

RQRA-0060-0110



ELECTRICAL SPECIFICATIONS

PARAMETER	CONDITION	SYMBOL	VALUE			UNIT
			Min.	Typ.	Max.	
Lower Frequency ^{1,2}	Tuning Voltage:0.5V	fo(Vt)			60	MHz
Upper Frequency ^{1,2}	Tuning Voltage:10.0V	fo(Vt)	110			MHz
Tuning Voltage		Vt	0.5		10.0	VDC
Supply Voltage		Vcc	4.75	5.0	5.25	VDC
Supply Current	Vcc=5.0V				25	mA
Tuning Sensitivity	Over Tuning Range, 0.5-10.0V	df/dVt		8		MHz/V
Pushing	Over Supply Variation	df/dVcc			0.5	MHz/V
Pulling ^{1,3}		df/dZI			0.5	MHz pk-pk
2 nd Harmonic	Vcc=5.0	a(n*fo)		-10		dBc
Input Capacitance		C _{IN}			330	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	+5.0	+8.5	+12.0	dBm
	Supply Current	Is	Vcc, ±5%			25	mA
	Output Load	O _{CL}			50		Ω

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PHASE NOISE

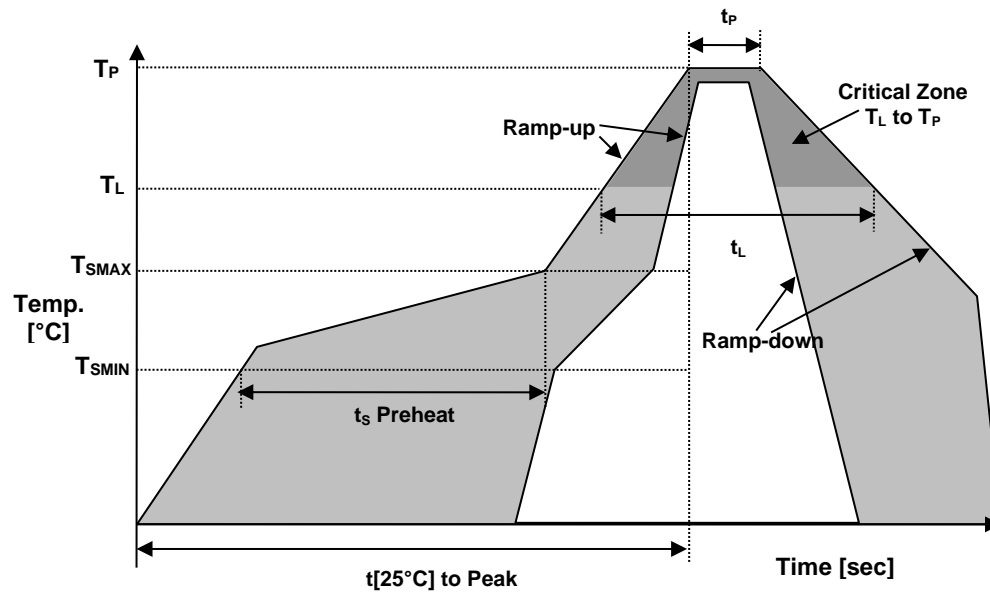
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min	Typ	Max	
SSB Phase noise	$\Sigma(\Delta f)$	$\Delta f=10\text{kHz}$		-114		dBc
		$\Delta f=100\text{ kHz}$		-135		

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	06/16/2021
Created by, date:	AR	06/16/2021
Revision:	A	