Q50L-100 Low Power Oscillator



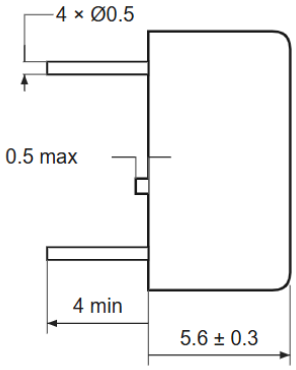
Key Features

- Low power consumption <350 mW
- 100MHz, HCMOS output
- Low phase noise
- Low cost

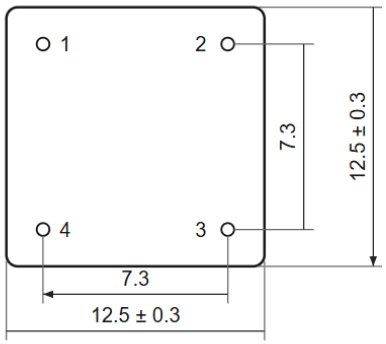
Applications

- Portable radio
- Local oscillator
- Test and measurement equipment
- Battery powered portable communication systems

Mechanical Specifications, (12.5 X 12.5 mm)



Side view



Bottom view

Pin assignments

Pin	Function
1	Ground (GND)
2	Signal output (OUT)
3	Supply voltage (Vcc)
4	Control voltage (Vc)

Unspecified tolerances per GB/T 1804-m. Drawing not to scale.

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Electrical & Environmental Specifications (25 °C, +3.3 VDC input unless otherwise specified)

PARAMETERS	Unit	Min	Typ.	Max	Note	Comments
RF Output						
• Frequency	MHz		100		1	
• Amplitude	V		2.6		2	CMOS
• Load	MΩ//10 pf		10			
• R/F Time	ns			10		
Power Input						
• DC Input	V			3.3		
• Power Consumption	mW			<350		-40 °C to +70 °C, 100MHz, 3.3V
• Warm up Power	mW			500		*Factory configurable*
• Warm up Time	second			120		*Refer to 25C, 15min of operation* ±1x10^{-8}
Environmental						
• Temperature Operating & Stability	ppb			±150		-40 °C to +70 °C -40 °C to +70 °C,100M
• Mechanical Shock						Mil-STD-202, >30 G, 11 ms, half sine
• Vibration						Mil-STD-202, 5 G up to 2 kHz
• Humidity						MIL-STD-202, Method 103, condition A
• Storage temperature	C					-40 °C to +90 °C
Stability						
• Acceleration Sensitivity	/g			±1x10^{-9}		Worst direction,100M
• Aging (after 30days)	/day			± 5x10^{-9}		±5x10^{-7}/first year,100M
• Frequency Control	ppm		±1	±2		0-2.8V, positive slope
• Frequency vs Supply	ppb			2.8		±0.1V,3.3V
• Frequency vs load	ppb		5			5% change
• Reference Voltage	V					
Phase Noise						
•	Offset freq.		dBc/Hz			
	10Hz		-100			100MHz/3.3V
	100Hz		-130			
	1kHz		-155			
	10kHz		-167			
	100kHz		-173			
	1MHz		-175			

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**Consulting factory for better Phase noise requirements*

Order Information

Q50L	F	58	G	3	H	-100M
	1	2	3	4	5	

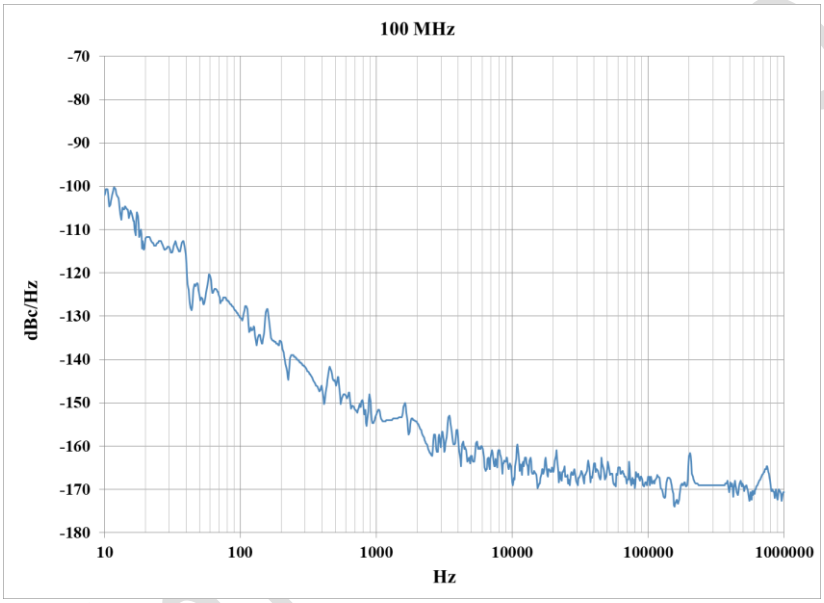
3	aging per day
code	specification,ppb
A	0.1
B	0.2
C	0.5
D	1
E	2
F	3
G	5

4	Supply
code	specification
3	3.3V
5	5V

5	Output
code	specification
H	HCMOS
S	sine wave

1	Temperature Range
code	Specification
A	0 to 50C
B	-10 to 60C
C	0 to 70C
D	-20 to 70C
E	-30 to 70C
F	-40 to 85C

2	Temperature Stability
code	specification
XY	±Xe-Y
59	±5e-9
18	±1e-8
28	±2e-8
38	±3e-8
58	±5e-8



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