



# CS-043 3.2x2.5mm Crystal Resonator

# CONNOR WINFIELD



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## Description:

The Connor-Winfield model CS-043 is a 48MHz fundamental mode, AT-cut crystal in a 3.2x2.5mm surface mount package. The CS-043 is designed to be used as a reference crystal in synthesizer applications.

## Features:

- Frequency: 48.0 MHz
- Frequency Calibration: +/-15 ppm
- Frequency Stability: +/-25 ppm
- Temperature Range: -40 to 85°C
- Surface Mount Package
- Tape and Reel Packaging
- RoHS Compliant / Lead Free

## Electrical Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Output Frequency (Fo)		48.0		MHz	
Frequency Calibration (@25°C)	-15		15	ppm	
Frequency Stability vs. Change in Temperature (Referenced to the frequency measured @25°C)				ppm	
Operating Temperature Range:	-40		85	°C	
Operation Mode		Fundamental			
Cut		AT Cut			
Aging	-1		1	ppm/Year	
Shunt Capacitance: (Co)			2.0	pF	
Load Capacitance: (Cl)		8		pF	
Equivalent Series Resistance @ 25 °C:			20	Ohms	
Drive Level		10	200	uW	
Insulation Resistance		500	-	Mohm	@ 100 Vdc
Storage Temperature:	-40		95	°C	

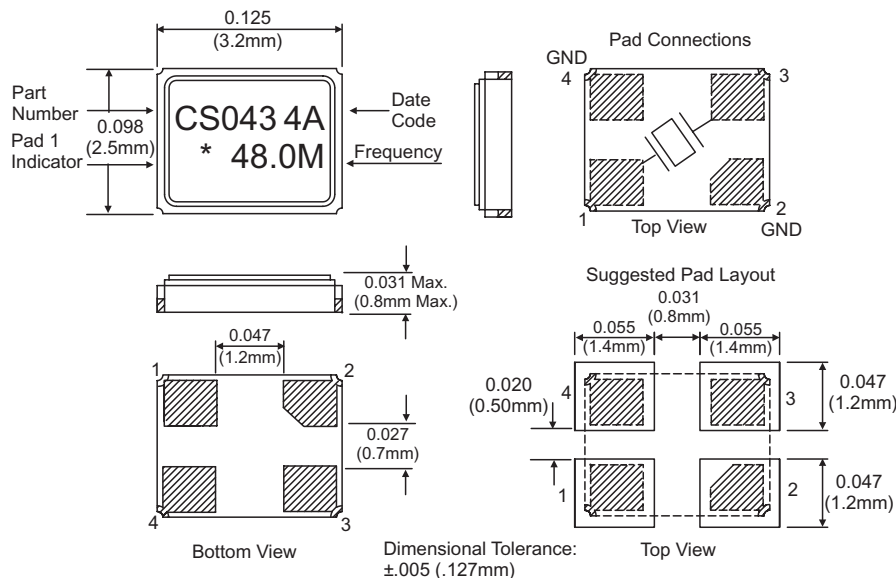
## Package Characteristics

Package	Hermetically sealed ceramic 3.2x2.5mm SMD Package.
Leakage	0.01ppm atm, cc/sec. maximum

## Ordering Information

CS-043-048.0M

## Package Outline

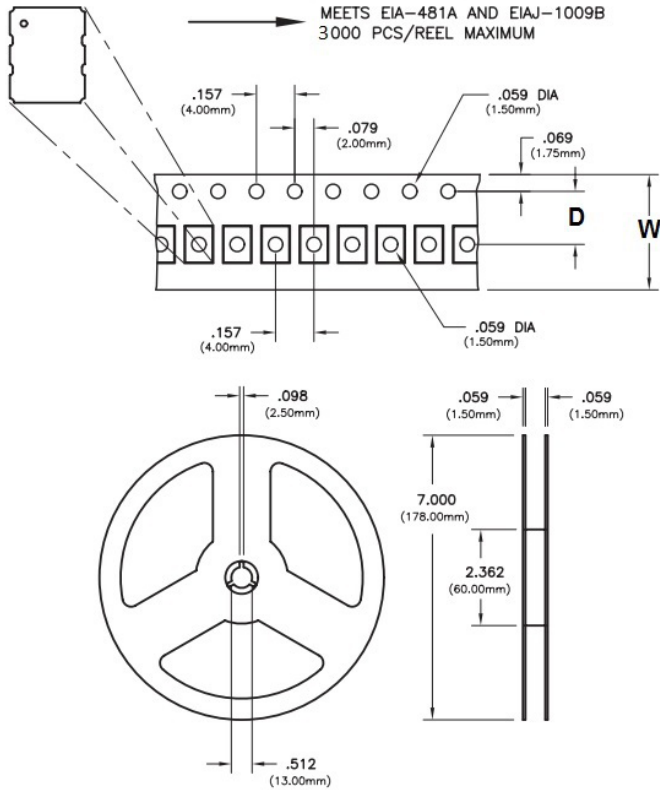




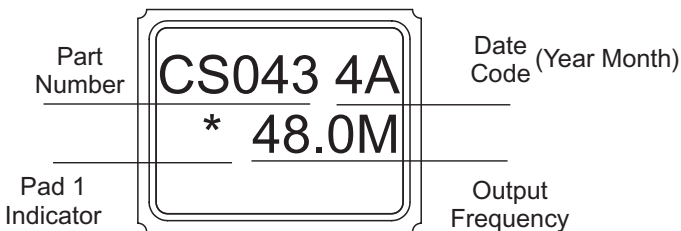
## Tape and Reel Information

Reel Quantity	Tape Width "W"	Pitch	Dim "D"
3K reel	8mm	4mm	3.5mm
1K to <3K reel	8mm or 12mm*	4mm	3.5 or 5.5mm*
<1K reel	12mm	4mm	5.5mm

\* Consult factory



## Marking Information



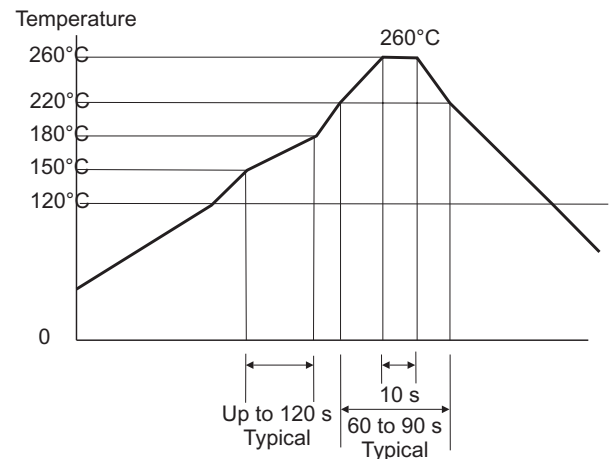
## Date Code Information

Laser: 2 Character Date Code

Year Code	Month Code
1 = 2021	A = January
2 = 2022	B = February
3 = 2023	C = March
4 = 2024	D = April
5 = 2025	E = May
	F = June
	G = July
	H = August
	J = September
	K = October
	M = November
	N = December

Date Code Example: 1J  
1 = 2021, J = September

## Solder Profile



Meets IPC/JEDEC J-STD-020C

## Revision History

Revision	Date	Revision.
00	01/14/14	New Release
01	07/08/14	Update to Electrical Specs
02	08/03/15	Update to Electrical Specs and Digi-Key
03	12/08/21	Update tape width dimension and date code table
04	12/14/21	Update Tape Dimensions

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Revision	<b>04</b>
Date	<b>14 Dec 2021</b>