

### CO2016 SERIES: 2.0 x 1.6 mm CLOCK OSCILLATOR



#### ■ FEATURES

- ULTRA MINATURE PACKAGE
- ESSENTIAL IN HIGH DENSITY PCB
- LOW SUPPLY VOLTAGE 1.8 AND 2.5 VDC AVAILABLE
- STANDBY FUNCTION

#### ■ APPLICATIONS

- PRINTER SCANNER
- VGA CARD
- DVD
- DSC, DVC

#### ■ ELECTRICAL SPECIFICATION

PARAMETER		VALUE		
Frequency Range		1.5 ~ 50.000 MHz		
Operating Temperature Range		-10°C to +70°C		
Frequency Stability <sup>1</sup> **		±25 ppm, ±30 ppm, ±50 ppm, ±100 ppm		
Storage Temperature Range		-40°C to +85°C		
Supply Voltage (Vcc)		1.8V ±5%	2.5V ±5%	3.3V ±5%
Supply Current		2.5 mA max ~24 MHz 3.5 mA max ~40 MHz 4.5 mA max ~50MHz	3.0 mA max ~24 MHz 4.5 mA max ~40 MHz 5.0 mA max ~50 MHz	2.5 mA max ~24 MHz 3.5 mA max ~40 MHz 4.5 mA max ~50 MHz
Output CMOS	Symmetry	45% to 55% at 50% Vdd		
	Rise / Fall Time	10 nsec max at 10% to 90% Vdd		
	Logic "0" Level	Vcc x 0.1 V max		
	Logic "1" Level	Vcc x 0.9 V min		
	Load	15 pF max		
Enable / Disable Function		Pin 1: High or Open >> Output enabled Pin 3 Pin 1: Low >> Output disabled (High impedance)		

\*\* Inclusive of 25°C tolerance, operating temperature range, voltage or load changes, aging, shock and vibration, consult factory for tighter stability options.

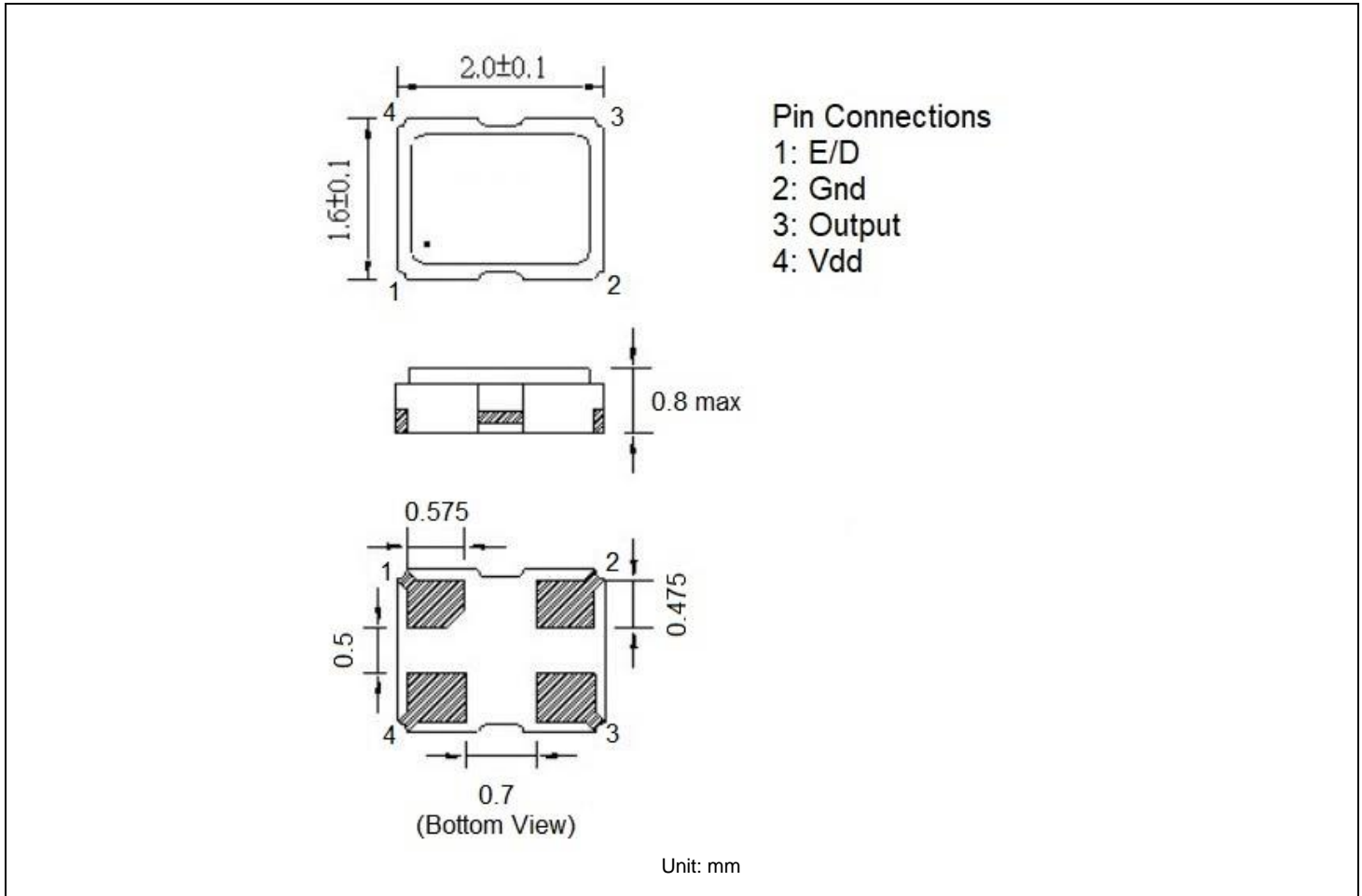
#### NOTES

<sup>1</sup> Not available at all frequencies, Contact Factory

<sup>2</sup> Check part numbering table below. For others contact factory.

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#### MECHANICAL SPECIFICATION (4 pin ceramic package)



#### PART NUMBERING SYSTEM

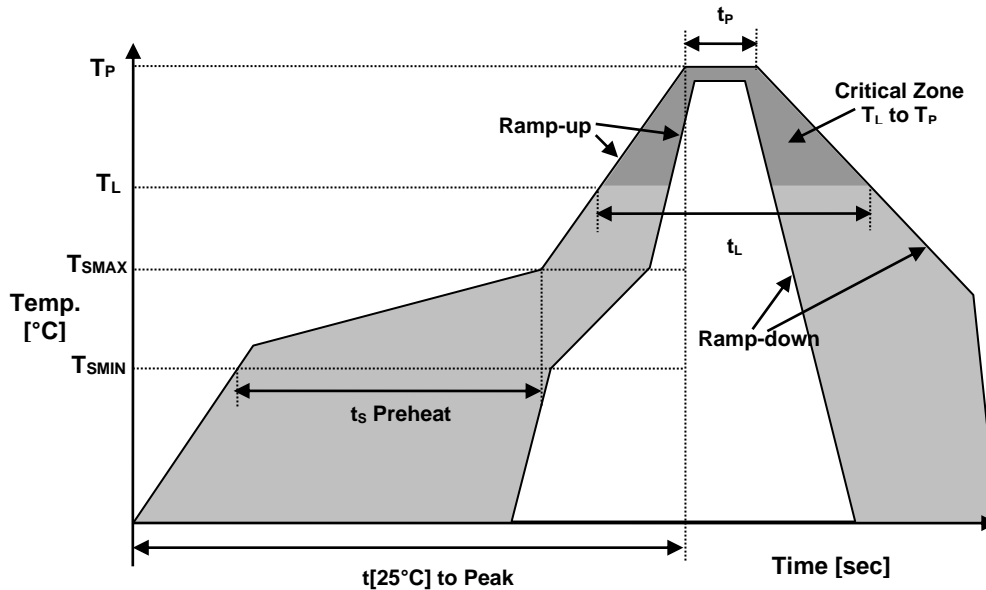
TYPE	SERIES	FREQUENCY (MHz)	SUPPLY VOLTAGE (Vcc)	STABILITY (PPM)	TAPE & REEL
Clock Oscillator	2016	1.5 ~ 50.000	1.8: Vcc=1.8	25: ±25 ppm	TR
			2.5: Vcc=2.5	30: ±30 ppm	
			3.3: Vcc=3.3	50: ±50 ppm 100: ±100 ppm	
CO	2016	12.800	2.5	50	TR

#### EXAMPLE: CO2016-12.800-2.5-50-TR

Surface Mount CO2016, 2.0 x 1.6 mm, 12.800 MHz, 2.5 VDC Supply Voltage, ±50 ppm Overall Stability, from -10°C to +70°C, Symmetry 45% to 55%, Tape and Reel packaging.

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### REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	T <sub>SMIN</sub>	150°C
Temperature Max Preheat	T <sub>SMAX</sub>	200°C
Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> )	t <sub>s</sub>	60-180 sec.
Temperature	T <sub>L</sub>	217°C
Peak Temperature	T <sub>P</sub>	260°C
Ramp-up rate	R <sub>UP</sub>	3°C/sec max.
Ramp-down rate	R <sub>DOWN</sub>	6°C/sec max.
Time within 5°C of Peak Temperature	t <sub>p</sub>	10 sec.
Time t[25°C] to Peak Temperature	t[25°C] to Peak	480 sec.
Time	t <sub>L</sub>	60-150 sec.

### ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
REACH SVHC	COMPLIANT
RoHS	COMPLIANT
TERMINATION FINISH	Au

