

VC-490/495 Voltage Controlled Crystal Oscillator



Features

- Small SMD HFF VCXO
- 50.0MHz to 170MHz
- 3.3V supply voltage
- -20 to +70°C / -40 to 85°C
- LVPECL / HCMOS / LVDS output
- Complementary outputs available

Applications:

- Gigabit Ethernet
- 10G and 40G Systems
- Basestations
- SDH/SONET/ATM
- Point to Point / Multipoint
- WDM Systems
- Test & Measurement Equipment

Description:

Available at frequencies up to 170MHz, the VC-490/495 VCXO's combine VI's unique precision HFF-crystal-technology with a low noise discrete circuit providing exceptional low jitter performance compared to standard ASIC-solutions.

The unit is packaged as an FR-4 based SMD device measuring 13.8 x 9.1 x 5.5mm with a supply voltage of 3.3Vdc. Temperature ranges are -20° to +70°C and -40° to +85°C with tight temperature stability. The oscillators also have a pulling range of more than 100 ppm with linearity of < 10% for enhanced PLL performance. Output options available include LVHCMOS, complementary LVPECL and complementary LVDS.

The VC-490 's small size and high performance make it ideally suited for communication applications including ATM/SONET/SDH and Gigabit Ethernet applications.

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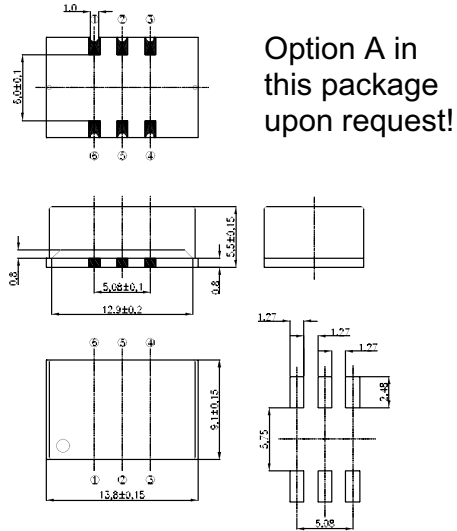
Performance Characteristics

Electrical Performance

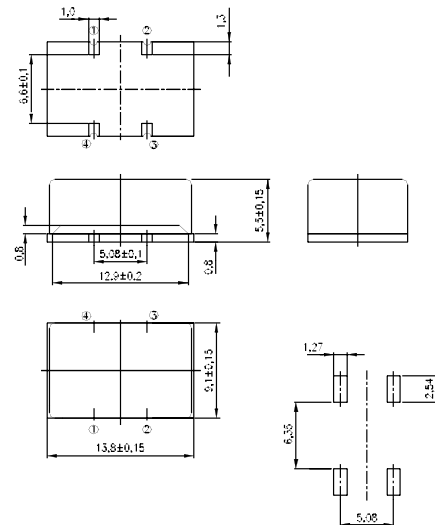
Parameter	Symbol	Minimum	Typical	Maximum	Units
Frequency:	FN	50.0		170.0	MHz
Supply Voltage:	VCC	3.135	3.3	3.465	V
Output Option A Option F: Option P:		LVHCMOS complementary LVPECL complementary LVDS			
Output Option A LVHCMOS:	I _{CC}		20.0	40.0	mA
Option F compl. LVPECL:	I _{CC}		50.0	70.0	mA
Option P compl. LVDS:	I _{CC}		15.0	40.0	mA
Output load Option A: Option F: Option P:		1 kOhm // 15pF 50 Ohm 100 Ohm differential			
Rise/Fall Time tr/TF: Option A:	t _R / t _F			3.0	nsec.
Option F, P:	t _R / t _F			1.0	nsec.
Symmetry (Duty/Cycle):	SYM	40		60	%
Temp. stab. D - 205 -20 to +70°C:	F _{TEMP}	-20.0		+20.0	ppm
F - 305 -40 to +85°C:	F _{TEMP}	-30.0		+30.0	ppm
Accuracy @ +25C after reflow:	F _{CAL}	-15.0		+15.0	ppm
Aging first year:	F _{FIRST}	-3.0		+3.0	ppm
Aging per year thereafter:	F _{AGING}	-2.0		+2.0	ppm/a
Freq. vs. supply for 5% changes.:	F _{SUP}	-3.0		+3.0	ppm
Freq. vs. load for 10% change:	F _{LOAD}	-1.0		+1.0	ppm
Deviation:	F _{PULL}	±100			ppm
Control voltage:	V _C	0.3		3.0	V
Transfer Function:		positive			
Linearity:	Lin			10	%
Storage Temperature:	TS	-45		+95	°C
Package 490 (Option F,P) 6 pads			13.8x9.1x5.5		mm
Package 495 (Option A) 4 pads			13.8x9.1x5.5		mm

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490 Package Outline Drawing/Pad Layout



495 Package Outline Drawing/Pad Layout



Pin Out

Pin	Function
1	Control Voltage
2	Output enable/disable
3	Ground Case
4	RF-Output
5	Complementary RF-output
6	Supply Voltage

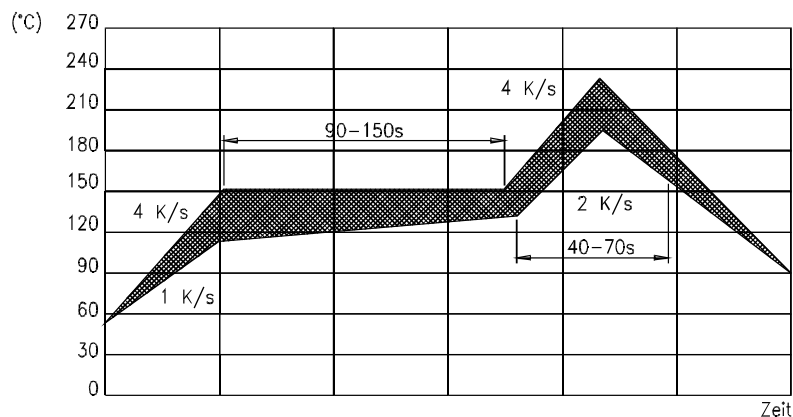
Pin Out

Pin	Function
1	Control Voltage
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Standard Frequencies

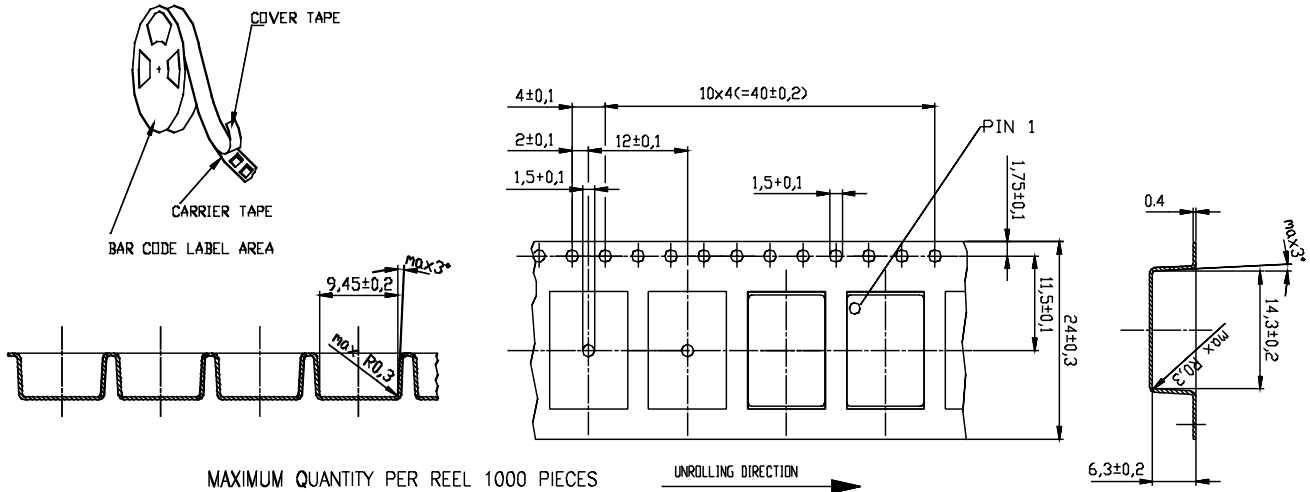
61.44 MHz	68.746378 MHz	76.8 MHz	77.76 MHz	78.616 MHz	90.843428 MHz
122.88 MHz	125.0 MHz	131.072 MHz	155.52 MHz	166.6286 MHz	167.331645 MHz

Recommended Soldering Profile

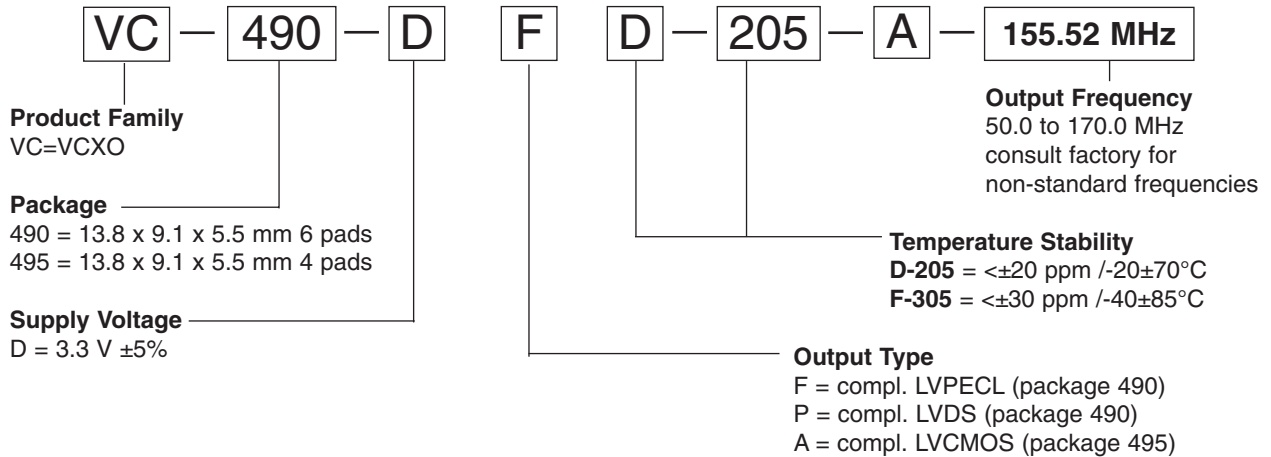


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Tape and Reel



Ordering Information



For additional information please contact:



www.vectron.com

USA: Vectron International • 166 Glover Avenue, Norwalk, CT 06856 **Tel: 1-88-VECTRON-1 • Fax: 1-888-FAX-VECTRON**
EUROPE: In Denmark, Finland, Ireland, Israel, Norway, Spain, UK **Tel: 44 23 8076 5205 • Fax: 44 23 8076 6822**
 In Austria, Belgium, France, Germany, Italy, Luxembourg
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