

RQRA-0400-0800



ELECTRICAL SPECIFICATIONS

PARAMETER	CONDITION	SYMBOL	VALUE			UNIT
			Min.	Typ.	Max.	
Lower Frequency ^{1,2}	Tuning Voltage:0V	fo(Vt)			400	MHz
Upper Frequency ^{1,2}	Tuning Voltage:12V	fo(Vt)	800			MHz
Tuning Voltage		Vt	0		12	VDC
Supply Voltage		Vcc	4.75	5.0	5.25	VDC
Supply Current	Vcc=5.0V			17		mA
Tuning Sensitivity	Over Tuning Range, 0-12V	df/dVt		47		MHz/V
Pushing	Over Supply Variation	df/dVcc			5.0	MHz/V
Pulling ^{1,3}		df/dZI			3.0	MHz pk-pk
2 nd Harmonic	Vcc=5.0V	a(n*fo)		-5		dBc
Input Capacitance		C _{IN}			200	pF
Operating Temperature Range		Ta	-10		+70	°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	+5.0	+10.0	dBm
	Supply Current	Is	Vcc, ±5%		17		mA
	Output Load	O _{CL}			50		Ω

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PHASE NOISE

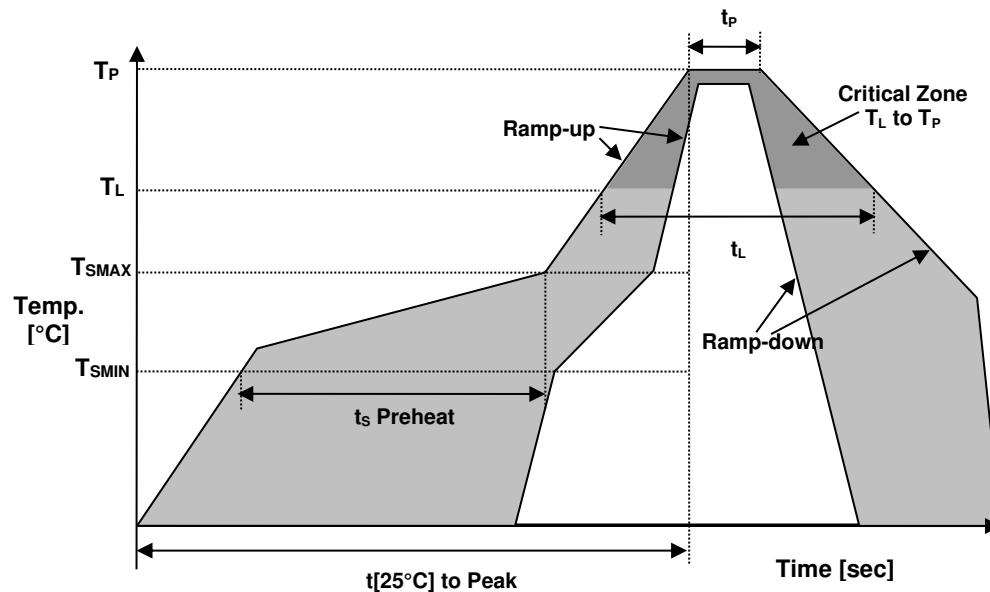
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min	Typ	Max	
SSB Phase noise	$\Sigma(\Delta f)$	$\Delta f=10\text{kHz}$		-102		dBc
		$\Delta f=100\text{ kHz}$		-122		

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.

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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	06/17/2021
Created by, date:	AR	06/17/2021
Revision:	A	