

# UVV Series

## 5x7 mm, 3.3 Volt, LVPECL/LVDS, VCXO



- Versatile VCXO to 800 MHz with good jitter (3 ps typical)
- Used in low jitter clock synthesizers and SONET applications

**Ordering Information**

Product Series UVV 1 0 R 1 L N 00.0000 MHz

Temperature Range  
 1: 0°C to +70°C 2: -40°C to +85°C  
 6: -20°C to +70°C 8: 0°C to +50°C

Stability  
 0: Nominal per APR selection

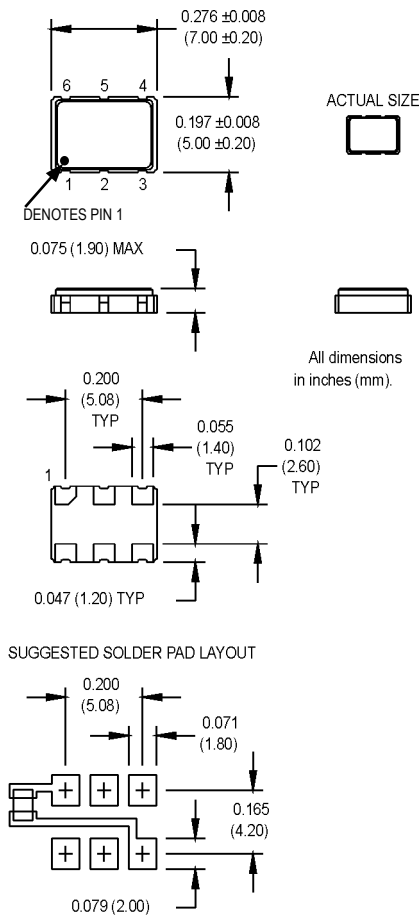
Output Type  
 R: Complementary, Enable Z: Complementary, w/o Enable

Absolute Pull Range  
 1: ±50 ppm (±35 ppm typ. Stability) 2: ±100 ppm (±20 ppm typ. Stability)  
 5: ±80 ppm (±25 ppm typ. Stability) 8: ±25 ppm (±50 ppm typ. Stability)

Symmetry/Output Logic Type  
 L: 45/55% LVDS P: 45/55% PECL H: 40/60% LVDS Q: 40/60% PECL

Package/Lead Configurations  
 N: Leadless Ceramic (6 pads)

Frequency (customer specified)



### Pin Connections

PIN	FUNCTION
1	Control Voltage
2	Enable
3	Ground
4	Output1/ Q
5	Output2/ Q̄
6	+Vdd

Electrical Specifications	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition	
	Frequency Range	F	0.75		800	MHz		
	Operating Temperature	TA	(See ordering information)					
	Storage Temperature	TS	-55		+125	°C		
	Frequency Stability	ΔF/F	(See ordering information)					See Note 1
	Aging							
	1st Year		-3/-5		+3/+5	ppm	<52 MHz / ≥52 MHz	
	Thereafter (per year)		-1/-2		+1/+2	ppm	<52 MHz / ≥52 MHz	
	Pullability/APR		(See ordering information)					See Note 2
	Control Voltage	Vc	0.3	1.65	3	V	Pin 1 Voltage	
	Linearity			5	15	%	Positive Monotonic Slope	
	Modulation Bandwidth	f <sub>m</sub>	10			kHz	-3 dB bandwidth	
	Input Impedance	Z <sub>in</sub>	50k			Ohms		
	Input Voltage	V <sub>cc</sub>	3.135	3.3	3.456	V		
	Input Current	I <sub>cc</sub>						
	0.75 MHz to 24 MHz				70/30	mA	PECL/LVDS	
	24 MHz to 96 MHz				100/60	mA	PECL/LVDS	
	96 MHz to 800 MHz				110/60	mA	PECL/LVDS	
	Output Type						PECL/LVDS	
	Load		50 Ohms to V <sub>cc</sub> –2 VDC 100 Ohms differential load					See Note 3 PECL waveform LVDS waveform
	Symmetry (Duty Cycle) (Per Symmetry Code)		(See ordering Information)					V <sub>cc</sub> –1.3 VDC (PECL) 0.5x (V <sub>max</sub> -V <sub>min</sub> ) LVDS
	Output Skew				200	ps	PECL	
	Differential Voltage	V <sub>o</sub>	250	340	450	mV	LVDS	
	Logic “1” Level	V <sub>oh</sub>	V <sub>cc</sub> –1.02			V	PECL	
	Logic “0” Level	V <sub>ol</sub>			V <sub>cc</sub> –1.63	V	PECL	
	Rise/Fall Time	Tr/Tf		.35 .50	.55 1.0	ns ns	@ 20/80% LVPECL @ 20/80% LVDS	
Enable/Disable Logic		80% V <sub>cc</sub> min or N/C: output active 20% V <sub>cc</sub> max: output disables to high-Z					Output Option R	
Start up Time			5		ms			
Phase Jitter	Φ <sub>J</sub>		3	5	ps RMS	Integrated 12 kHz – 20 MHz		
Phase Noise (Typical)	10 Hz	100 Hz	1 kHz	20 kHz	100 kHz	Offset from carrier		
@ 19.44 MHz	-60	-90	-112	-140	-150	dBc/Hz		
@ 155.52 MHz	-60	-90	-112	-123	-120	dBc/Hz		

- Stability given for deviation over temperature
- APR specification inclusive of initial tolerance, deviation over temperature, shock, vibration, supply voltage, and aging.
- PECL - See load circuit diagram #5 on page 116. LVDS - See load circuit diagram #9 on page 117.

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