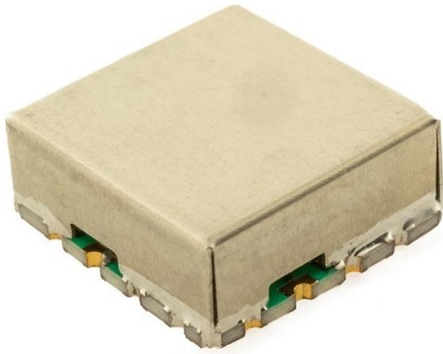


RQRA-4100-4300 Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	RQRA-4100-4300-DG
Manufacturer	Raltron Electronics
Manufacturer Product Number	RQRA-4100-4300
Description	VCO 4100MHZ-4300MHZ SMD .5X.5"
Detailed Description	4.2GHz Center Frequency 0.5 V ~ 4.5 V Voltage Controlled Oscillator 2.5 ±2.5 dBm -15 2nd Harmonic Typ (dBc)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

RQRA-4100-4300

Series:

RQRA VCO

Frequency Range:

4.1 ~ 4.3GHz

Voltage - Supply:

5V

2nd Harmonic, Typ (dBc):

-15

Pushing (MHz/V):

6

Phase Noise Typ (dBc/Hz):

-84

Package / Case:

16-QFN, Variant

Height:

0.162" (4.11mm)

Manufacturer:

Raltron Electronics

Product Status:

Active

Frequency - Center:

4.2GHz

Tuning Voltage (VDC):

0.5 V ~ 4.5 V

Icc Max:

15mA (Typ)

Power (dBm):

2.5 ±2.5

Operating Temperature:

-40°C ~ 85°C

Size / Dimension:

0.500" L x 0.500" W (12.70mm x 12.70mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



A RAMI TECHNOLOGY Company

RQRA
VCO SERIES
Page 1 of 4

RQRA-4100-4300



ELECTRICAL SPECIFICATIONS

PARAMETER	CONDITION	SYMBOL	VALUE			UNIT
			Min.	Typ.	Max.	
Lower Frequency ^{1,2}	Tuning Voltage:0.5V	fo(Vt)			4100	MHz
Upper Frequency ^{1,2}	Tuning Voltage:4.5V	fo(Vt)	4300			MHz
Tuning Voltage		Vt	0.5		4.5	VDC
Supply Voltage		Vcc	4.75	5.0	5.25	VDC
Supply Current	Vcc=5.0V			15		mA
Tuning Sensitivity	Over Tuning Range, 0.5-4.5V	df/dVt		100		MHz/V
Pushing	Over Supply Variation	df/dVcc			6.0	MHz/V
Pulling ^{1,3}		df/dZI			8.0	MHz pk-pk
2 nd Harmonic	Vcc=5.0V	a(n*fo)		-15		dBc
Input Capacitance		C _{IN}			10	pF
Operating Temperature Range		Ta	-40		+85	°C
Storage Temperature Range		Tstor	-45		+90	°C
Maximum Voltage	V _{cc(abs)}				6.0	V
Moisture Sensitivity Level	MSL	JEDEC J-STD-2	1			
Termination Finish			Glass-reinforced laminate base and nickel-silver cover			
ESD Sensitivity	HBM	Human body model JESD22-A114		3		kV

OUTPUT CHARACTERISTICS

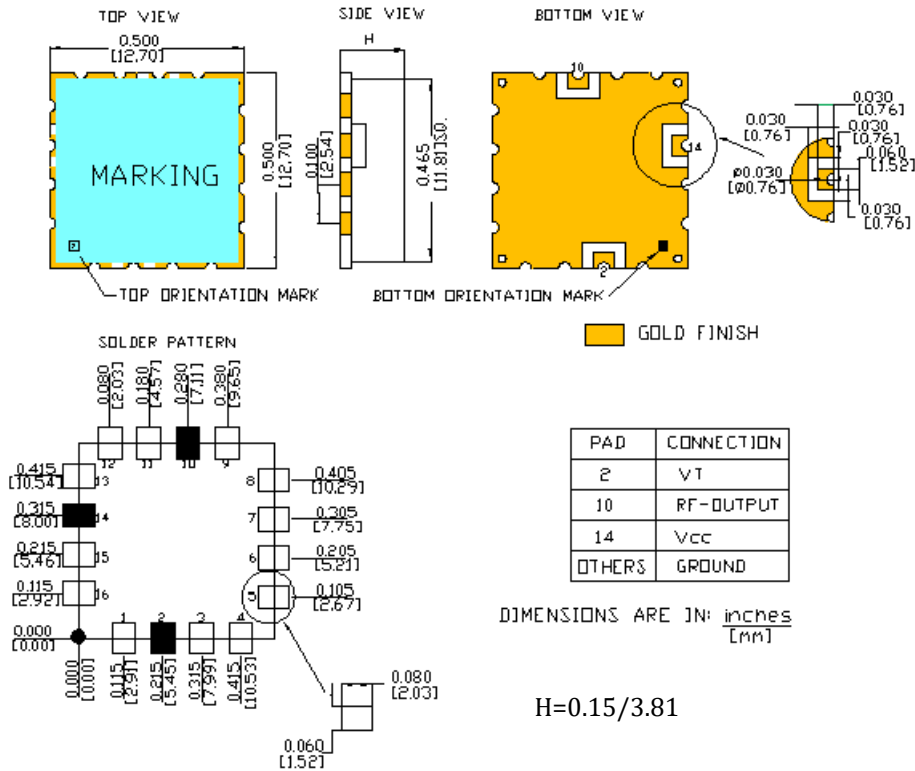
SINE-WAVE	PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
				Min	Typ.	Max	
	Sine Output Voltage Level	Pw	Output termination 50Ω	0	+2.5	+5.0	dBm
	Supply Current	Is	Vcc, ±5%		15		mA
	Output Load	O _{CL}			50		Ω



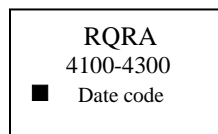
A RAMI TECHNOLOGY Company

RQRA-4100-4300

MECHANICAL DIMENSIONS AND PIN FUNCTIONING



■ Marking:



Top View.



A RAMI TECHNOLOGY Company

RQRA
VCO SERIES
Page 3 of 4

RQRA-4100-4300

PHASE NOISE

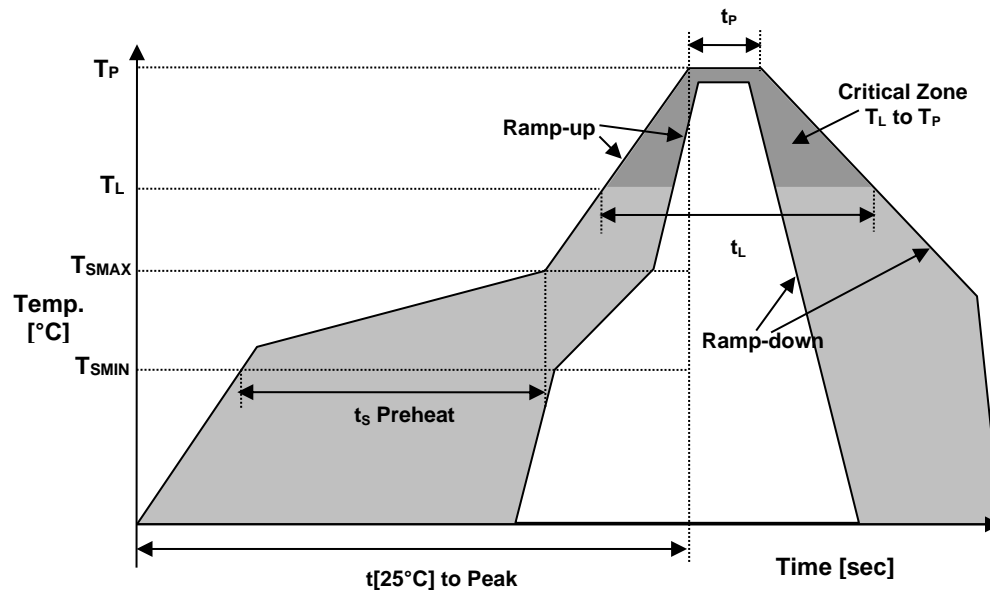
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min	Typ	Max	
SSB Phase noise	$\Sigma(\Delta f)$	$\Delta f=10\text{kHz}$		-84		dBc
		$\Delta f=100\text{ kHz}$		-106		

COMMON SPECIFICATIONS

- 1.1 -Load impedance is 50 Ohms.
- 1.2- The frequency range is defined between the (max) lower frequency and (min) upper frequency.
- 1.3 -Pulling is measured with 12dB return loss, all phases.
- 1.4- Package outline tolerances are typ. $\pm 0.30\text{mm}$ / $\pm 0.012\text{inch}$ if not stated differently on the drawing.
- 1.5 -It is recommended to provide two bypass-capacitors (ceramic), from Vcc to Gnd, $1\text{nF} \parallel 100\text{pF}$.
- 1.6- Solder temperature (peak) is 260°C for 10-20s.

RQRA-4100-4300

REFLOW PROFILE



Recommended Solder Reflow Profile			
Temperature Min Preheat	T_{SMIN}		150°C
Temperature Max Preheat	T_{SMAX}		175°C
Time (T_{SMIN} to T_{SMAX})	t_s		60-180 sec.
Temperature	T_L		217°C
Peak Temperature	T_P		260°C
Ramp-up rate	R_{UP}		3°C/sec max.
Ramp-down rate	R_{DOWN}		6°C/sec max.
Time within 5°C of Peak Temperature	t_p		10-20 sec max.
Time $t_{[25^\circ C]}$ to Peak Temperature	$t_{[25^\circ C] \text{ to Peak}}$		480 sec.
Time	t_L		60-150 sec.

APPROVALS

Eng. approval, date:	CP	05/11/2021
Created by, date:	AR	05/11/2021
Revision:	A	

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.