



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

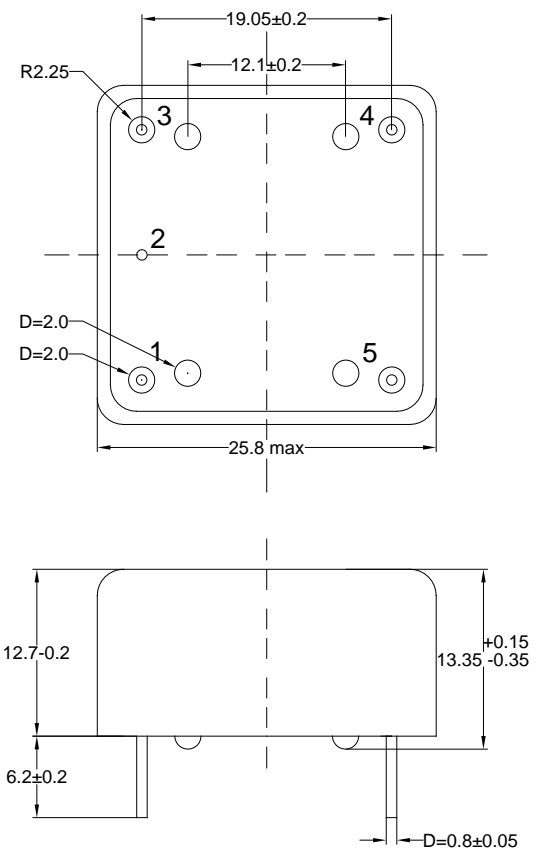
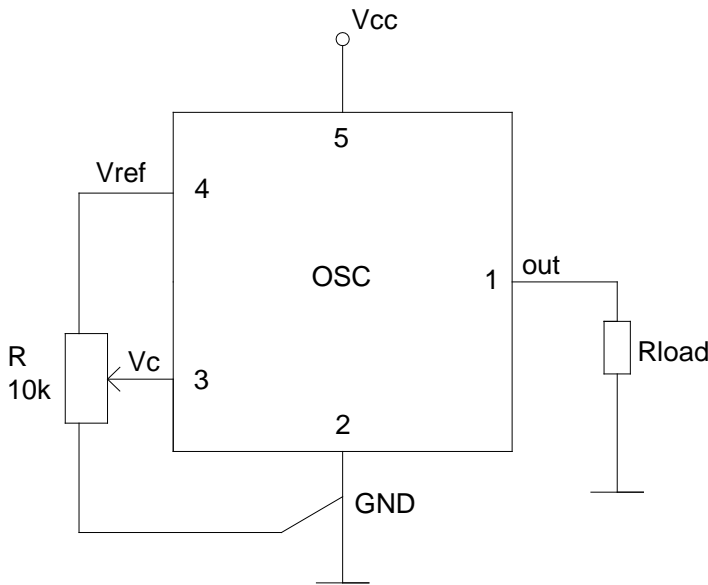
125 MHz Frequency Source Reference for test system noise measurements.

Description

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

Mechanical Drawing & Pin Connections

Drawing No:MD130010-2





Specifications

General Specifications							
Parameter	Sym	Condition	Value			Unit	Included in test data
			Min.	Typ.	Max		
Nominal Frequency	F_0		125.000000			MHz	
Initial Tolerance	$(f-f_0)/f_0$	at +25°C, $V_c = V_{c0}$	-0.2		0.2	ppm	+
Frequency Control							
Input resistance	R_{in}			11		kΩ	
Voltage range	V_c		0		4.2	V	
Factory set control voltage	V_{c0}	disconnected Vc pin	1.6	2.1	2.6	V	
Slope			Positive				
Frequency range	$(f_L - f) / f$	$V_c = 0V$			-1.0	ppm	+
	$(f - f) / f$	$V_c = V_{c0}$	0			ppm	
	$(f_H - f) / f$	$V_c = V_{ref}$	1.0			ppm	+
Reference voltage	V_{ref}		4.1	4.2	4.3	V	
Out. Resistance of V_{ref}				91		Ohm	
Frequency Stability							
Vs. temperature		Ref +25°C			±20	ppb	+
Vs. load		Ref R_L			±3	ppb	
Vs. supply voltage		Ref V_{cc} typ.			±3	ppb	
RF output							
Wave form			Sine-wave				
Level	L_S		+7			dBm	+
Harmonics level	L_H				-30	dBc	
Load	R_L		45	50	55	Ohm	
Power Supply							
Voltage	V_{CC}		11.4	12.0	12.6	V	
Warm-up current		$V_{CC} = 12.0V$	220		300	mA	
Continuous current		at +25°C, $V_{CC} = 12.0V$			100	mA	
Warm-up time	t_{up}	to $\Delta f/f = 1e-7$ at +25°C			180	Sec	
SSB Phase Noise		10 Hz			-85	dBc/Hz	
		100 Hz			-115		
		1 kHz			-150		
		10 kHz			-162		
		100 kHz			-165		
Aging	Per day	After 30 days of operation			±5	ppb	
	Per year				±0.5	ppm	
Maximum ratings, environmental, mechanical conditions.							
Power voltage	-0.5 to 14.4V						
Control voltage	-1.0 to 6.0V						
Operating temperature range	0°C to +50°C						
Storage temperature range	-60°C to +90°C						
Humidity	Hermetically sealed						
Mechanical Shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 10G to 500Hz						
Soldering Conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)						
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						

Please contact Dynamic Engineers Inc. for further details.