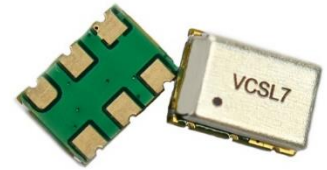


### VCSL7-3-D3-25-T-800.000



### ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Frequency Range	F <sub>o</sub>			800.000		MHz
Absolute Pull Range <sup>1</sup>	APR	0.3 ≤ VC ≤ 3.0	±25			ppm
Linearity	Lin	0 ≤ VC ≤ 2.5		5	15	%
Gain Transfer	Kv		+100			ppm/V
Supply Voltage	V <sub>cc</sub>	(±10%)	2.97	3.3	3.63	V
Spurious Suppression	sp	Delta ref. to carrier		-60	-50	dBc
Vc Input Range	Vc	Vc center=1.65V	0.0		3.3	V
Modulation Bandwidth	Bw	MBW(-3db)	50			kHz
Vc Input Impedance	Zin	V <sub>cc</sub> = 3.3, 0 ≤ VC ≤ V <sub>cc</sub>	75			kΩ
Enable/Disable, PIN #2	OE	ENABLE: HIGH LEVEL OR OPEN	2.475		3.63	V
		DISABLE: LOW LEVEL OR GND	GND		0.3	V
Start-Up Time	t <sub>start</sub>	T <sub>a</sub> =25°C			10	ms
Operating Temperature Range	T <sub>a</sub>		-40		+85	°C
Storage Temperature Range	T <sub>(stg)</sub>	Absolute max	-55		+125	°C
Maximum Voltage	V <sub>cc(abs)</sub>		0		4.5	V
Moisture Sensitivity Level	MSL	JEDEC J-STD-2	1			
Termination Finish			5x7mm FR5 package, Nickel Silver cover, Gold plating contacts			
ESD Sensitivity	HBM	Human body model JESD22-A114		3		kV

1. Value of pulling guaranteed over + 25°C calibration tolerance, and variation with operating temperature range, input voltage, load, aging, shock and vibration.

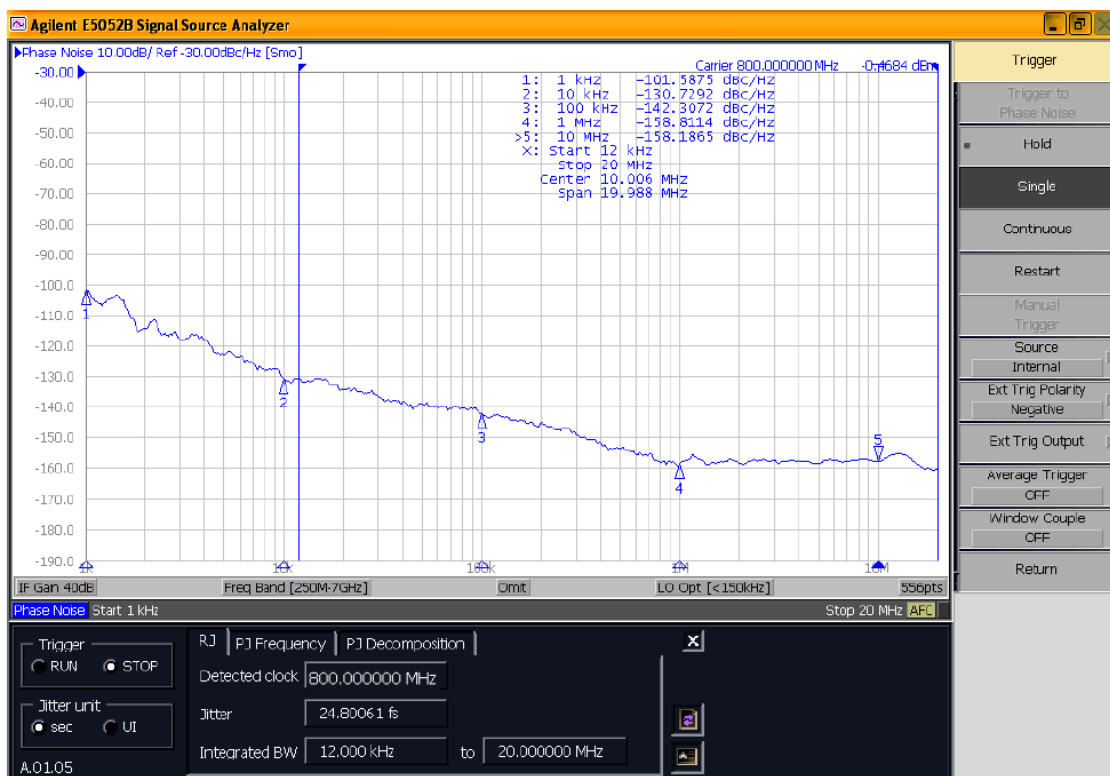
### OUTPUT CHARACTERISTICS

	PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
				Min	Typ.	Max	
LVPECL	Output Current	I <sub>out</sub>				20	mA
	Mid- Level	V <sub>m</sub>	Output termination 50Ω to V <sub>cc</sub> -2.0V, 3.3V ±10%	V <sub>cc</sub> -1.4	V <sub>cc</sub> .1.25	V <sub>cc</sub> -1.0	mV
	Single Ended Swing			450	600	750	mV-pp
	Differential Swing				1.5		V-pp
	Rise/Fall Time	Tr/Tf	20% to 80%			400	ps
	Duty Cycle/ Symmetry	DCY%	@ 50% signal level	45		55	%
	Supply Current	I <sub>s</sub>	Output termination 50Ω to V <sub>cc</sub> -2.0V, 3.3V ±10%, +25°C			100	mA
	Output Load	O <sub>CL</sub>	to V <sub>cc</sub> -2.0V		50		Ω

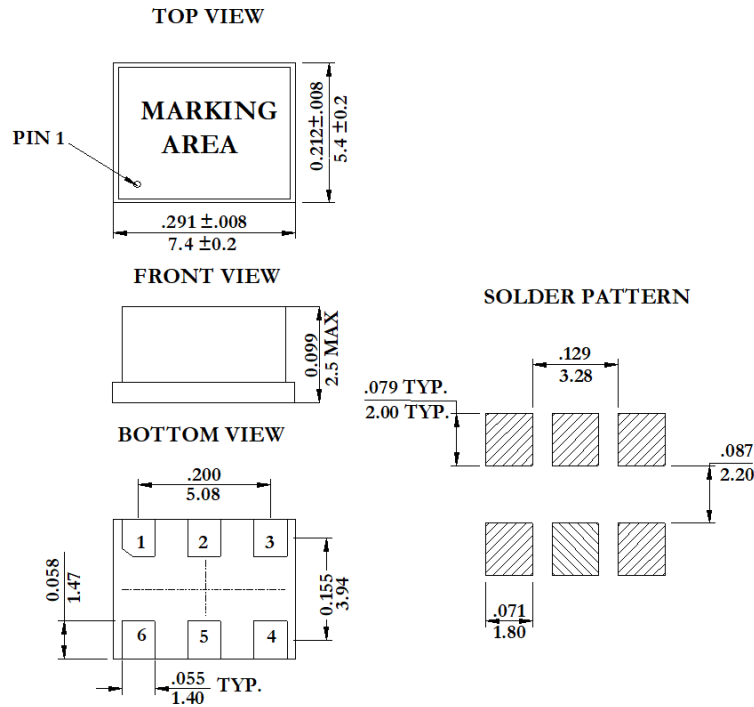
### VCSL7-3-D3-25-T-800.000

#### PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min	Typ	Max	
SSB Phase noise*	$\Sigma(\Delta f)$	$\Delta f=1\text{kHz}$		-98		dBc/Hz
		$\Delta f=10\text{kHz}$		-126		
		$\Delta f=100\text{kHz}$		-145		
		$\Delta f=1.0\text{MHz}$		-155		
		$\Delta f=10.0\text{MHz}$		-156		
Phase Jitter (12kHz~20MHz BW)	$\phi J$			70		fs
Period Jitter, RMS	$\phi J$			2.5		ps



MECHANICAL DIMENSIONS, PIN FUNCTIONING & P/N

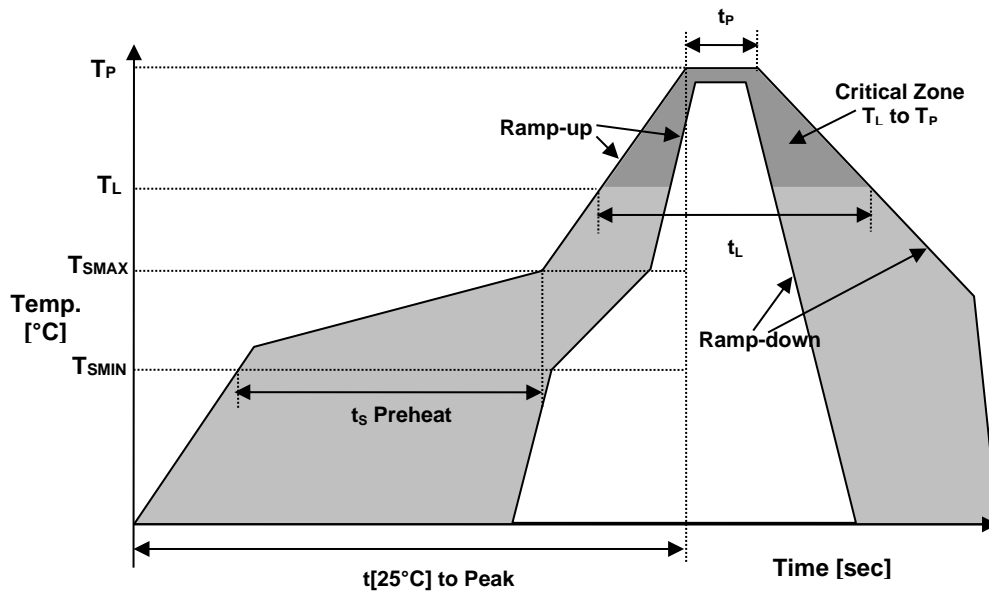


PIN	SYMBOL	FUNCTION
1	Vc	Voltage Control
2	OE	Enable/Disable High = Enable Low = Disable
3	GND	Case and Electrical Ground
4	Q	Output
5	/Q	Complementary output
6	Vcc	Power Supply Voltage

■ **Marking:**

- VC5L7
- 800.000
- D/C

**REFLOW PROFILE**



Recommended Solder Reflow Profile		
Temperature Min Preheat	T <sub>SMIN</sub>	150°C
Temperature Max Preheat	T <sub>SMAX</sub>	175°C
Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> )	t <sub>s</sub>	60-180 sec.
Temperature	T <sub>L</sub>	217°C
Peak Temperature	T <sub>P</sub>	260°C
Ramp-up rate	R <sub>UP</sub>	3°C/sec max.
Ramp-down rate	R <sub>DOWN</sub>	6°C/sec max.
Time within 5°C of Peak Temperature	t <sub>p</sub>	10 sec max.
Time t[25°C] to Peak Temperature	t[25°C] to Peak	480 sec.
Time	t <sub>L</sub>	60-150 sec.

	Signed	Date
Created	AR	April 20, 2020
Eng. approved	CP	April 20, 2020
REV A		
REV B	AR, April 22, 2020 Added picture of Phase Noise	