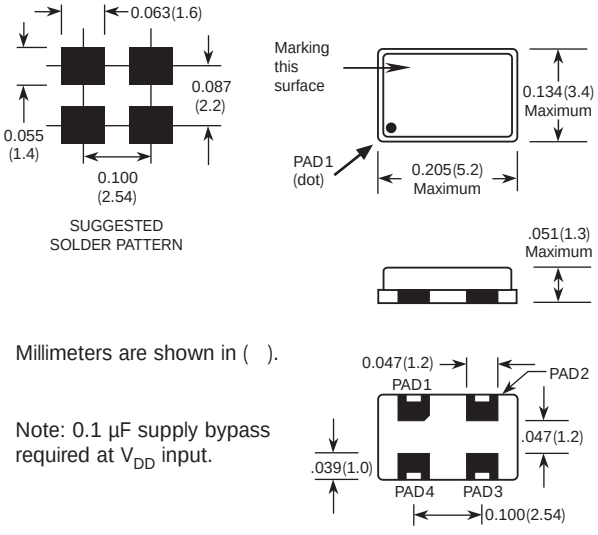
TYPICAL APPLICATIONS
- Telecom/networking systems that require low jitter clocks
  - DSL
  - Gigabit ethernet
  - Fibre Channel
  - Optical networking
- Mobile systems requiring small size
  - PDA
  - Wireless Lan
  - Notebook computer
  - PCMCIA
  - Memory modules

Description

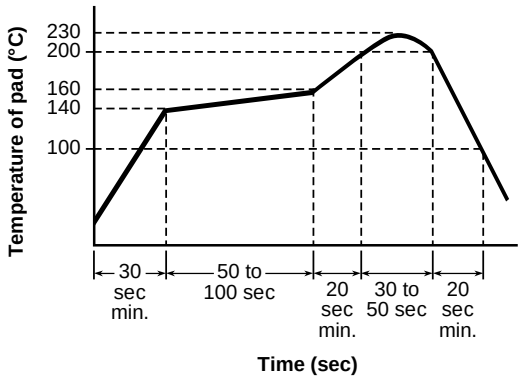
MF Electronics G-Series surface mount oscillators provide waveforms for clocking HCMOS and TTL circuits. The new 5 x 3.2 mm footprint package provides the performance of larger oscillators with a new level of board space reduction achieved. ASIC technology is used to accomplish size reduction and enhance performance and reliability. Extremely low jitter output signals are generated via the use of hi-Q fundamental or overtone miniature quartz resonators. Along with the extra low profile height, they are ideal for space critical portable or hand-held equipment, while their tight tolerance and low noise performance makes them also the ideal choice for high data rate telecom applications. The wide range of frequencies offered, many stability options, 5.0 or 3.3 volt supply, and industrial temperature range availability, make this model a workhorse for any application as well as a one-model solution to all of a system's different frequency generation needs. A tristate function is included to allow for easy automated testing of assemblies. Tape and reel packaging is standard.

CONNECTIONS

PAD 1	Tristate
PAD 2	Ground and Case
PAD 3	Output
PAD 4	+3.3V or +5V, V_{DD}



Outline



Recommended Reflow Soldering Profile

CRYSTAL OSCILLATORS
HCMOS 3.3V or 5.0V
5 x 3.2 mm Surface Mount
0º to 70º or -40º to +85ºC
TRISTATE, 500 KHz to 135 MHz

ELECTRICAL SPECIFICATIONS

Frequency Stability
Includes calibration at 25°C, operating temperature, change of input voltage, change of load, shock and vibration. 100, 50 or 25 ppm

Frequency Range 3.3V supply 500 KHz to 135 MHz; 5.0V supply 500 KHz to 100 MHz

Input Voltage, V_{DD} 3.3 ±10% or 5.0 ±10%

Output Levels (CMOS) 1 level: V_{DD}-0.4 min; '0' level: 0.40 max

Output Load 15pF typ, 30pF max

Jitter 8ps RMS max

Symmetry 45/55 percent @ 50% V_{DD}

Aging first year 3ppm/yr; after first year 1ppm/yr

	3.3V	5.0V	UNITS
Input Current (Max)			
0.5 – 9.999 MHz	7	10	mA
10 – 19.999 MHz	7	15	mA
20 – 31.999 MHz	12	25	mA
32 – 49.999 MHz	20	35	mA
50 – 79.999 MHz	25	50	mA
80 – 99.999 MHz	30	60	mA
100 – 135.0 MHz	40	80	mA
Rise and Fall Times (Max)			
0.5 – 31.99 MHz	10	10	ns
32 – 49.99 MHz	10	6	ns
50 – 79.99 MHz	8	5	ns
80 – 99.99 MHz	5	5	ns
100 – 135.0 MHz	4	4	ns

Input Requirements for Pin 1.:
"1": On – Pin 1 may float or 2.5V min
"0": Tristate – Pin 1 requires 0.4V max

ENVIRONMENTAL SPECIFICATIONS

Temperature
Operating: Commercial: 0º to 70°C, Industrial: -40º to +85ºC
Storage: -55º to +125°C

Shock – 1000 Gs, 0.35 ms, 1/2 sine wave, 3 shocks in each plane

Vibration – 10-2000 Hz of .06" d.a. or 10 Gs, whichever is less

Humidity – Resistant to 85° R.H. at 85°C

MECHANICAL SPECIFICATIONS

Leak – MIL STD 883, Method 1014, condition A1

Case – Ceramic with hermetic resistance-welded metal lid

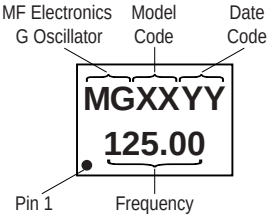
Pads – Solderable gold over nickel

Marking – Epoxy ink or laser engraved

Resistance to Solvents – MIL STD 202, Method 215

MARKING SPECIFICATION

The format for the marking is:



HOW TO ORDER

For Part Number, insert option codes after model type, and add frequency, for example:

G 3 A B 125 M

- 3 — Supply Voltage: 3=3.3 volts; 5=5.0 volts
- A — Frequency Stability: A = ±100 ppm; B = ±50 ppm; C = ±25 ppm
- B — Temperature Range of Operation: A = 0 to 70ºC; B = -40 to +85ºC
- 125 — Frequency
- M — M = MHz; K = KHz

SS#	Rev.
G model	A

MF ELECTRONICS

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