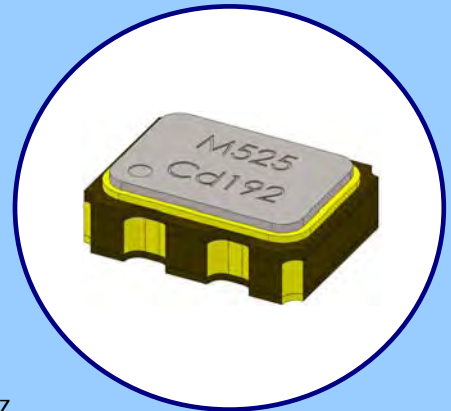


**FEATURES**

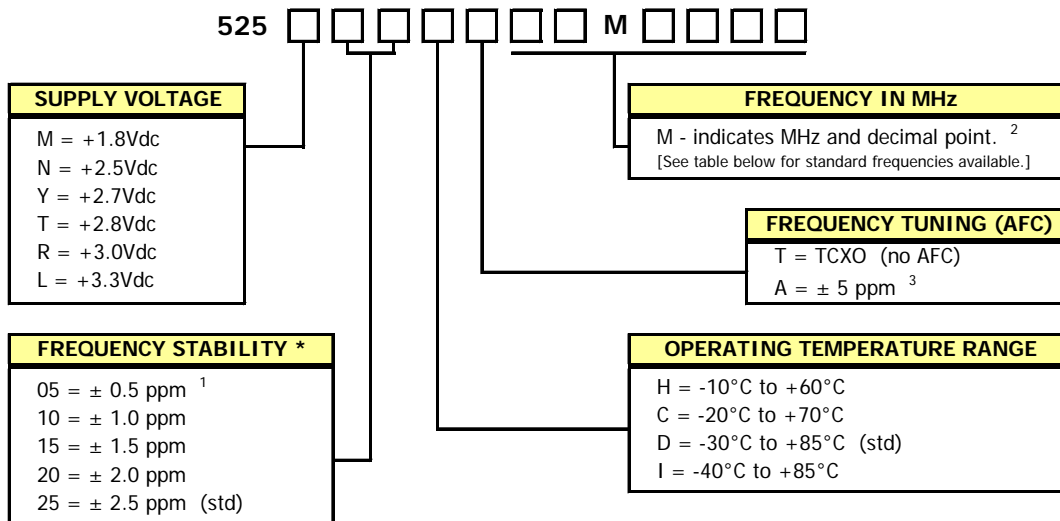
- **Clipped Sine Wave Output**
- **Optional Voltage Control for Frequency Tuning [VCTCXO]**
- 3.2mmx2.5mm Surface Mount Package
- Frequency Range 10 – 40 MHz [Standard Frequencies List Shown Below]
- Fundamental Crystal Design
- Frequency Stability, several options to choose from  $\pm 0.5\text{ppm} \sim \pm 2.5\text{ppm}$
- Operating Voltage, +1.8Vdc ~ +3.3Vdc
- Operating Temperature to -40°C to +85°C
- Tape & Reel Packaging Available
- **RoHS/Green Compliant (6/6)**



**APPLICATIONS**

The Model 525 Temperature Compensated Crystal Oscillator (TCXO) is a quartz based, clipped sine wave output, digital temperature compensated oscillator with optional frequency tuning, in a hermetically sealed ceramic package. M525 is suitable for wireless communications, broadband access, WLAN/WiMax/WIFI, portable equipment, test and measurement and mobile applications.

**ORDERING INFORMATION**



\* Frequency vs. Temperature Only

- 1] Only available with temperature range codes "H" and "C".
- 2] Frequency is recorded with two leading digits before the 'M' and 4 significant digits after the 'M' (including zeros).  
[Ex. XXMXXXX (10M0000), XXMXXXX (16M3840)]
- 3] See Electrical Characteristics for Control Voltage range per Supply Voltage selected.

**Not all performance combinations and frequencies may be available.**  
**Contact your local CTS Representative or CTS Customer Service for availability.**

M525 Standard Frequencies					
10.000 MHz	14.7456 MHz	16.369 MHz	20.000 MHz	26.000 MHz	38.400 MHz
12.800 MHz	16.3676 MHz	16.800 MHz	24.5535 MHz	27.000 MHz	38.880 MHz
13.000 MHz	16.367667 MHz	19.200 MHz	24.576 MHz	30.000 MHz	40.000 MHz
14.400 MHz	16.368 MHz	19.440 MHz	25.000 MHz	33.600 MHz	

**ELECTRICAL CHARACTERISTICS**

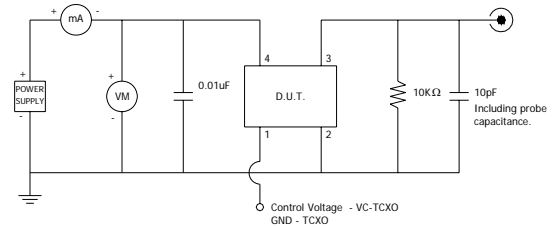
**D.U.T. PIN ASSIGNMENTS**

PIN	SYMBOL	DESCRIPTION
1	V <sub>C</sub>	Control Voltage – VCTCXO [Note 1] GND - TCXO
2	GND	Circuit & Package Ground
3	Output	Clipped Sine Wave Output
4	V <sub>CC</sub>	Supply Voltage

**NOTES**

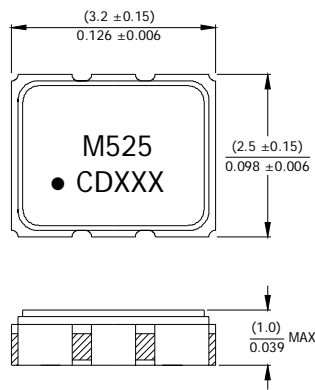
1. Connect to ground for TCXO (no AFC) option.

**TEST CIRCUIT – RL//CL LOAD**

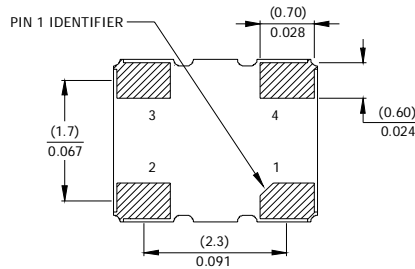


**MECHANICAL SPECIFICATIONS**

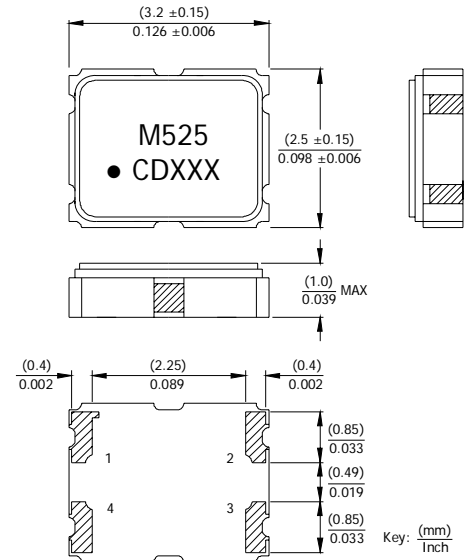
**PACKAGE DRAWING**



Package A



Key: (mm)  
Inch



Package B

Key: (mm)  
Inch

**MARKING INFORMATION**

1. M525 - CTS Model Series.
2. • – Pin 1 identifier.
3. C – CTS identifier.
4. D – Date code. See Table I for codes.
5. XXX – Frequency code. See Table II for codes.

Complete CTS part number, frequency value and date code information must appear on reel and carton labels.

**NOTES**

1. DO NOT make connections to non-labeled pins. Castellation pins may have internal connections used in the manufacturing process.
2. Termination pads (e4); barrier plating is nickel (Ni) with gold (Au) flash plate.
3. Reflow conditions per JEDEC J-STD-020, 260°C maximum.
4. Required: 1000pF capacitor between the TCXO output and input of load.

**TABLE I – DATE CODE**

YEAR		MONTH					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
		2001	2005	2009	2013	2017												
2001	2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M		
2002	2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z		
2003	2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m		
2004	2008	2012	2016	2020	n	p	q	r	s	t	u	v	w	x	y	z		

