

● FEATURES

- MINIATURE PACKAGE
- CUSTOM SPECIFICATIONS
- ENABLE/DISABLE OPTION

● 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 ACMOS
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

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

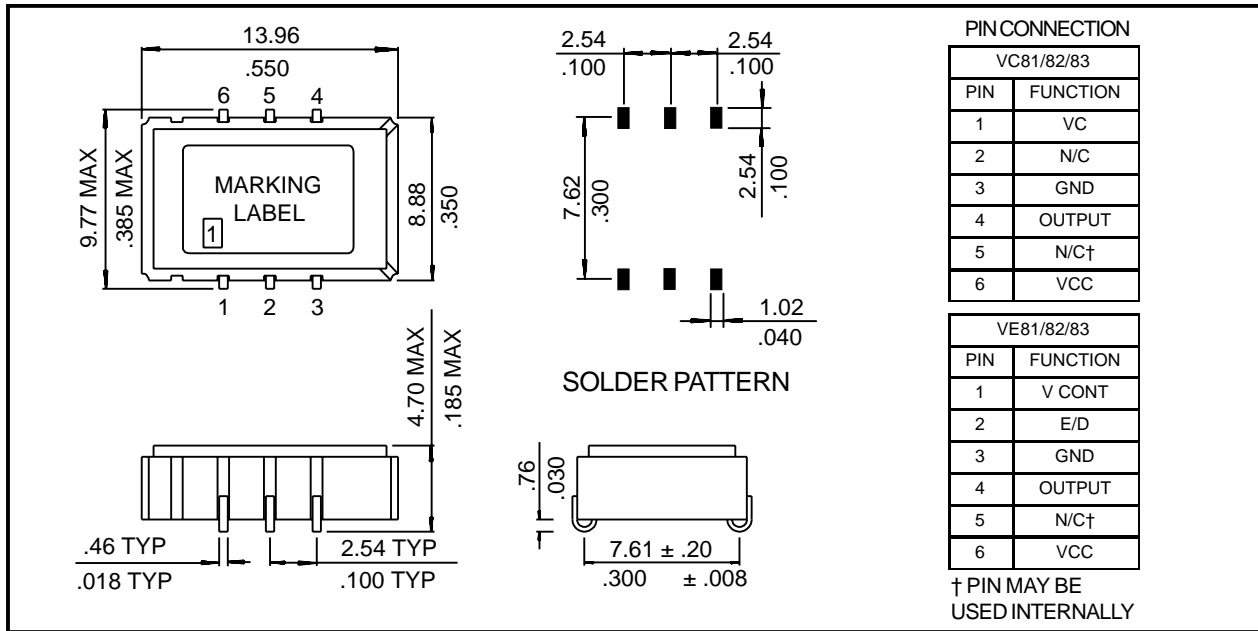
● OUTPUT AND LOAD CHARACTERISTICS

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%)
ACMOS - 30 pF (VC/VE83)	ACMOS 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%)

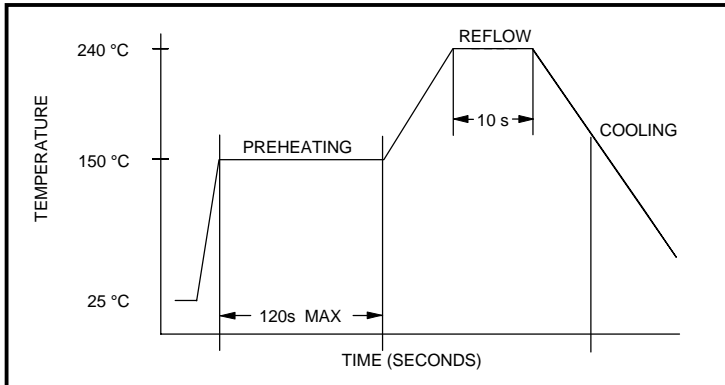
● MECHANICAL CHARACTERISTICS

MECHANICAL SHOCK	MIL-STD-202, METHID 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

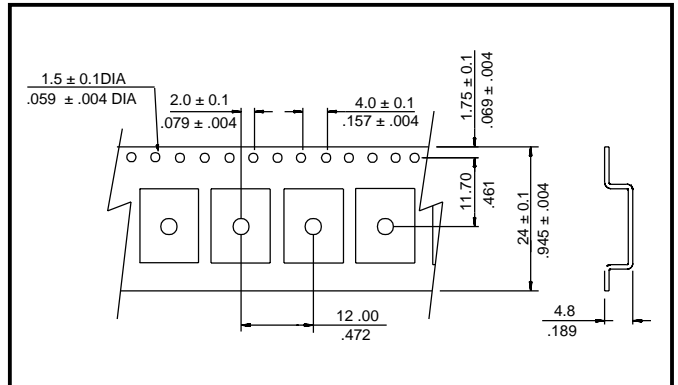
● OUTLINE DRAWING



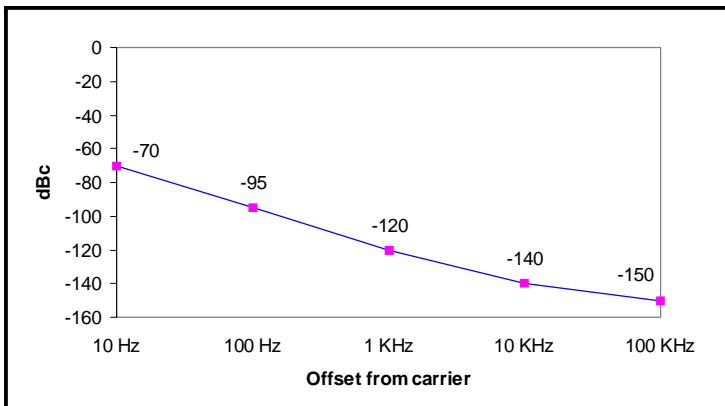
● SOLDER REFLOW PROFILE



● 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 $+70^\circ\text{C}$

MINIMUM APR ± 50 PPM, 24.576 MHz