

## CO2520 SERIES: 2.5 x 2.0 mm CLOCK OSCILLATOR

### ■ FEATURES

- ULTRA SMALL PACKAGE
- LOW SUPPLY VOLTAGE 1.8 AVAILABLE
- STANDBY FUNCTION

### ■ APPLICATIONS

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



### ■ ELECTRICAL SPECIFICATION

PARAMETER		VALUE			
Frequency Range		0.750 ~ 160.000 MHz			
Frequency Stability <sup>1</sup> *		±25 ppm, ±30 ppm, ±50 ppm, ±100 ppm			
Supply Voltage (Vcc)		1.6 ~ 3.6 V			
Supply Current		1.8V ±5%	2.5V ±5%	3.0V ±5%	3.3V ±5%
		2.5 mA max ~29 MHz	4.5 mA max ~29 MHz	5.5 mA max ~29 MHz	2.5 mA max ~29 MHz
		3.0 mA max ~39 MHz	5.5 mA max ~39 MHz	6.5 mA max ~39 MHz	3.5 mA max ~39 MHz
		3.5 mA max ~50 MHz	6.5 mA max ~50 MHz	7.5 mA max ~50 MHz	4.5 mA max ~50 MHz
		4.0 mA max ~75MHz	7.5 mA max ~75MHz	8.5 mA max ~75MHz	5.5 mA max ~75MHz
Output CMOS	Symmetry @50% Vdd	40% to 60% Standard 45% to 55% Tight			
	Rise / Fall Time	10 ns 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)			
Start-up Time		10 ms max			
Jitter, RMS (12 kHz ~ 20 MHz)		1 ps max			
Standby Current		10µA max			
Operating Temperature Range		-20°C ~ +70°C Standard			
		-40°C ~ +85°C Extended			
Storage Temperature Range		-55°C ~ +125°C			

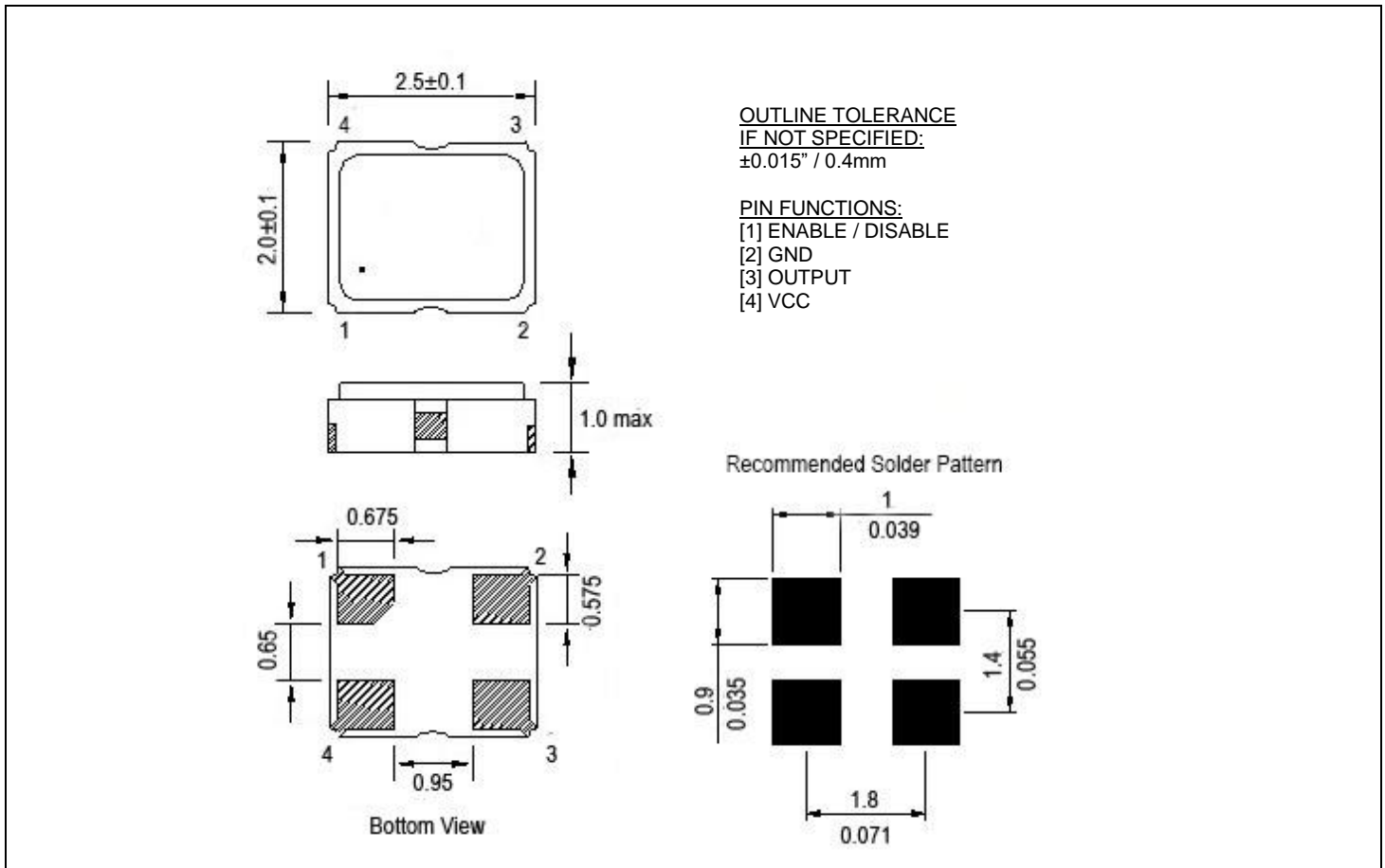
\* Inclusive of 25°C tolerance, operating temperature range, voltage or load changes, aging, reflow consult factory for tighter stability options.

### NOTES

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

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



#### PART NUMBERING SYSTEM

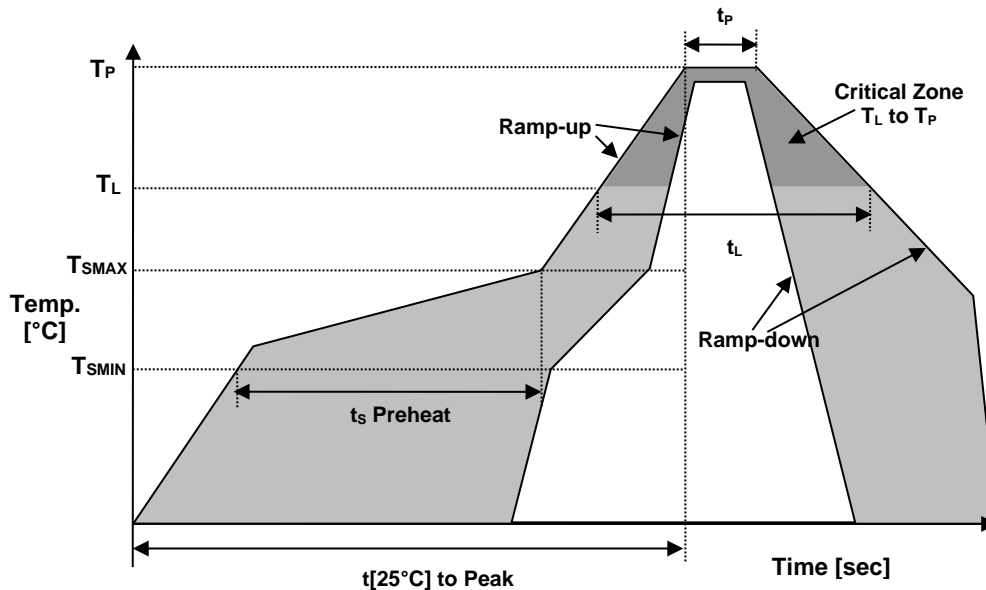
TYPE	SERIES	FREQUENCY (MHz)	SUPPLY VOLTAGE (Vcc)	STABILITY (PPM)	TEMPERATURE RANGE	SYMMETRY (Duty Cycle)	TAPE & REEL
Clock Oscillator	2520	0.750 ~ 75.000	<b>1.8:</b> Vcc=1.8 <b>2.5:</b> Vcc=2.5 <b>3.0:</b> Vcc=3.0 <b>3.3:</b> Vcc=3.3 <b>P:</b> Vcc=1.6~3.63 <b>F:</b> Vcc=1.8~3.3	<b>25:</b> $\pm 25$ <b>30:</b> $\pm 30$ <b>50:</b> $\pm 50$ <b>100:</b> $\pm 100$	<b>blank:</b> $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$ <b>X:</b> $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$	<b>blank:</b> 40 ~ 60% <b>T:</b> 45 ~ 55%	TR

#### EXAMPLE: CO2520-12.800-2.5-50-X-T-TR

Surface Mount CO2520, 2.5 x 2.0 mm, 12.800 MHz, 2.5 VDC Supply Voltage,  $\pm 50$  ppm Overall Stability, from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , Symmetry 45% to 55%, Tape and reel packaging.

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### REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	$T_{SMIN}$	150°C
Temperature Max Preheat	$T_{SMAX}$	200°C
Time ( $T_{SMIN}$ to $T_{SMAX}$ )	$t_s$	60-180 sec.
Temperature	$T_L$	217°C
Peak Temperature	$T_P$	260°C
Ramp-up rate	$R_{UP}$	3°C/sec max.
Ramp-down rate	$R_{DOWN}$	6°C/sec max.
Time within 5°C of Peak Temperature	$t_p$	10 sec.
Time $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak	480 sec.
Time	$t_L$	60-150 sec.

### ENVIRONMENTAL

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

