

## RQRA-1480-1600



### ELECTRICAL SPECIFICATIONS

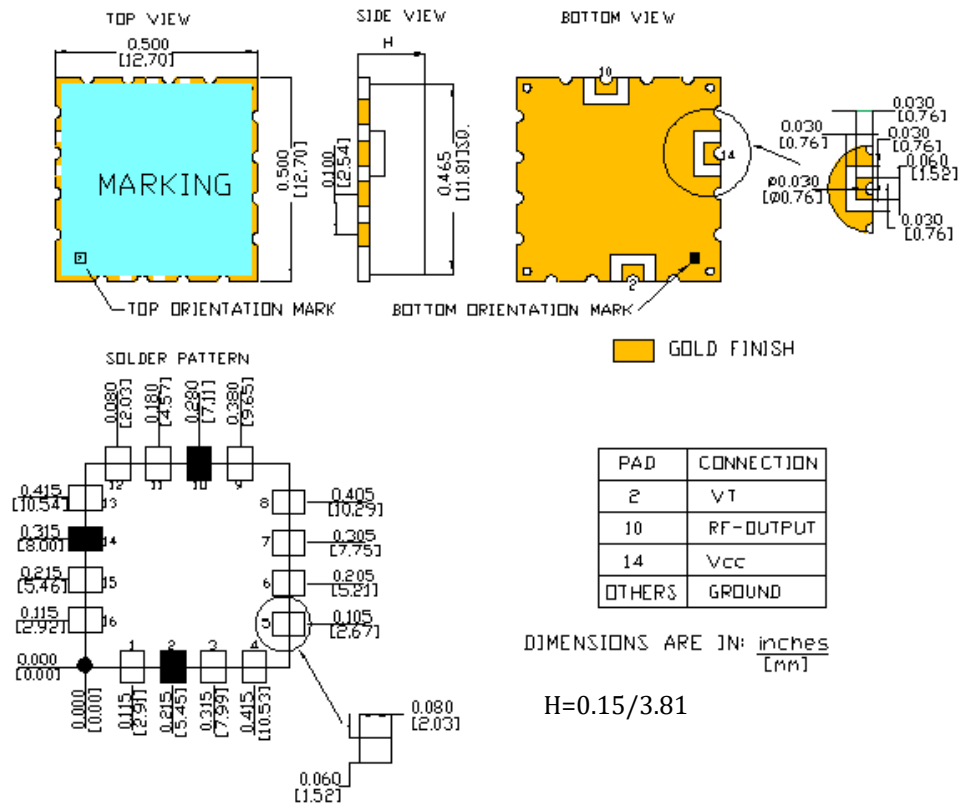
PARAMETER	CONDITION	SYMBOL	VALUE			UNIT
			Min.	Typ.	Max.	
Lower Frequency <sup>1,2</sup>	Tuning Voltage:0.5V	fo(Vt)			1480	MHz
Upper Frequency <sup>1,2</sup>	Tuning Voltage:4.5V	fo(Vt)	1600			MHz
Tuning Voltage		Vt	0.5		4.5	VDC
Supply Voltage		Vcc	4.75	5.0	5.25	VDC
Supply Current	Vcc=5.0V			15	30	mA
Tuning Sensitivity	Over Tuning Range, 0.5-4.5V	df/dVt		65		MHz/V
Pushing	Over Supply Variation	df/dVcc		5.0		MHz/V
Pulling <sup>1,3</sup>		df/dZI		10.0		MHz pk-pk
2 <sup>nd</sup> Harmonic	Vcc=5.0V	a(n*fo)		-12		dBc
Input Capacitance		C <sub>IN</sub>			50	pF
Operating Temperature Range		Ta	-30		+75	°C
Storage Temperature Range		Tstor	-45		+90	°C
Maximum Voltage	V <sub>cc(abs)</sub>				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

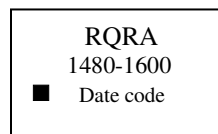
SINE-WAVE	PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
				Min	Typ.	Max	
	Sine Output Voltage Level	Pw	Output termination 50Ω	+5.0	+6.5	+8.0	dBm
	Supply Current	Is	Vcc, ±5%		15	30	mA
	Output Load	O <sub>CL</sub>			50		Ω

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### MECHANICAL DIMENSIONS AND PIN FUNCTIONING



■ Marking:



Top View.

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### PHASE NOISE

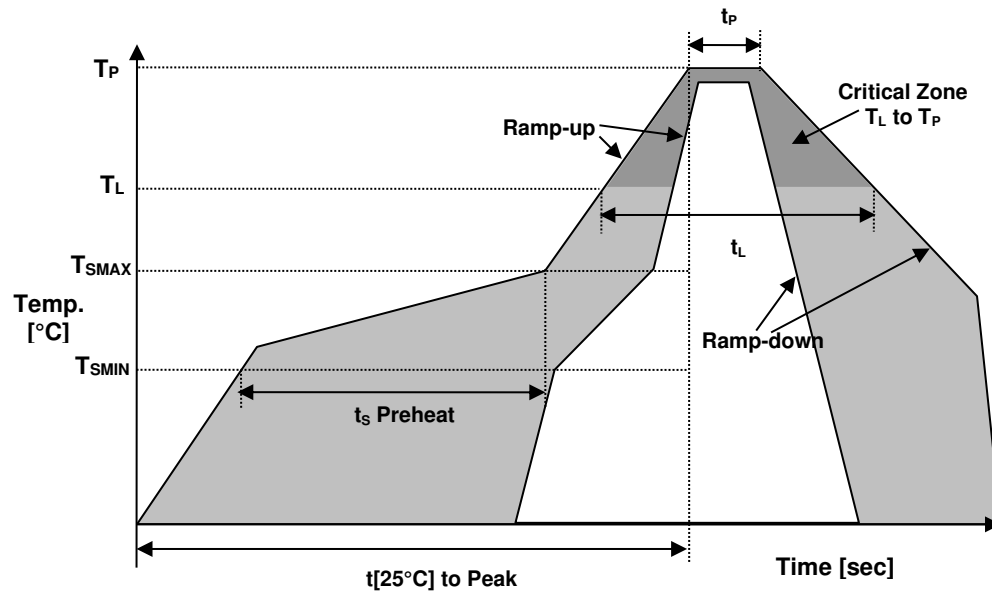
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min	Typ	Max	
SSB Phase noise	$\Sigma(\Delta f)$	$\Delta f=10\text{kHz}$		-99		dBc
		$\Delta f=100\text{ kHz}$		-123		

### 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  $260^{\circ}\text{C}$  for 10-20s.

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### 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 $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak		480 sec.
Time	$t_L$		60-150 sec.

#### APPROVALS

Eng. approval, date: CP 06/16/2021

Created by, date: AR 06/16/2021

Revision: A