

● FEATURES

- MINIATURE PACKAGE
- CUSTOM SPECIFICATIONS
- ENABLE/DISABLE OPTION

SERIES VX81, VX82 AND VX83
TTL / HCMOS / AC MOS
● SPECIFICATIONS

FREQUENCY RANGE	1.00 MHz TO 30.00 MHz
FREQUENCY STABILITY OVER TEMPERATURE RANGE (REF. TO 25°C)	±10 PPM TO ±50 PPM MAX AT VC = 2.5 VDC AND VCC = +5.0 VDC (SEE TABLE 1)
OPERATING TEMPERATURE RANGE	0°C TO +50°C 0°C TO +70°C -40°C TO +85°C AT VC = +2.5 VDC AND VCC = +5.0VDC AND STANDARD LOAD (SEE TABLE 1)
STORAGE TEMPERATURE RANGE	-40°C TO +85°C
OUTPUT WAVEFORM OPTIONS	TTL, HCMOS, AND AC MOS
SUPPLY VOLTAGE	+5 VDC ±5% (3.3 VDC AVAILABLE)
SUPPLY CURRENT	35 mA MAX AT VC = +2.5 VDC, VCC = +5.0 VDC AND STANDARD LOAD AT 25°C
ABSOLUTE PULL RANGE (APR)	±50 PPM TO ±100 PPM MIN OVER CONTROL VOLTAGE RANGE AT VCC = +5.0 V AND STANDARD LOAD AT 25°C
NOMINAL CONTROL VOLTAGE (VC)	+2.5 VDC
SETTABILITY AT Vfo †	+2.5 VDC ±0.5 VDC
CONTROL VOLTAGE RANGE	+0.5 TO +4.5 VDC
LINEARITY	±10% MAX FOR BEST STRAIGHT LINE FIT
SYMMETRY	NORMAL: 40/60 % TIGHT: 45/55 % TIGHT (OPTION)
SLOPE	POSITIVE
MODULATION FREQUENCY BANDWIDTH	10 KHz (-3dB) MIN
INPUT IMPEDANCE	10 KOHM MIN
ABSOLUTE VOLTAGE RANGE	-0.5 TO +7.0 VDC FOR VCC AND VC (NON DESTRUCTIVE)
ENABLE/DISABLE FUNCTION	CONTROL PIN 2: HIGH OR OPEN (+2.0 VDC MIN) OUTPUT PIN 4: ENABLED CONTROL PIN 2: LOW OR GND (+0.8 VDC MAX) OUTPUT PIN 4: DISABLED (HIGH Z)
PHASE NOISE (TYPICAL)	SEE GRAPH FOR PHASE NOISE CHARACTERISTICS



† Vfo IS THE CONTROL VOLTAGE AT WHICH THE OUTPUT FREQUENCY IS EQUAL TO THE NOMINAL FREQUENCY Fo AT 25 C

ABSOLUTE PULL RANGE (APR) IS THE MINIMUM GUARANTEED FREQUENCY SHIFT FROM Fo OVER VARIATIONS IN TEMPERATURE, AGING, POWER SUPPLY, AND LOAD.

● TEMPERATURE RANGE DESIGNATIONS

TABLE 1			
CODE	TEMPERATURE RANGE	TEMPERATURE STABILITY	APR
A	0°C TO +50°C	± 10 PPM	± 50 PPM
B	0°C TO +50°C	± 15 PPM	± 50 PPM
C	0°C TO +50°C	± 15 PPM	± 50 PPM
D	0°C TO +50°C	± 20 PPM	± 75 PPM
E	0°C TO +50°C	± 25 PPM	± 75 PPM
F	0°C TO +50°C	± 35 PPM	± 100PPM
G	0°C TO +70°C	± 10 PPM	± 50 PPM
H	0°C TO +70°C	± 20 PPM	± 50 PPM
I	0°C TO +70°C	± 20 PPM	± 50 PPM
J	0°C TO +70°C	± 25 PPM	± 50 PPM
K	0°C TO +70°C	± 35 PPM	± 75 PPM
L	0°C TO +70°C	± 50 PPM	± 100 PPM
M	-40°C TO +85°C	± 20 PPM	± 50 PPM
N	-40°C TO +85°C	± 30 PPM	± 50 PPM
O	-40°C TO +85°C	± 25 PPM	± 75 PPM
P	-40°C TO +85°C	± 35 PPM	± 75 PPM
Q	-40°C TO +85°C	± 50 PPM	± 100 PPM

● OUTPUT AND LOAD CHARACTERISTICS

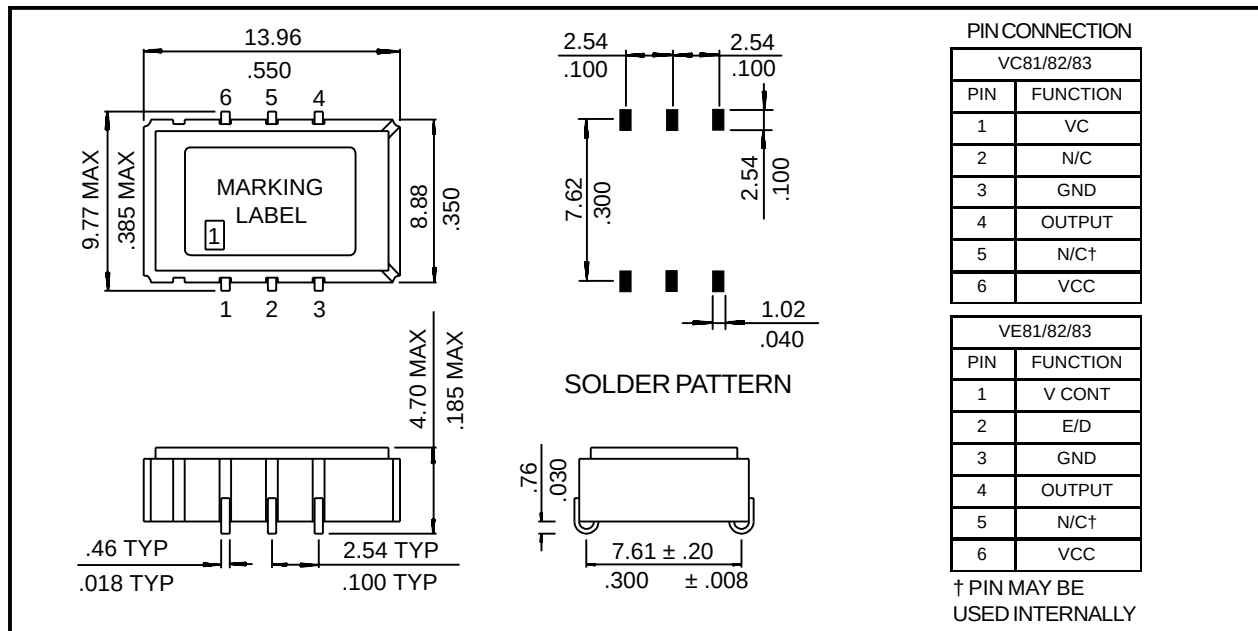
TABLE 2	
TTL - 3 GATES (VC/VE81)	TTL/HCMOS COMPATIBLE SYMMETRY: 40/60% TO 60/40% AT +1.4 VDC VOH: +2.4 VDC MIN VOL: +0.4 VDC MAX RISE/FALL TIME: 10 ns WITH STANDARD LOAD (20% TO 80%)
HCMOS - 15 pF (VC/VE82)	TTL/HCMOS COMPATIBLE SYMMETRY: 40/60% TO 60/40% AT 50% LEVEL VOH: +4.5 VDC MIN VOL: +0.5 VDC MAX RISE/FALL TIME: 5 ns WITH STANDARD LOAD (20% TO 80%)
AC MOS - 30 pF (VC/VE83)	AC MOS TO DRIVE 3 GATES AT TTL LEVELS SYMMETRY: 40/60% TO 60/40% AT 50% LEVEL VOH: +4.5 VDC MIN VOL: +0.5 VDC MAX RISE/FALL TIME: 5 ns WITH 30 pF LOAD (20% TO 80%)

● MECHANICAL CHARACTERISTICS

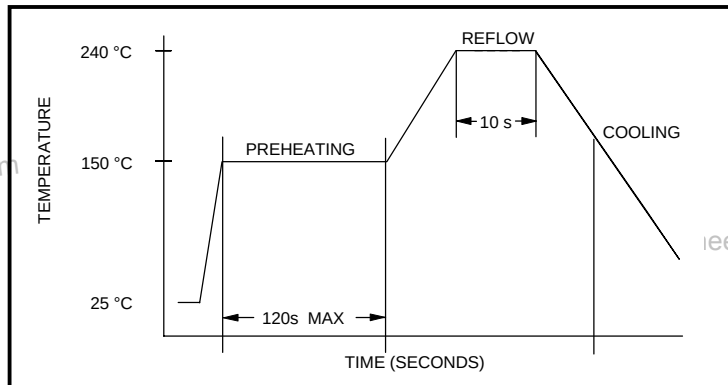
MECHANICAL SHOCK	MIL-STD-202, METHOD 213, CONDITION E
THERMAL SHOCK	MIL-STD-883, METHOD 1011, CONDITION A
RANDOM VIBRATION	MIL-STD-883, METHOD 2007, CONDITION A
GROSS LEAK	100% LEAK TESTED IN DEIONIZED WATER
HERMETIC SEAL	LEAK RATE LESS THAN 0.05 PPM ATM x cc/s OF HELIUM
SOLDERING CONDITIONS	240° C ±5 s MAXIMUM FOR 10 s
MECHANICAL	SURFACE MOUNT, 6 PIN PER OUTLINE DRAWING

OUTLINE DRAWING

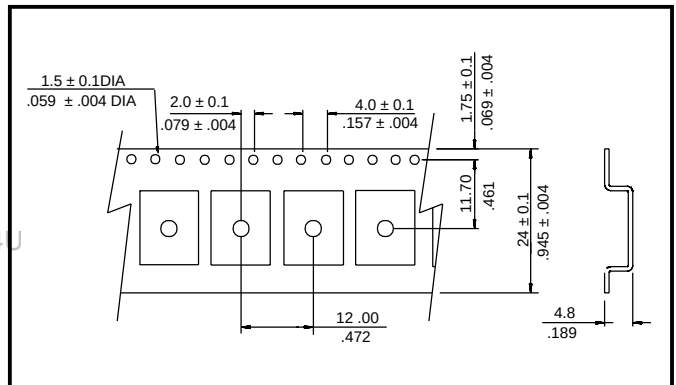
SERIES VX81, VX82 AND VX83



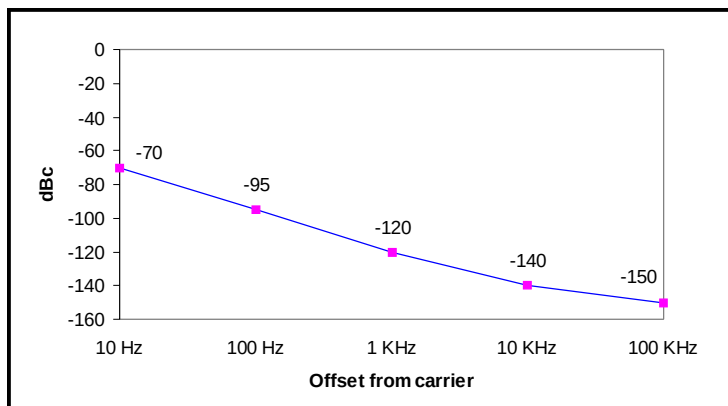
SOLDER REFLOW PROFILE



CARRIER TAPE DIMENSIONS



PHASE NOISE CHARACTERISTICS



PACKAGING

330 mm REEL DIAMETER, 24 mm TAPE WIDTH,
12 mm PITCH
QUANTITY: 1000 PIECES PER REEL

PART NUMBERING SYSTEM

SERIES	OUTPUT (TABLE 2)	CODE (TABLE 1)	FREQUENCY	SYMMETRY
VC8 VE8	1 2 3	TTL HCMOS ACMOS	A THROUGH Q	T: TIGHT

EXAMPLES:

VC82G-24M576

HCMOS OUTPUT, ±10 PPM OVER 0° C TO +70° C

MINIMUM APR ±50 PPM, 24.576 MHz