SURFACE MOUNT VOLTAGE CONTROLLED CRYSTAL OSCILLATOR

SERIES VE8820
SONET AND ATM

FEATURES

- 155.520 MHz AND 622.08 MHz
- +3.3 VDC PECL COMPLIMENTARY OUTPUT
- ENABLE DISABLE

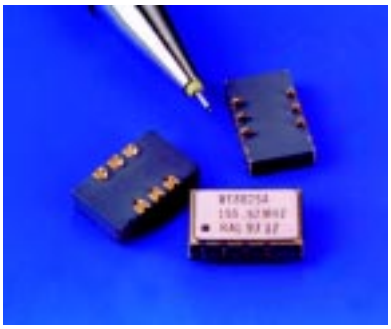
SPECIFICATIONS

FREQUENCY RANGE	155.520 OR 622.08 MHz
FREQUENCY STABILITY OVER TEMPERATURE RANGE (REF. TO25°C)	±20 PPM MAX OVER 0°C TO +70°C AT VC = +1.75 VDC AND VCC = +3.3 VDC
OPERATING TEMPERATURE RANGE	0°C TO +70°C AT VC = +1.75 VDC AND VCC = +3.3 VDC AND STANDARD LOAD
STORAGE TEMPERATURE RANGE	-40°C TO +90°C
AGING CHARACTERISTICS	±3.0 TO ±5.0 PPM MAX FOR THE FIRST YEAR AND ±2.0 PPM MAX PER YEAR THEREAFTER
OUTPUT WAVEFORM OPTIONS	PECL 100KH WITH COMPLIMENTARY OUTPUT "1" LEVEL (VOH) - +2.75 VDC MIN "0" LEVEL (VOL) - +1.68 VDC MAX
SYMMETRY	40/60 TO 60/40 %
RISE AND FALL TIME	Tf = Tr = 1.7 ns MAX AT 20% TO 80%
FREQUENCY STABILITY OVER LOAD VARIATION	±3.0 PPM MAX FOR 5% VARIATION AT VC = +1.75 VDC, VCC = +3.3 VDC AT 25°C
SUPPLY VOLTAGE	+3.3 VDC ±5% (+5 VDC ±5% ALSO AVAILABLE)
FREQUENCY STABILITY OVER SUPPLY VOLTAGE VARIATION	±5 PPM MAX FOR 5% VARIATION AT VC = +1.75 VDC AND STANDARD LOAD AT 25°C
SUPPLY CURRENT	35 mA MAX AT VC = +1.75 VDC, VCC = +3.3 VDC AND STANDARD LOAD AT 25°C
FREQUENCY ADJUSTMENT	±100 PPM MIN OVER CONTROL VOLTAGE RANGE AT VCC = +3.3 V AND STANDARD LOAD AT 25°C
SETTABILITY AT Vfo †	+1.75 VDC ±0.25 VDC
CONTROL VOLTAGE RANGE	+0.5 TO +3.0 VDC
LINEARITY	±10% MAX FOR BEST STRAIGHT LINE FIT
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.O VDC MIN) OUTPUT PIN 4: ENABLED CONTROL PIN 2: LOW OR GROUND (+0.8 VDC MAX) OUTPUT PIN 4: DISABLED (HIGH Z)
PHASE NOISE (TYPICAL)	SEE GRAPH OF PHASE NOISE CHARACTERISTICS

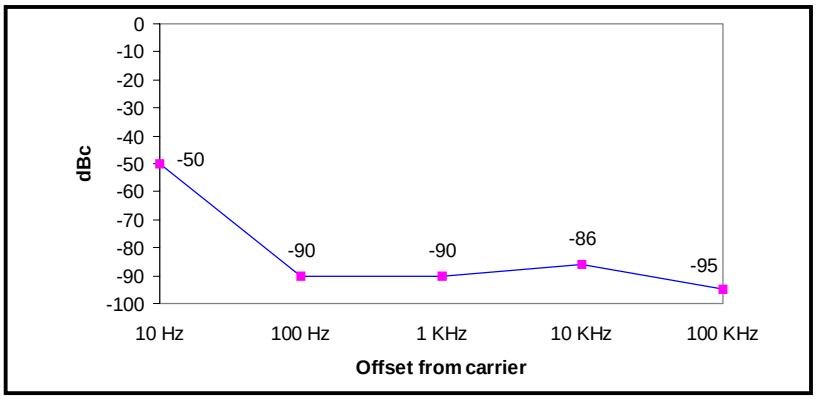
† Vfo IS THE CONTROL VOLTAGE AT WHICH THE OUTPUT FREQUENCY IS EQUAL TO THE NOMINAL FREQUENCY Fo AT 25° C

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



PHASE NOISE CHARACTERISTICS



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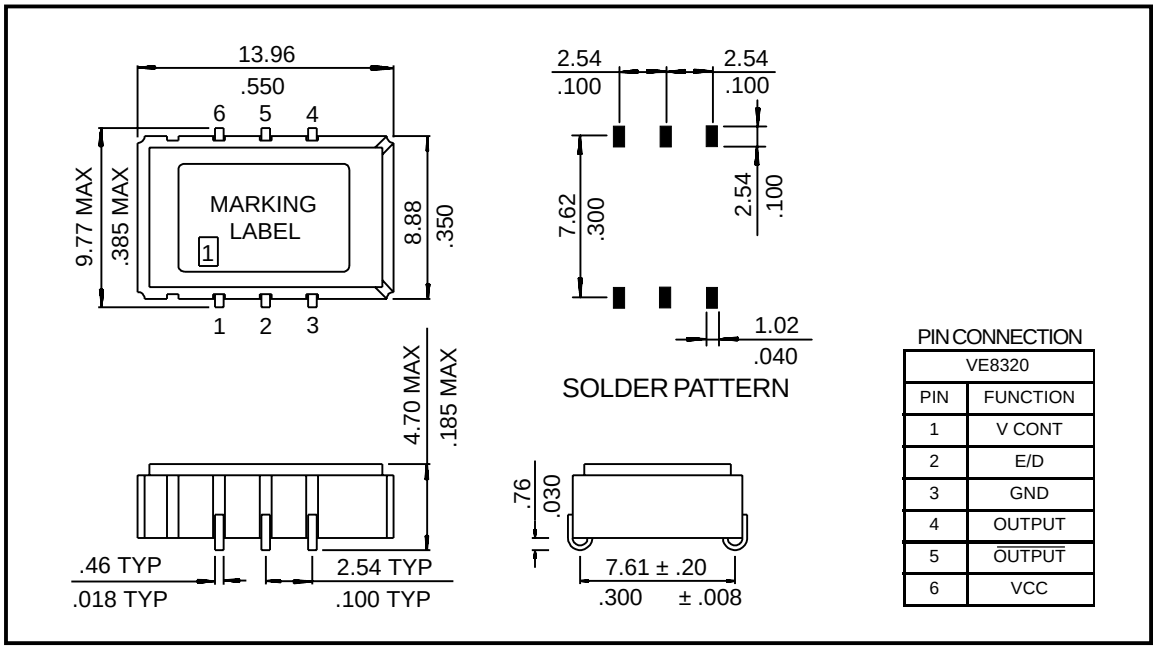
SONET AND ATM

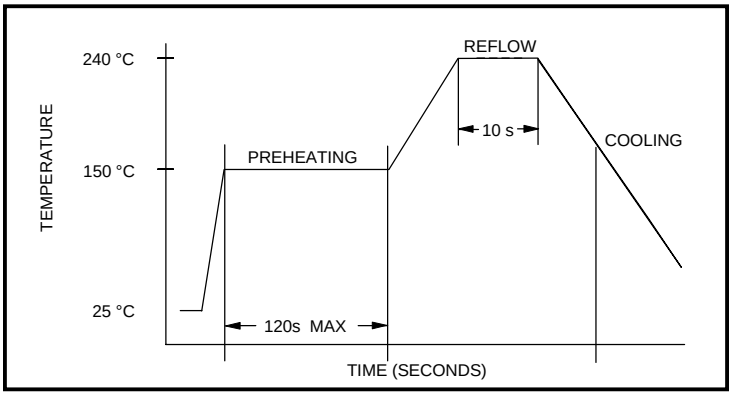
OUTLINE DRAWING



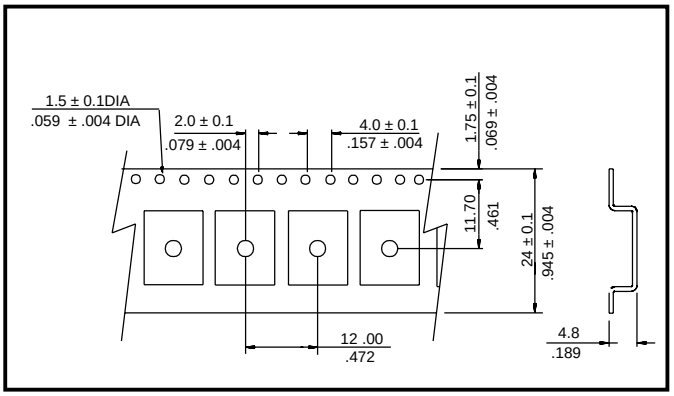
PIN CONNECTION

VE8320	
PIN	FUNCTION
1	V CONT
2	E/D
3	GND
4	OUTPUT
5	$\overline{\text{OUTPUT}}$
6	VCC

SOLDER REFLOW PROFILE



CARRIER TAPE DIMENSIONS



PACKAGING

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

PART NUMBERING SYSTEM

SERIES		TEMPERATURE CODE		FREQUENCY ADJUSTMENT		FREQUENCY
VE8820*	-	LZ	-	100	-	155.520 MHz OR 622.08 MHz

EXAMPLES:
VE8820*-LZ-100-155.520 MHz
VE8820*-LZ-100-622.08 MHz
NOTE: * INDICATES REVISION LEVEL ASSIGNED DURING MANUFACTURING