VFXO302
XO Low Jitter 2.5V, 3.3V
5x3.2mm SMD, LVPECL, LVDS

Valpey Fisher Corporation
High Frequency, Low Phase Noise Timing Solutions

Features

- 25MHz to 270MHz Frequency Range LVPECL
- 80MHz to 270MHz Frequency Range LVDS
- Low Phase Noise
- 0.7ps jitter over 12KHz ~ 20MHz

RoHS Status

RoHS 6/6

Applications

- Optical Networking, SONET / SDH
- 10 Gigabit Ethernet
- Broadband Access

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F	LVPECL LVDS	25 80		270	MHz	
Frequency Stability	ΔF/F	Over all conditions of :- Operating Temperature; Supply Voltage; 10 Years Aging; shock & vibration			± 50 ± 25	ppm	*Order Code B* *Order Code C*
Operating Temperature	T		0° -40°		+70° +85°	°C	*Order Code B* *Order Code G*
Output		LVPECL LVDS					*Order Code L* *Order Code D*
Supply Voltage	Vcc		3.15 2.375	3.3 2.5	3.45 2.625	V	*Order Code E* *Order Code G*
Integrated Jitter RMS **12KHz to 20MHz**				0.3	0.7	ps	

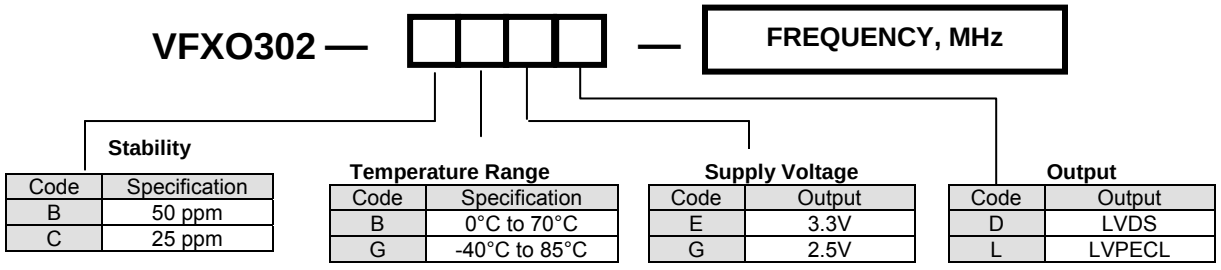
Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Symmetry			45		55	%	
Phase Noise		10Hz 100Hz 1KHz 10KHz 100KHz		-66 -96 -124 -140 -145		dBc/Hz	@77.76MHz
		10Hz 100Hz 1KHz 10KHz 100KHz		-62 -92 -120 -140 -145		dBc/Hz	@155.52MHz
Input Current	Icc	LVPECL LVDS		55 45	88 66	mA	
Load	50 Ohm to V_{DD}-2V (PECL) 100 Ohm (LVDS)						
HIGH Level Output Voltage	V_{OH}	3.3V LVPECL 2.5V LVPECL	2.215 1.415		2.42 1.76	V	40°C to +85°C
		LVDS	-	1.43	1.60	V	40°C to +85°C
LOW Level Output Voltage	V_{OL}	3.3V LVPECL 2.5V LVPECL	1.47 0.67		1.745 1.195	V	40°C to +85°C
		LVDS	0.90	1.10	-	V	40°C to +85°C
Output Differential Voltage	V_{OD}		247	355	454	mV	LVDS
Offset Voltage	V_{OS}		1.125	1.2	1.375	V	LVDS
Rise / Fall Time	Tr/Tf	20% to 80%		0.7	1.0	ns	
Tristate	"1": Output Enable – Pin 1 may float or 0.7 V_{CC} min. Enable delay time 2ms max. "0": Tristate – Pin 1 requires 0.3 V_{CC} max. Disable delay time 200ns max.						

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Soldering Temperature		Reflow Soldering, 10s max			260	°C	
Storage Temperature	Ts		-55		+125°	°C	
ESD Protection		Human Body Model			2	kV	

How to Order



Environmental and Mechanical Conditions

Parameter	Specification
Shock	1000 Gs, 0.35ms, ½ sine wave, 3 shocks in each plane
Humidity	Resistant to 85 ºR.H. at 85 ºC
Vibration	10-2000 Hz of 0.06" d.a. or 20 Gs, whichever is less
Leak	MIL STD 883, Method 1014, Condition A1
Case	Ceramic with hermetic reistance-welded metal lid
Pads	Solderable gold over nickel
Marking	Epoxy ink or laser engraved
Resistance to Solvents	MIL STD 202, Method 215

Pin #	Connection
1	E/D (Tristate)
2	N/C
3	Case, GND
4	Output
5	$\overline{\text{Output}}$
6	Supply Voltage Vcc