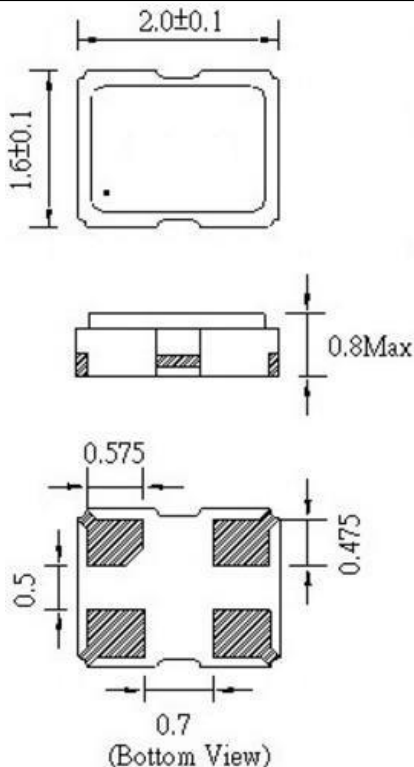


■ **ELECTRICAL SPECIFICATION**

PARAMETER		VALUE
Nominal Frequency		32.768 kHz
Operating Temperature Range		-20°C ~ +70°C Standard -40°C ~ +85°C Extended
Frequency Stability *		±20 ppm, ±25 ppm, ±30 ppm, ±50 ppm
Storage Temperature Range		-55°C to +125°C
Supply Voltage (Vcc)		1.8 V, 3.3 V, 5.0 V
Supply Current		240 µA max
Output CMOS	Symmetry	40% to 60% at 50% Vdd (45% to 55% Available)
	Rise / Fall Time	200 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

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

■ **MECHANICAL SPECIFICATIONS**



OUTLINE TOLERANCE
IF NOT SPECIFIED:
±0.015" / 0.4mm

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

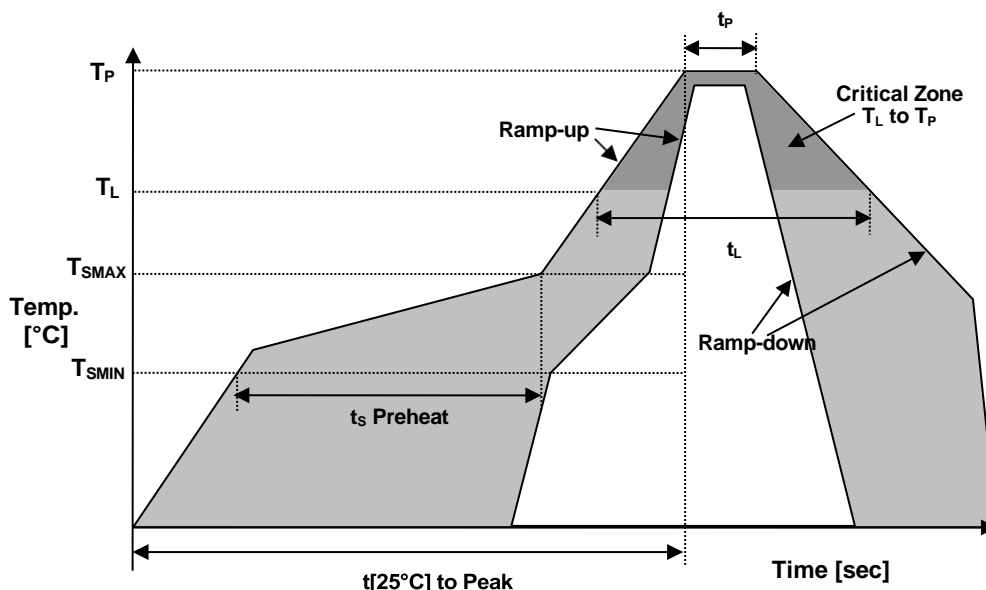
■ **PART NUMBERING SYSTEM**

TYPE	SERIES	-	FREQUENCY (MHz)	-	SUPPLY VOLTAGE (Vcc)	-	STABILITY (ppm)	-	TEMPERATURE RANGE (°C)	-	SYMMETRY (Duty Cycle)	-	TAPE & REEL
Clock Oscillator	2016	-	0.032768	-	1.8: Vcc=1.8 2.5: Vcc=2.5 3.3: Vcc=3.3 5.0: Vcc= 5.0	-	20: ±20 ppm 25: ±25 ppm 30: ±30 ppm 50: ±50 ppm	-	blank: -20°C to +70°C X: -40°C to +85°C	-	blank: 40 to 60% T: 45 to 55%	-	TR

EXAMPLE: CO2016-0.032768-2.5-25-T-TR

Surface Mount CO2016, 2.0 x 1.6 mm, 32.768 kHz, 2.5 VDC Supply Voltage, ±25 ppm Overall Stability, from -20°C to +70°C, Symmetry 45% to 55%, Tape and Reel packaging.

■ **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	$t[25^\circ\text{C}] \text{ to Peak}$	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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March 2017