### Features and Benefits

Custom 125 MHz SC-cut resonator design Better than -150 dBc/Hz @ 1 KHz offset Less than ±20 ppb total stability over temperature Sine-wave outputs

### Typical Applications

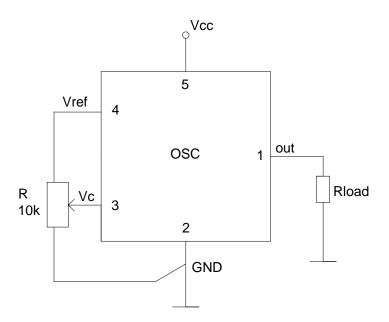
125 MHz Frequency Source Reference for test system noise measurements.

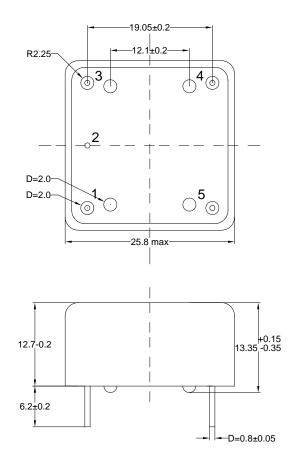
### Description

A new series of highly stable oven controlled oscillators with the latest topologies.

## Mechanical Drawing & Pin Connections

# Drawing No:MD130010-2







# Dynamic Engineers Inc.

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## OCXO2525C-125MHz-A-V 125MHz Oven Controlled Oscillator

# **Specifications**

Specificat								
General Specific	cations	1	T T T T T T T T T T T T T T T T T T T	1			I	
Parameter  Nominal Frequency		0	Condition	Value				Included
		Sym		Min.	Тур.	Max	Unit	in test
				40		00	MHz	data
Nominal Frequency Initial Tolerance		F <sub>0</sub>	ot 125°C \/ = \/	-0.2	25.0000	0.2		
Frequency Control		$(f-f_0)/f_0$	at +25°C,V <sub>c</sub> = V <sub>c0</sub>	-0.2		0.2	ppm	+
Input resistance		R <sub>in</sub>		1	11	l	kΩ	I
Voltage range		V <sub>c</sub>		0	11	4.2	V V	
Factory set control voltage		V <sub>c</sub>	disconnected Vc pin	1.6	2.1	2.6	V	
Slope		V <sub>c0</sub>	disconnected vc pin		Positive		V	
Slope		(f <sub>L</sub> – f) / f	V <sub>c</sub> = 0V	-1.0			nnm	+
Frequency range		(f - f) / f	$V_c = V_{c0}$		0	-1.0	ppm	Т
		$(f_H - f) / f$		1.0	<del>-                                    </del>		ppm	+
Reference voltage		V <sub>ref</sub>	v <sub>c</sub> - v <sub>ref</sub>	4.1	4.2	4.3	ppm V	•
Out. Resistance of V <sub>ref</sub>		v ref		7.1	91	7.3	Ohm	
Frequency Stabi					91		Onlin	
Vs. temperature			Ref +25°C			±20	ppb	+
Vs. load		1	Ref R <sub>I</sub>	+	<del>                                     </del>	±20	ppb	'
Vs. supply voltage			Ref V <sub>cc</sub> typ.			±3	ppb	
RF output			itter v <sub>cc</sub> typ.			10	ρρυ	
Wave form				S	ine-wav	10		I
Level		L <sub>S</sub>		+7	liic-way	/ C	dBm	+
Harmonics level		L <sub>H</sub>		+ ' '		-30	dBc	•
Load		R <sub>L</sub>		45	50	55	Ohm	
Power Supply		I VL		10	00	- 00	Olilli	
Voltage		V <sub>CC</sub>		11.4	12.0	12.6	V	
Warm-up current		3 00	V <sub>CC</sub> = 12.0V	220		300	mA	
Continuous current			at +25°C, V <sub>CC</sub> = 12.0V			100	mA	
Warm-up time								
wann-up time		tun	to $\Lambda f/f = 1e-7$ at $+25^{\circ}C$			180		
		t <sub>up</sub>	to Δf/f = 1e-7 at +25°C		-85	180	Sec	
		t <sub>up</sub>	10 Hz		-85 -115	180		
	ee	t <sub>up</sub>	10 Hz 100 Hz		-85 -115		Sec	
SSB Phase Nois	e	t <sub>up</sub>	10 Hz 100 Hz 1 kHz		-115	180 -150		
	e	t <sub>up</sub>	10 Hz 100 Hz 1 kHz 10 kHz				Sec	
SSB Phase Nois		t <sub>up</sub>	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz		-115 -162	-150	Sec dBc/Hz	
SSB Phase Nois	Per day	t <sub>up</sub>	10 Hz 100 Hz 1 kHz 10 kHz		-115 -162	-150 ±5	Sec dBc/Hz	
SSB Phase Nois	Per day Per year		10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation		-115 -162	-150	Sec dBc/Hz	
SSB Phase Nois Aging Maximum rating	Per day Per year	I, mechanic	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation		-115 -162	-150 ±5	Sec dBc/Hz	
SSB Phase Nois  Aging  Maximum rating Power voltage	Per day Per year		10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation		-115 -162	-150 ±5	Sec dBc/Hz	
SSB Phase Nois Aging Maximum rating	Per day Per year s, environmenta	I, mechanica -0.5 to 14.4	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temper	Per day Per year s, environmenta erature range	I, mechanica -0.5 to 14.4 -1.0 to 6.0\	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage	Per day Per year s, environmenta erature range	-0.5 to 14.4 -1.0 to 6.0\ 0°C to +50'	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 90°C		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temperations	Per day Per year s, environmenta erature range ature range	, mechanica -0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 90°C		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temperating temp	Per day Per year s, environmenta erature range ature range	-0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical Per MIL-S1	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 90°C ly sealed TD-202, 30G, 11ms		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temperatumidity Mechanical Short	Per day Per year s, environmenta erature range ature range	J. mechanica -0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical Per MIL-S1 Per MIL-S1	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 90°C		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating tempera Storage tempera Humidity Mechanical Shoo	Per day Per year s, environmenta erature range ature range	J. mechanica -0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical Per MIL-S1 Per MIL-S1	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 00°C ly sealed TD-202, 30G, 11ms TD-202, 10G to 500Hz er only – not reflow compatible		-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temperatumidity Mechanical Short	Per day Per year s, environmenta erature range ature range	J. mechanica -0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical Per MIL-ST Per MIL-ST Hand solder 260°C 10s	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V / °C 00°C ly sealed TD-202, 30G, 11ms TD-202, 10G to 500Hz er only – not reflow compatible	-	-115 -162	-150 ±5	Sec dBc/Hz	
Aging  Maximum rating Power voltage Control voltage Operating temperatumidity Mechanical Short	Per day Per year s, environmenta erature range ature range ck	J. mechanica -0.5 to 14.4 -1.0 to 6.0\ 0°C to +50 -60°C to +9 Hermetical Per MIL-ST Per MIL-ST Hand solde 260°C 10s Washing w	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz After 30 days of operation al conditions.  V  C  OO°C  ly sealed  TD-202, 30G, 11ms  TD-202, 10G to 500Hz er only – not reflow compatible (on pins)	-	-115 -162	-150 ±5	Sec dBc/Hz	

Please contact Dynamic Engineers Inc. for further details.