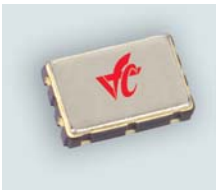
VF230C
XO Low Jitter 3.3V
5x7mm SMD, LVPECL / LVDS
750KHz to 800MHz

Valpey Fisher Corporation
High Frequency, Low Phase Noise Timing Solutions

Features

- 750KHz to 800MHz Frequency Range
- <5ps jitter over 12KHz – 20MHz
- Tristate



RoHS Status

RoHS 6/6

Applications

- Optical Networking, SONET / SDH
- Gigabit Ethernet
- Fibre channel
- DSL
- Extended temperature applications

Not recommended for new designs below 640MHz – see VFXO301

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		0.75		800	MHz	
Frequency Stability	ΔF/F	Vs. Operating Temperature			± 100 ± 50 ± 25 ± 20	ppm	See "How to Order" chart
		Vs. Supply Voltage Vs. Aging / Year		± 3 ± 3 ±1		ppm/V ppm ppm/y	First Year After first year
Operating Temperature	T		-55 -55		+85 +125	°C	Order Code A Order Code B
Output		LVPECL LVDS					See "How to Order" chart
Supply Voltage	Vcc		3.15	3.3	3.45	V	
Period Jitter RMS		19.44MHz 77.76 MHz 155.52 MHz 622.08 MHz		5 8 9 10		ps	
Integrated Jitter RMS **12KHz to 20MHz**		@155.52MHz		3	5	ps	

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Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Symmetry		(V_{DD}-1.3) V_{DC} 1.25V_{DC}			45/55	%	PECL LVDS
Phase Noise		10Hz 100Hz 1KHz 10KHz 100KHz		-60 -90 -112 -140 -140		dBc/Hz	@19.44MHz
		10Hz 100Hz 1KHz 10KHz 100KHz		-60 -90 -112 -127 -125		dBc/Hz	@106.25MHz
		10Hz 100Hz 1KHz 10KHz 100KHz		-60 -90 -112 -125 -123		dBc/Hz	@155.52MHz
		10Hz 100Hz 1KHz 10KHz 100KHz		-60 -90 -109 -110 -109		dBc/Hz	@622.08MHz
Input Current	Icc	0.75 – 24MHz 24 – 160MHz 160 – 800MHz			25 65 100	mA	PECL
		0.75 – 24MHz 24 – 96MHz 96 – 800MHz			25 45 80	mA	LVDS
Load	50 Ohm to V_{DD}-2V (PECL) 100 Ohm (LVDS)						
Output High Voltage	V_{OH}			V_{DD}-1.025 1.4	1.6	V	PECL LVDS
Output Low Voltage	V_{OL}		0.9	1.1	V_{DD}-1.620	V	PECL LVDS
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%		0.3 0.3	0.35 0.4	ns	PECL LVDS
Tristate	"1": On – Pin 1 may float or 2.8V min "0": Tristate – Pin 1 requires 0.4V max						

Testing

Stabilization Bake	MIL-STD-883 Method 1008, Cond. B
Temperature Cycling	MIL-STD-883 Method 1010, Cond. B
Constant Acceleration	MIL-STD-883, Method 2001, Cond. A
Burn-in	MIL-STD-883 Method 1015, Cond. B (125°C for 168 hours with bias)
Fine Leak	MIL-STD-883, Method 1014, Cond. A1
Gross Leak	MIL-STD-883, Method 1014, Cond. C

How to Order

VF230C — □□□□ — FREQUENCY, MHz

Stability

Code	Specification
A	±100 ppm
B	±50 ppm
C	±25 ppm
D	±20 ppm

Temperature Range

Code	Specification
A	0°C to +70°C
B	-40°C to +85°C*

Tristate

T	Tristate
N	Non-Tristate

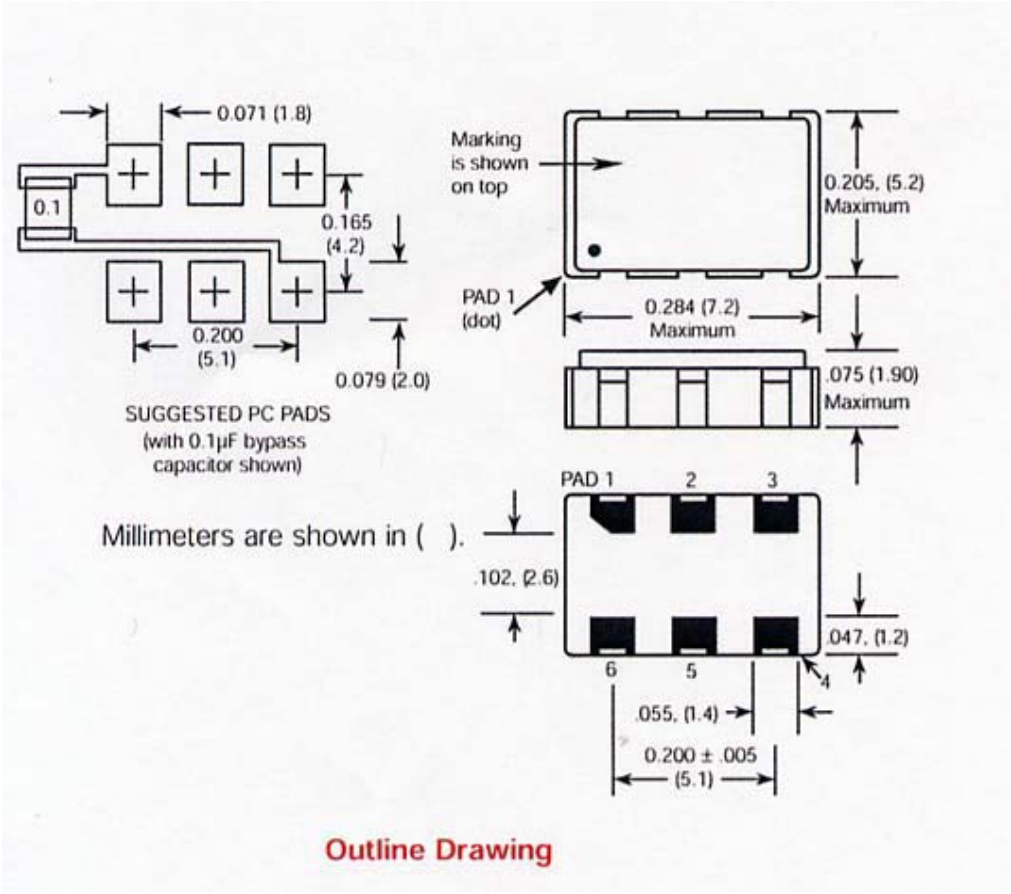
Output Logic

Code	Specification
A	45/55% LVDS
B	40/60% LVDS
C	45/55% PECL
D	40/60% PECL

Environmental and Mechanical Conditions

Parameter	Specification
Shock	MIL-STD 883, Method 2002, Cond. B (1500 peak g, 0.5 ms duration, ½ sine wave, 5 shocks in 6 planes)
Humidity	Resistant to 85º R.H. at 85ºC
Vibration	MIL-STD 883, Method 2007, Cond. A (20-2000 Hz of 0.06" d.a. or 20 Gs, whichever is less)
Leak	MIL STD 883, Method 1014, Cond. A1 and C1
Case	Hermetically sealed ceramic LCC
Pads	60 microinch of gold over nickel
Marking	Epoxy ink or laser engraved
Resistance to solvents	MIL STD 202, Method 215

Pin #	Connection
1	Tristate
2	N/C
3	Ground
4	Output 1: Q
5	Output 2: Q
6	$+V_{DD}$



Outline Drawing