

ISSUE 5; April 2016

**Description**

- LVPECL output Voltage Controlled Crystal Oscillator  
Using PPL technology to give a very wide frequency range  
Wide pulling of  $\pm 150\text{ppm}$  min  
Ceramic package with a seam sealed metal lid hermetically sealed  
For a more controllable smaller pulling range please see our CFPV-32



**Frequency Parameters**

- Frequency: 12.0MHz to 700.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 50.00\text{ppm}$

**Electrical Parameters**

- Supply Voltage:  $3.3\text{V} \pm 5\%$

**Frequency Adjustment**

- Pulling:  $\pm 150\text{ppm}$  min
- Control Voltage:  $+1.65\text{V} \pm 1.5\text{V}$
- Input Impedence:  $60\text{k}\Omega$  min

**Operating Temperature Ranges**

- 10 to  $70^\circ\text{C}$
- 40 to  $85^\circ\text{C}$

**Output Details**

- Output Compatibility: LVPECL
- Drive Capability:  $50\Omega$  terminated to  $+1.3\text{V}$
- Logic '1' ( $>V_s - 1.10\text{V}$ ) to pad 1 disables oscillator output; when disabled the oscillator goes to the high impedance state  
Logic '0' ( $<V_s - 1.60\text{V}$ ) to pad 1 enable oscillator output  
No connection to -ad enable oscillator output

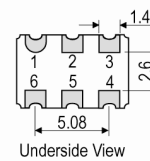
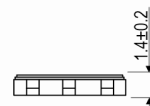
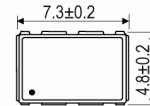
**Noise Parameters**

- Phase Noise (max)
  - 45dBc/Hz @ 10Hz
  - 65dBc/Hz @ 100Hz
  - 95dBc/Hz @ 1kHz
  - 120dBc/Hz @ 10kHz
  - 117dBc/Hz @ 100kHz
  - 115dBc/Hz @ 1MHz
  - 135dBc/Hz @ 10MHz
- Phase Jitter: 5ps rms max (12kHz - 20MHz)

**Environmental Parameters**

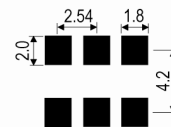
- Shock: MIL-STD-202F, Method 213B (1000G, 0.5ms, 1/2 sine)
- Vibration: MIL-STD-202F, Method 204D, Test Condition D 20G, frequency range 10-2000Hz, 4hrs in X, Y & Z axes (total 12hrs)
- Storage Temperature Range: -40 to  $85^\circ\text{C}$

**Outline (mm)**



- Pad Connections
- Voltage Control
  - Tri-State Operation
  - GND
  - Output +
  - Output -
  - +V<sub>S</sub>

**Solder Pad Layout**



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**Ordering Information**

- Frequency\*  
Model\*  
Output  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Supply Voltage  
Pullability
- Example  
100.00MHz CFPV-55  
LVPECL ±50ppm -10 to 70C 3.3V ±150ppm min

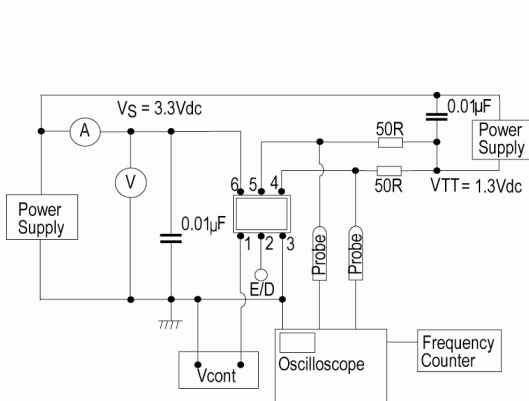
**Compliance**

- RoHS Status (2011/65/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

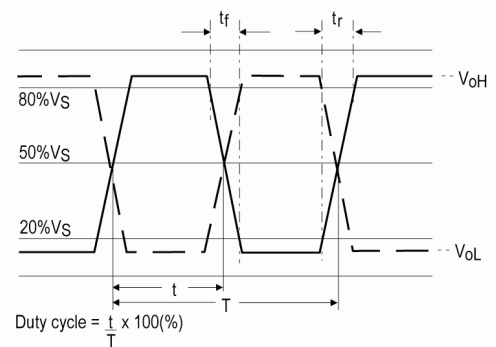
**Packaging Details**

- Pack Style: Cutt            In tape, cut from a reel  
Pack Size: 1
- Pack Style: Bulk            Loose in bulk pack  
Pack Size: 100
- Pack Style: Reel            Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000

**Test Circuit**



**Wave Form**



**Electrical Specification - maximum limiting values 3.3V ±5%**

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
12.0MHz	99.999999MHz	-10 to 70	±25.0	120	1	40/60%
		-40 to 85	±50.0	120	1	40/60%
100.0MHz	700.0MHz	-10 to 70	±25.0	120	0.5	40/60%
		-40 to 85	±50.0	120	0.5	40/60%

*This document was correct at the time of printing; please contact your local sales office for the latest version.*  
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