A RAMI TECHNOLOGY Company

RoHS Compliant

Ultra Low Phase Noise SineWave VCXO

VC8 Series

ELECTRICAL SPECIFICATIONS

- Sine Wave Output
- Supply Voltage :3.3 V / 5.0V ±5%
- Frequency Range 50 to 300MHz
- Pulling Range (typ) ± 30 ppm

FEATURES

- Low Phase Noise
- SMD Package
- Low Power Consumption

APPLICATIONS

- Telecom Systems
- Test & Measurement
- Microwave Communication
- Satellite Communication

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ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION		VALUE		UNIT
			Min.	Typ.	Max.	
Frequency Range	Fo		50.000 to 300.000			MHz
Supply Voltage	Vs	Vs ±5%, at +25°C	3.165	3.3	3.465	V
			4.75	5.0	5.25	V
Current	Is	±10%		40	55	mA
Frequency Stability vs. Temperature	$\Delta f/f_0$ (T_a)	Ta= -40°C…+85°C, ref to +25˚C	-25		+25	ppm
Aging	Δf/Δty	First year	-3		+3	ppm
	Δf/Δty	Per year thereafter	-1		+1	ppm
Pulling Range	Pr	0 ≤ VC ≤ Vcc		±30	±50	ppm
Voltage Control Input Range	Vc		0		3.3	V
			0		5.0	V
Modulation Bandwidth	Bw		1			kHz
Linearity	Lin	Positive slope			10	%
Input Impedance	Zin	At VC input	100			kΩ
Voltage Control Center	V_f	Supply Voltage 3.3V		1.65		V
	V_f	Supply Voltage 5.0V		2.50		V
Operating Temperature Range	Ta		-20		+70	˚C
			-40		+85	˚C
Storage Temperature Range	T(stg)		-45		+90	˚C

*** Not all combinations of options are available. For other specifications, please contact the factory.**

VC8 Series

SINE WAVE OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION		VALUE		UNIT
			Min.	Typ.	Max.	
Sine Wave Output Level	V_O	Supply Voltage 3.3V / 5.0V	+5	+10		dBm
Load				50		Ω
Harmonics				-20	-10	dBc

PHASE NOISE

PARAMETER	SYMBOL	CONDITION		VALUE		UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	£ (Δ f)	**100MHz**		-85		dBc/Hz
@100 Hz Offset	£ (Δ f)	**100MHz**		-120		dBc/Hz
@1 kHz Offset	£ (Δ f)	**100MHz**		-145		dBc/Hz
@10 kHz Offset	£ (Δ f)	**100MHz**		-168		dBc/Hz
@100 kHz Offset	£ (Δ f)	**100MHz**		-175		dBc/Hz
@1 MHz Offset	£ (Δ f)	**100MHz**		-175		dBc/Hz

PARAMETER	SYMBOL	CONDITION		VALUE		UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	£ (Δ f)	**122.800MHz**		-80		dBc/Hz
@100 Hz Offset	£ (Δ f)	**122.800MHz**		-112		dBc/Hz
@1 kHz Offset	£ (Δ f)	**122.800MHz**		-142		dBc/Hz
@10 kHz Offset	£ (Δ f)	**122.800MHz**		-163		dBc/Hz
@100 kHz Offset	£ (Δ f)	**122.800MHz**		-172		dBc/Hz
@1 MHz Offset	£ (Δ f)	**122.800MHz**		-175		dBc/Hz

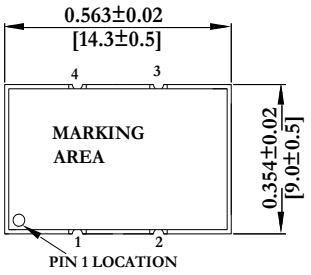
PARAMETER	SYMBOL	CONDITION		VALUE		UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	£ (Δ f)	**300MHz**		-75		dBc/Hz
@100 Hz Offset	£ (Δ f)	**300MHz**		-110		dBc/Hz
@1 kHz Offset	£ (Δ f)	**300MHz**		-135		dBc/Hz
@10 kHz Offset	£ (Δ f)	**300MHz**		-158		dBc/Hz
@100 kHz Offset	£ (Δ f)	**300MHz**		-165		dBc/Hz
@1 MHz Offset	£ (Δ f)	**300MHz**		-165		dBc/Hz

Note: The typical phase noise shown in the tables corresponds to the 5V VCXO oscillator.

VC8 Series

MECHANICAL DIMENSIONS AND PIN FUNCTIONS

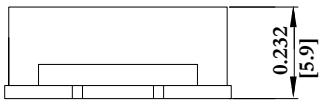
TOP VIEW



5.9mm/0.232" Max.

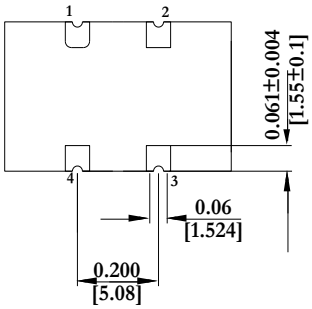
OUTLINE TOLERANCE:
±0.008" / 0.2mm
(Unless otherwise specified

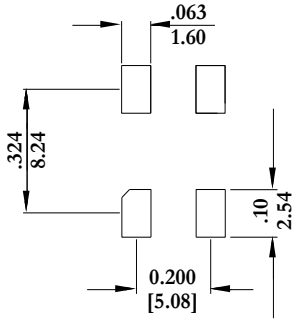
FRONT VIEW



RECOMMENDED SOLDER PATTERN
TOP VIEW

BOTTOM VIEW





Unit: mm [inch]

PIN	SYMBOL	FUNCTION
1	Vc	Voltage Control
2	GND	Case/Ground
3	OUT	RF Output
4	Vcc	Supply Voltage

VC8 Series

PART NUMBERING SYSTEM

Prefix	Output Type	Stability	Revision	Temperature Range	Pull Range	Frequency	No. Pads	Supply Voltage
VC8	6: SINE	20: ±20 ppm 25: ±25 ppm	A	First letter: Lowest Temperature, Second letter: Highest Temperature: From A=-55°C to Z=+70°C, Then: 1=+75°C, 2=+80°C, 3=+85°C… in 5°C Steps Example: D3: -40°C to +85°C	20: ±20 ppm 30: ±30 ppm 50: ±50 ppm	50MHz 100 MHz 122.800 MHz 300 MHz Other frequencies available	4: 4	3.3: 3.3 V 5: 5.0 V

*** Not all combinations of options are available. Please contact the factory.**

Example: **VC8625A-D3-30-122.880-4-5**
VCXO, Sinewave, ±25ppm, -40 to 85°C, ±30ppm, 1228.880 MHz,4 pads, 5V

MARKING

- A marking code will be issued by the sales department at order confirmation.

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