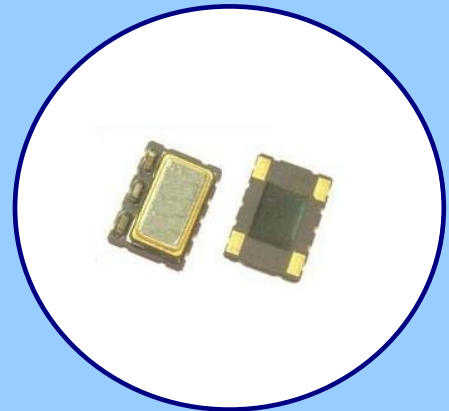


FEATURES

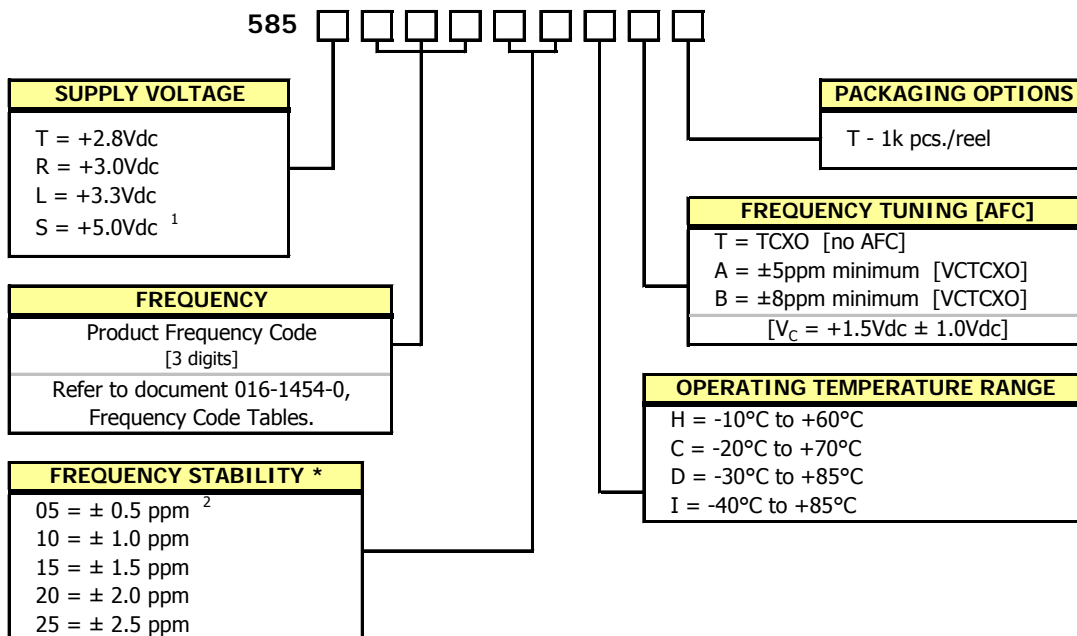
- **Clipped Sine Wave Output**
- **Optional Voltage Control for Frequency Tuning [VCTCXO]**
- 7.0mm x 5.0mm Surface Mount Package
- Frequency Range 5 – 52 MHz
- Fundamental Crystal Design
- Frequency Stability, Options from, $\pm 0.5\text{ppm} \sim \pm 2.5\text{ppm}$
- Operating Voltage, +2.8Vdc \sim +5.0Vdc
- Operating Temperature to -40°C to +85°C
- Tape & Reel Packaging Standard, EIA-418
- **RoHS/Green Compliant [6/6]**



APPLICATIONS

The Model 585 is a quartz based analog TCXO with a Clipped Sine output and optional frequency tuning. M585 is suitable for applications such as wireless communications, base stations, small cells, broadband access and test equipment.

ORDERING INFORMATION



* Frequency vs. Temperature Only

1] Limited availability. Consult factory.

2] Only available with temperature range codes "H" and "C".

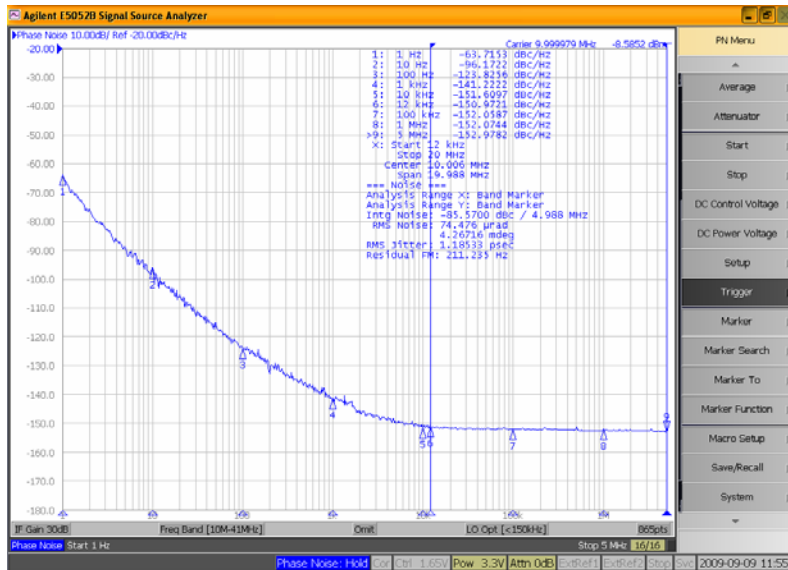
**Not all performance combinations and frequencies may be available.
Contact your local CTS Representative or CTS Customer Service for availability.**

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Supply Voltage	V_{CC}	-	-0.5	-	6.0	V
Maximum Control Voltage	V_C	-	-0.5	-	V_{CC}	V
Storage Temperature	T_{STG}	-	-55	-	+125	°C
Frequency Range	f_0	Std frequencies listed in Ordering Information	5	-	52	MHz
Frequency Stability	$\Delta f/f_0$	Frequency vs. Temperature Only	0.5,1.0, 1.5,2.0,2.5			± ppm
Frequency Stability vs. Initial Calibration	-	@ +25°C	-	-	1.0	± ppm
Frequency Stability vs. Reflow Shift	-	1 hour after reflow	-	-	2.0	
Frequency Stability vs. Supply Voltage	-	±5% change	-	-	0.1	
Frequency Stability vs. Load	-	±10% change	-	-	0.2	
Frequency Stability vs. Aging	-	1st year	-	-	1.0	
Frequency Stability vs. Aging	-	10 year [Except stability code 05]	-	-	8.0	
Operating Temperature	T_A	-	-10	+25	+60	°C
Order Code 'H'			-20		+70	
Order Code 'C'			-30		+85	
Order Code 'D'			-40		+85	
Order Code 'I'						
Supply Voltage	V_{CC}	±5%	2.66	2.8	2.94	V
Order Code 'T'			2.85	3.0	3.15	
Order Code 'R'			3.14	3.3	3.47	
Order Code 'L'			4.75	5.0	5.25	
Order Code 'S'						
Supply Current	I_{CC}	-	-	-	3.5	mA
Control Voltage	V_C	-	0.5	1.5	2.5	V
Frequency Tuning [VCTCXO Only]	-	$V_C = 1.5V \pm 1.0V$	A = 5 minimum B = 8 minimum			± ppm
V_C Input Impedance	Z_{V_C}	-	100	-	-	kOhm
Output Waveform		AC coupled Clipped Sinewave				
Output Voltage Levels	V_O	-	0.8	-	-	Vp-p
Output Load	$R_L // C_L$	-	10 kOhm // 10 pF			
Start Up Time	T_S	-	-	-	2	ms
Phase Noise ¹	-	-				dBc/Hz

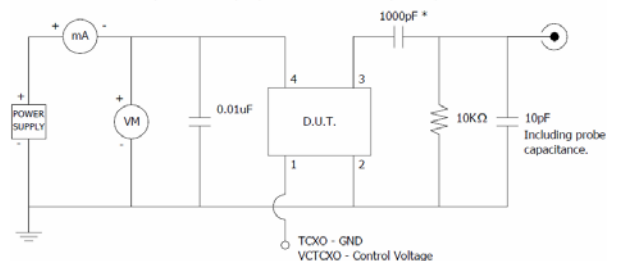
Notes:

1. Phase Noise performance may vary based on output frequency. See example plot at 10 MHz below.



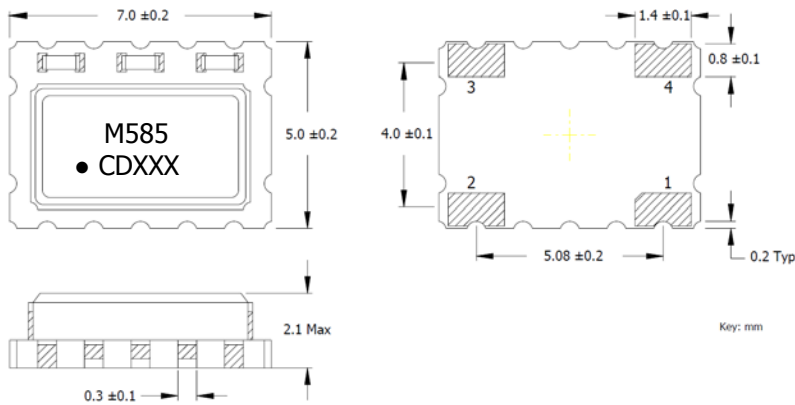
TEST CIRCUIT – Clipped Sine Load

* DC-Cut Capacitor: Add 1000pF capacitor between the TCXO output and input of load.



MECHANICAL SPECIFICATIONS

PACKAGE DRAWING



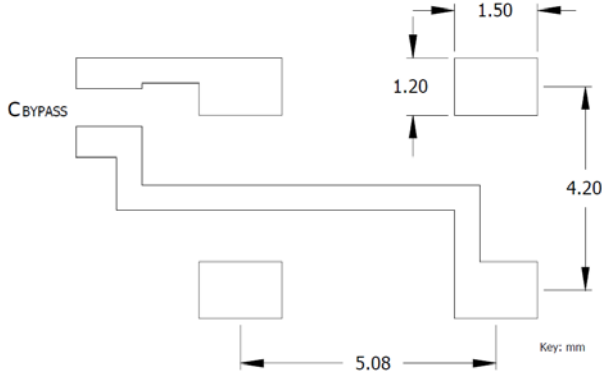
MARKING INFORMATION

1. M585 – CTS Model Series.
2. ● – Pin 1 identifier.
3. C – CTS identifier.
4. D – Date code. See Table II for codes.
5. xxx – Frequency Code.
6. Refer to document 016-1454-0, Frequency Code Tables.

NOTES

1. DO NOT make connections to non-labeled pins or castellations as they 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. MSL = 1.

SUGGESTED SOLDER PAD GEOMETRY



D.U.T. PIN ASSIGNMENTS

PIN	SYMBOL	DESCRIPTION
1	V _C	Control Voltage – VCTCXO [Note 1] GND - TCXO
2	GND	Circuit & Package Ground
3	Output	Clipped Sine Wave Output
4	V _{CC}	Supply Voltage

NOTES

1. Connect to ground for TCXO [no AFC] option.
2. DC-Cut Capacitor Required.
Add 1000pF capacitor between TCXO output and input of load.

TABLE II – 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		

PACKAGING INFORMATION [reference]

Device quantity is 1k pcs. maximum per 180mm reel.

