

CO3215 SERIES: 3.2 x 1.5 mm CLOCK OSCILLATOR

■ FEATURES

- SMALL PACKAGE
- LOW CURRENT CONSUMPTION
- STANDBY FUNCTION

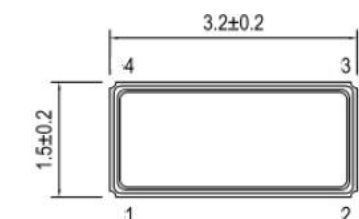


■ ELECTRICAL SPECIFICATION

PARAMETER		VALUE
Nominal Frequency		32.768 kHz
Frequency Stability		±10ppm, ±15ppm, ±20 ppm, ±25 ppm, ±30 ppm, ±50 ppm,
Initial Tolerance		±3 ppm max
Aging @ First year		±3 ppm max
Supply Voltage (Vcc)		1.5 ~ 3.63 V
Supply Current @ +3.3V. no load		2.5 µA max
Output CMOS	Symmetry @50% Vdd	40% to 60%
	Rise / Fall Time	40 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	30 pF max
Enable / Disable Function		Pin 1: High or Open >> Output enabled Pin 3 Pin 1: Low >> Output disabled (High impedance)
Start-up Time @ +25°C, 3.3V		0.5 s max
Standby Current		2.5 µA max
Frequency Voltage Coefficient		±1 ppm/V max. (V _{DD} = +1.5V to +3.63V)
Operating Temperature Range		-40°C ~ +85°C Extended
Storage Temperature Range		-40°C ~ +105°C

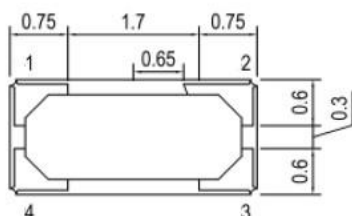
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MECHANICAL SPECIFICATION (4 pin ceramic package)



OUTLINE TOLERANCE
IF NOT SPECIFIED:
 $\pm 0.015'' / 0.4\text{mm}$

PIN FUNCTIONS:
 [1] ENABLE / DISABLE
 [2] GND
 [3] OUTPUT
 [4] VCC



Recommended Solder Pattern



PART NUMBERING SYSTEM

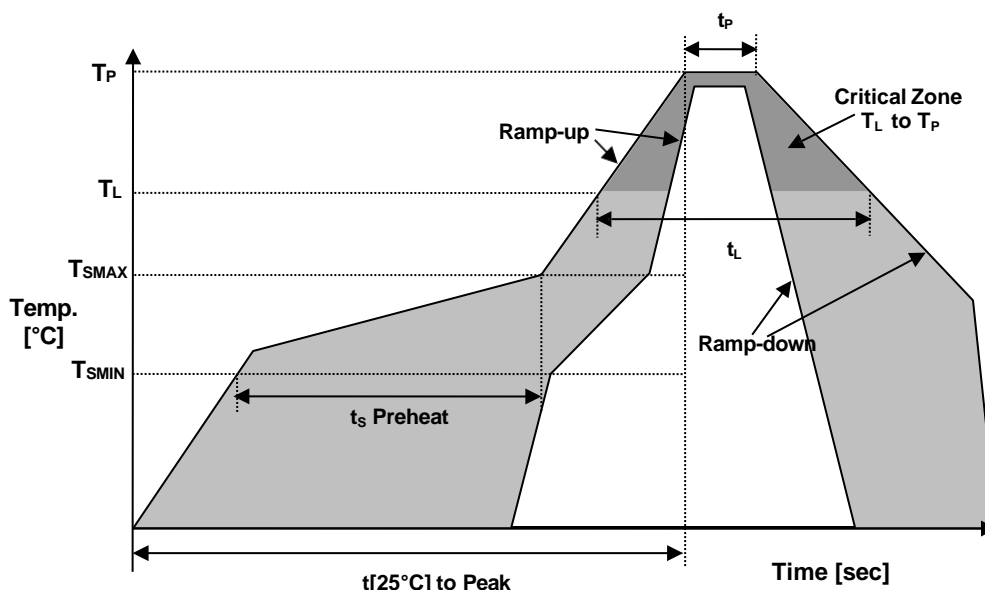
TYPE	SERIES	-	FREQUENCY (MHz)	-	SUPPLY VOLTAGE (Vcc)	-	STABILITY (PPM)	-	TEMPERATURE RANGE	-	SYMMETRY (Duty Cycle)	-	TAPE & REEL
Clock Oscillator CO	3215	-	0.032768	-	1.8: Vcc=1.8 2.5: Vcc=2.5 3.0: Vcc=3.0 3.3: Vcc=3.3 P: Vcc=1.6~3.63	-	10: ± 10 15: ± 20 20: ± 20 25: ± 25 30: ± 30 50: ± 50	-	X: -40°C ~ +85°C	-	blank: 40 ~ 60%	-	TR

EXAMPLE: CO3215-0.032768-2.5-50-X-T-TR

Surface Mount CO3215, 3.2 x 1.5 mm, 32.768 kHz, 2.5 VDC Supply Voltage, ± 50 ppm Overall Stability, from -40°C to +85°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



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