RoHS COMPLIANT

ECSpressCON™

ECXV-L LVDS VCXO

ECXV-L2 (2.5V) and ECXV-L3 (3.3V) low jitter, low current Frequency Configurable SMD LVDS Voltage Controlled Crystal Oscillators (VCXO).

Request a Sample

ECS INC INTERNATIONAL®

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

Parameters	Conditions	ECXV-L2 (+2.5V)			ECXV-L3 (+3.3V)			Units
		MIN	TYP	MAX	MIN	TYP	MAX	
Frequency Range		10.000		1500.00	10.000		1500.00	MHz
Supply Voltage		+2.375	+2.5	+2.625	+2.97	+3.3	+3.63	VDC
Voltage Control		+0.2	+1.25	+2.3	+0.3	+1.65	+3.0	VDC
Frequency Pulling Range (Positive Transfer)	7 x 5 & 5 x 3.2 pkg.	±100			±100			PPM
	3.2 x 2.5 & 2.5 x 2 pkg.	±50			±50			PPM
Frequency Stability *	Option A			±100			±100	ppm
	Option B			±50			±50	ppm
	Option C			±25			±25	ppm
	Option D			±20			±20	ppm
Input Current	10.0 ~ 250.0 MHz			18			20	mA
	250.1 ~ 500.0 MHz			21			22	mA
	500.1 ~ 1500 MHz			26			28	mA
Output Symmetry	@ 50% V_{CC} level			48/52			48/52	%
Aging	@ +25ºC (first year)			±2			±2	PPM
Rise and Fall Times	10% Vdd to 90% Level	150		250	150		250	pS
"0" Level	VOL	0.9	1.1		0.9	1.1		VDC
"1" Level	VOH		1.4	1.6		1.4	1.6	VDC
Output Load	Differential							
Output Enable	Pin 2 **	0.7%			0.7%			Vdd
Output Disable	Pin 2			0.3%			0.3%	Vdd
Output Enable Time				200			200	ns
Output Disable Time				50			50	ns
Phase Jitter, rms	12 KHz to 20 MHz		1.0			1.0		pS
Operating Temperature (Specified in P/N)	Standard	-10		+70	-10		+70	ºC
	Extended (P Option)	-40		+105	-40		+105	ºC
Storage Temperature		-55		+125	-55		+125	ºC
Moisture Sensitivity Level		1						
Termination Finish		Au						
ESD Sensitivity	Human Body Model	3kV Max.						

**Note: Inclusive of 25ºC tolerance, operating temperature, input voltage change, load change, shock and vibration.*
***Note: Internal pull-up resistor active output if pin 2 is left open.*
**** Pull Range is package dependent*

Part Numbering Guide: Example ECXV-L35B3N-156.250						
Series	**Voltage**	**Package Size (mm)**	**Stability**	**Pull Range(***)**	**Operating Temperature**	**Frequency**
ECXV-L (LVDS Output)	2 = +2.5V 3 = +3.3V	2 = 2.5 x 2 3 = 3.2 x 2.5 5 = 5 x 3.2 7 = 7 x 5	A = ± 100 ppm B = ± 50 ppm C = ± 25 ppm D = ± 20 ppm	1 = ±50 PPM 2 = ±90 PPM 3 = ±100 PPM	L = -10 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C P = -40 ~ +105°C	Customer Specified

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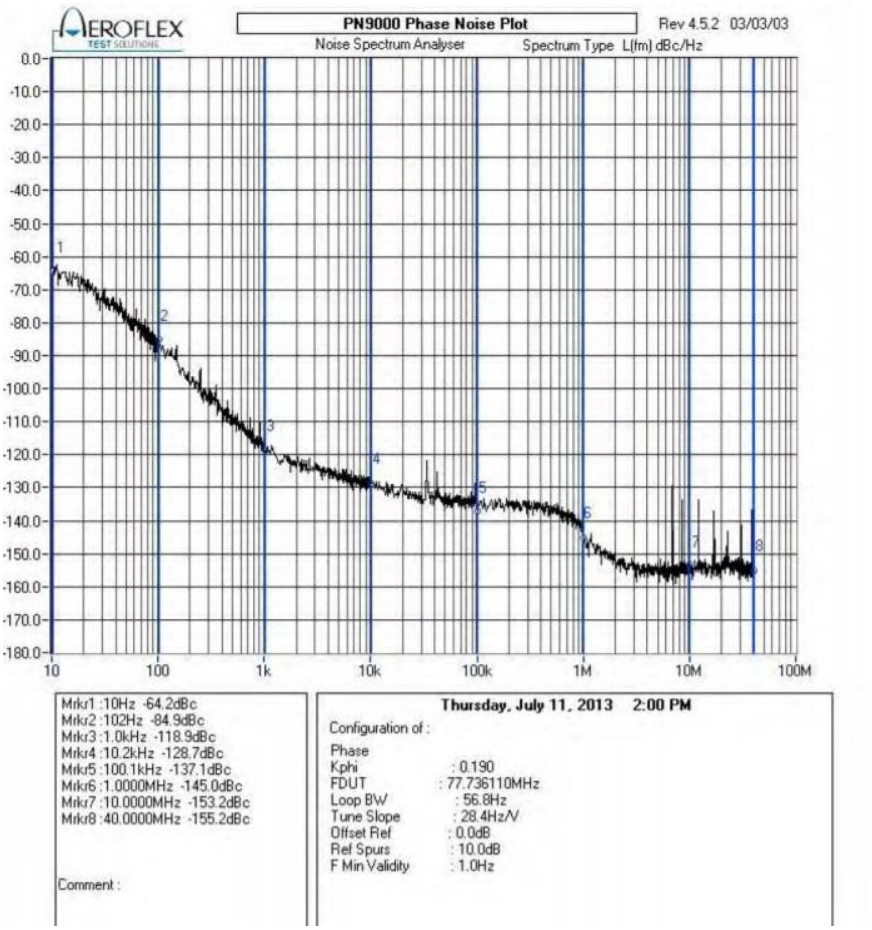
Phase Noise and Jitter Data (typical)

	Frequency (offset)	77.760	122.880	125.00	156.250	212.5	491.520	622.080	1000	1250
SSB Phase Noise Data (dBc/Hz typical)	10 Hz	-64	-68	-63	-55	-62	-61	-48	-58	-45
	100 Hz	-84	-99	-94	-85	-93	-86	-85	-82	-81
	1 KHz	-118	-113	-113	-109	-105	-100	-101	-93	-81
	10 KHz	-128	-119	-118	-116	-113	-105	-102	-97	-96
	100 KHz	-137	-120	-119	-118	-115	-105	-103	-97	-97
	1 MHz	-145	-140	-137	-139	-135	-126	-124	-116	-119
	5 MHz	-152	-142	-146	-146	-143	-137	-133	-127	-129
Phase Jitter pS 12 KHz ~ 20 MHz, RMS		0.9	0.8	1.1	0.9	1.0	1.1	1.2	1.5	1.1

Phase Noise Plot of ECXV-H35B3B-77.760 (typical)



Package Data	
Item	Description
Lid	Metal
Base	Ceramic
Plating	Gold/Nickel Surface/Under

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Dimensions (mm)

7 = 7x5 Package

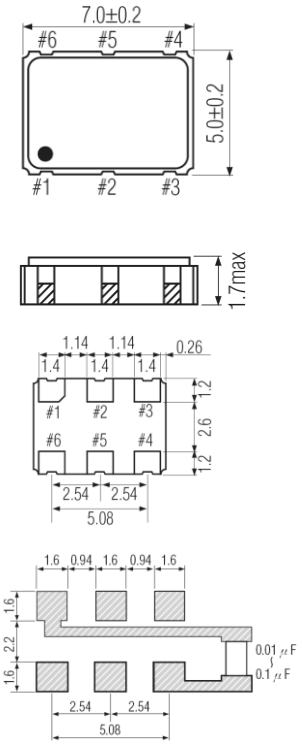


Figure 1) Top, Side, Bottom & Land

5 = 5x3.2 Package

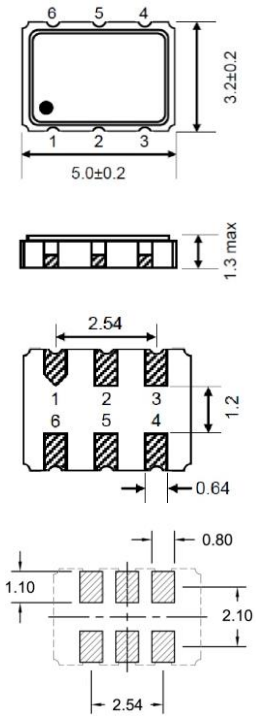


Figure 2) Top, Side, Bottom & Land

3 = 3.2x2.5 Package

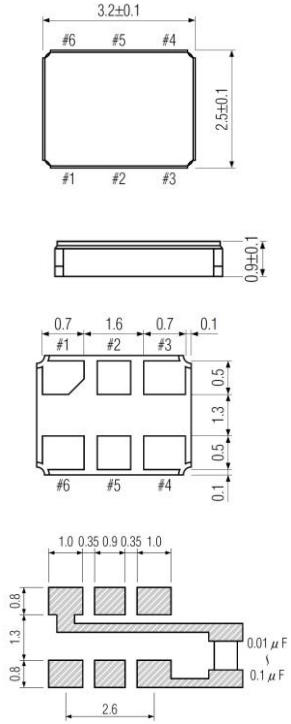


Figure 3) Top, Side, Bottom & Land

2 = 2.5x2 Package

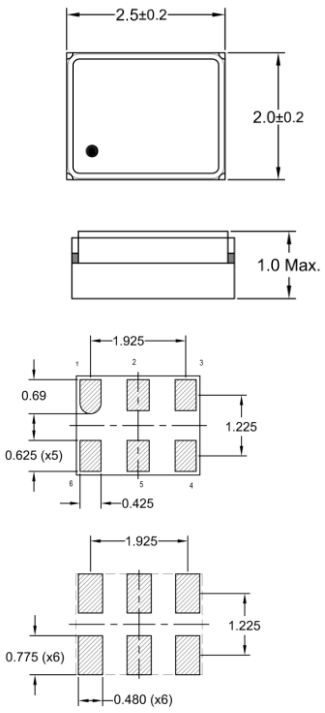
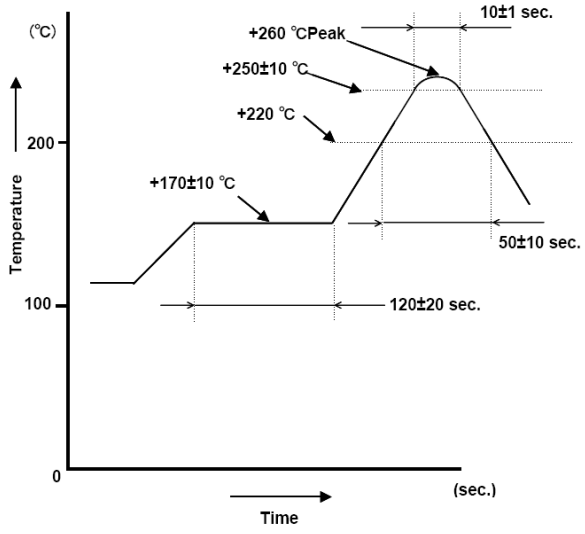


Figure 4) Top, Side, Bottom & Land

Suggested Reflow Profile



Pin Connections	
Pin #	Function
1	Control Voltage
2	OE: High Enable
3	Ground
4	LVDS Differential
5	Complementary Output
6	Supply Voltage