Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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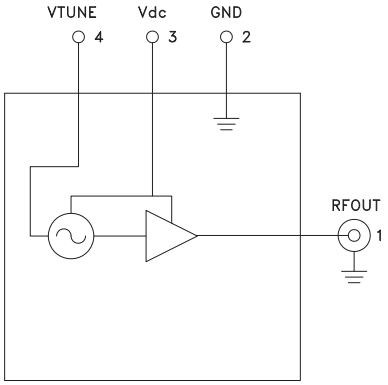
WIDEBAND VCO WITH BUFFER AMPLIFIER MODULE, 38.4 - 43.2 GHz

Typical Applications

The HMC-C073 VCO Module is ideal for:

- OC-768 Fiber Optic Systems
- Test and Measurement Equipment
- Lab Instrumentation
- Industrial/Medical Equipment
- Millimeterwave Subsystems

Functional Diagram



Features

Wideband Tuning Frequency: 38.4 - 43.2 GHz

High Output Power: +13 dBm

High Output Voltage: 3.5V pp

Low Phase Noise: -98 dBc/Hz @ 100 kHz Offset

Low Jitter: 37 fs

Single Positive Supply: +5V @ 350 mA

Operating Temperature: -55°C to + 85°C

Ultra-Small Hermetic Module

Field Replaceable 2.4mm Connector

General Description

The HMC-C073 is a high performance VCO that operates over a 38.4 to 43.2 GHz band. An internal output buffer provides +13 dBm of output power and provides excellent frequency pulling performance. Phase noise is excellent at -98 dBc/Hz at 100 kHz offset and the unit provides exceptionally low jitter of 37 fs (calculated). The Vtune port accepts an analog tuning voltage from +2 to +13V. This robust VCO is housed in a very small hermetic module measuring 0.7" x 0.99" x 0.23". The module is supplied with a 2.4mm connector, which can be replaced by a GPO connector.

Electrical Specifications, T_A = +25° C, Vdc = +5V

Parameter	Min.	Typ.	Max.	Units
Frequency Range		38.4 - 43.2		GHz
Power Output	10	13		dBm
SSB Phase Noise @ 10 kHz Offset		-74		dBc/Hz
SSB Phase Noise @ 100 kHz Offset		-98		dBc/Hz
Jitter (50 kHz to 80 MHz) (Calculated)		37		fs
Tune Voltage (Vtune)	2		13	V
Sub Harmonic (fo/4)		-40		dBc
Sub Harmonic (fo/2)		-30		dBc
Frequency Pushing		40		MHz/V
Frequency Pulling (into 2:0:1 Load)		5		kHz pp
Output Return Loss		17		dB
Voltage Supply (Vdc)	4.5	5	5.5	V
Supply Current		350	400	mA

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Application Support: Phone: 1-800-ANALOG-D

HMC-C073* PRODUCT PAGE QUICK LINKS

Last Content Update: 02/23/2017

COMPARABLE PARTS

View a parametric search of comparable parts.

DOCUMENTATION

Data Sheet

- HMC-C073 Data Sheet

DESIGN RESOURCES

- HMC-C073 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC-C073 EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

TECHNICAL SUPPORT

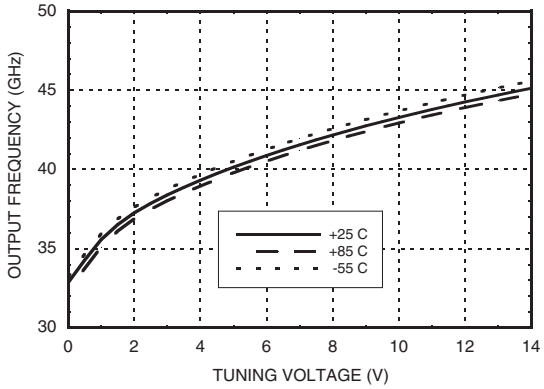
Submit a technical question or find your regional support number.

DOCUMENT FEEDBACK

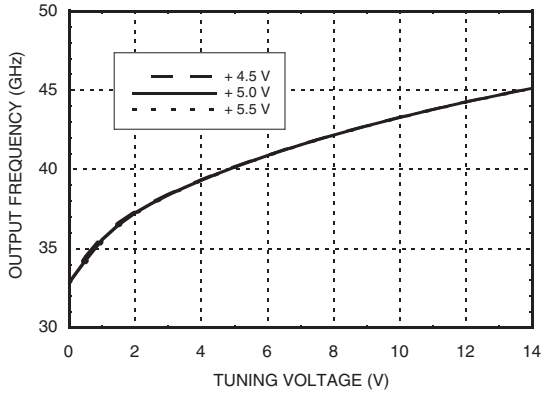
Submit feedback for this data sheet.

WIDEBAND VCO WITH BUFFER AMPLIFIER MODULE, 38.4 - 43.2 GHz

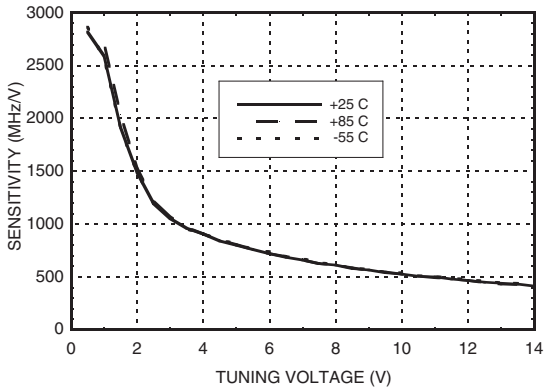
Frequency vs. Tuning Voltage, Vdc = +5V



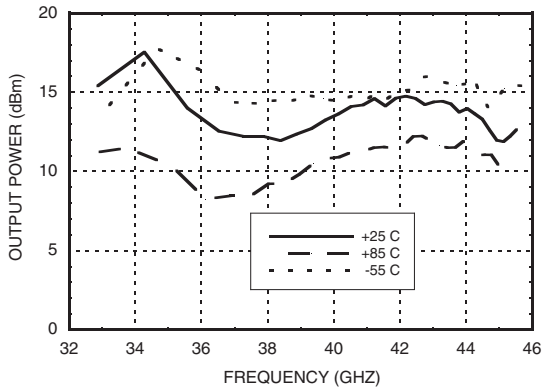
Frequency vs. Tuning Voltage, T = +25°C



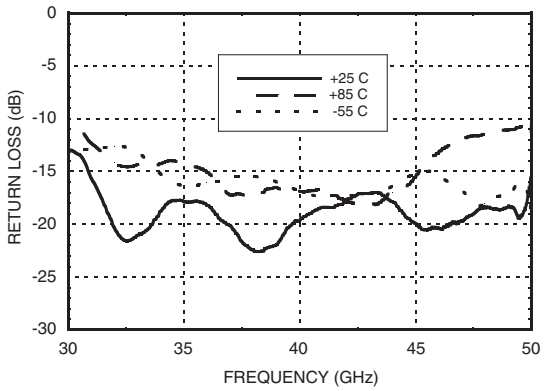
Sensitivity vs. Tuning Voltage, Vdc = +5V



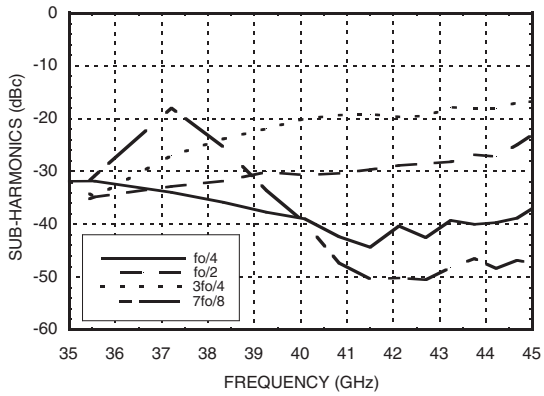
Output Power vs. Frequency, Vdc = +5V



Output Return Loss vs. Frequency, Vdc = +5V



Sub-Harmonics vs. Frequency, Vdc = +5V



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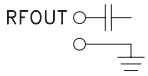
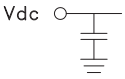
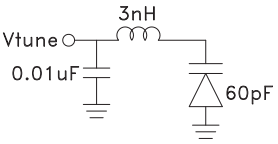
Absolute Maximum Ratings

Vdc	+5.5V
Vtune	+15V
Storage Temperature	-65 to +150 °C
Operating Temperature	-55 to +85 °C
Max Junction Temperature	150 °C
Thermal Resistance	29 °C/W

Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1	RFOUT	RF output (AC coupled) uses a female 2.4mm connector.	
2	GND	Must be connected to power supply ground.	
3	Vdc	Supply Voltage Vdc = +4.5V to 5.5V	
4	VTUNE	2 to +13V	

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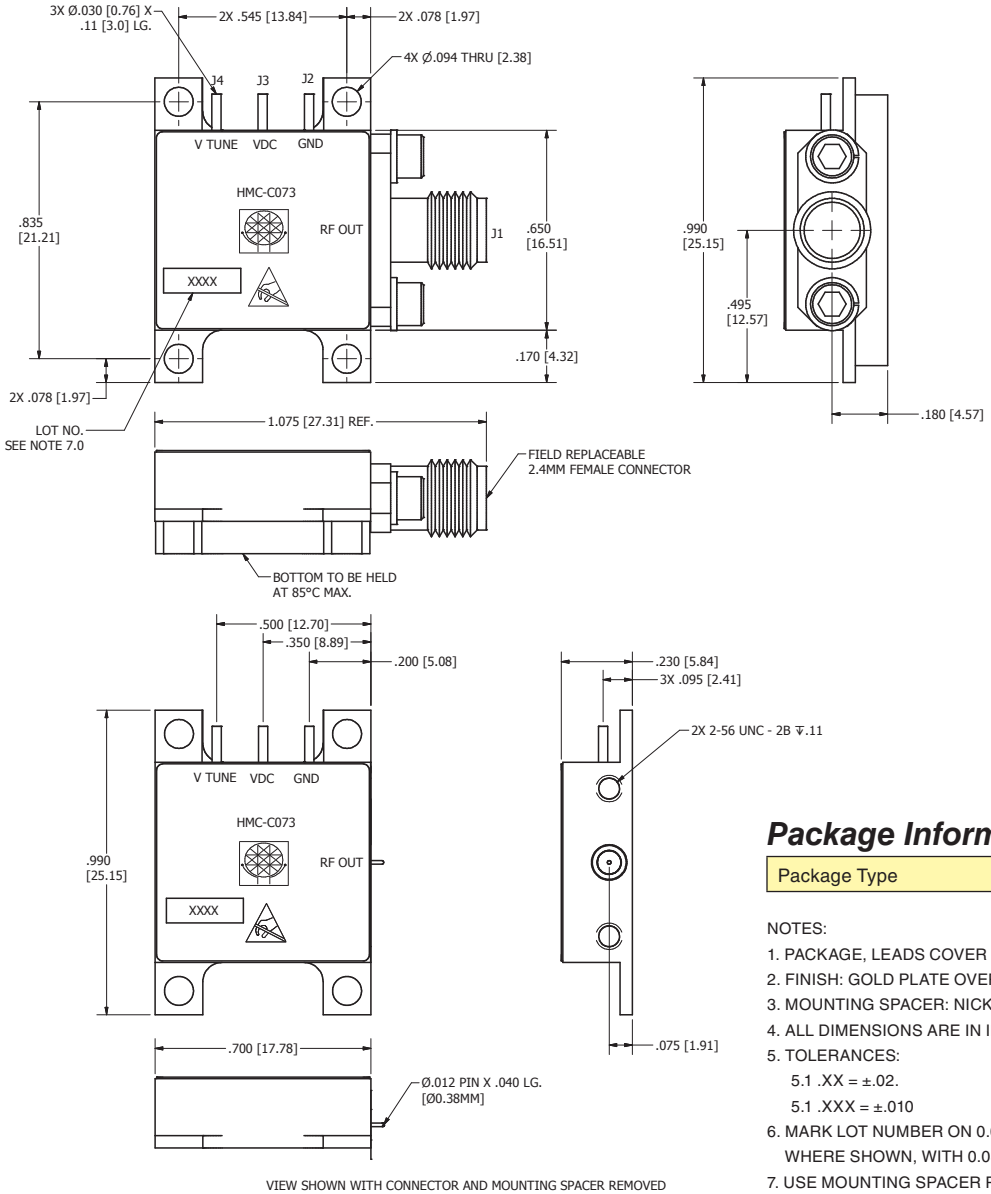
Outline Drawing



VIEW SHOWN WITH CONNECTOR AND MOUNTING SPACER REMOVED

Package Information

Package Type	C-19

NOTES:

1. PACKAGE, LEADS COVER MATERIAL: KOVAR
2. FINISH: GOLD PLATE OVER NICKEL PLATE.
3. MOUNTING SPACER: NICKEL PLATED ALUMINUM.
4. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
5. TOLERANCES:
   5.1 .XX = ±.02.
   5.1 .XXX = ±.010
6. MARK LOT NUMBER ON 0.080 X 0.250 LABEL WHERE SHOWN, WITH 0.030 MIN. TEXT HEIGHT.
7. USE MOUNTING SPACER PART NUMBER 123399.

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