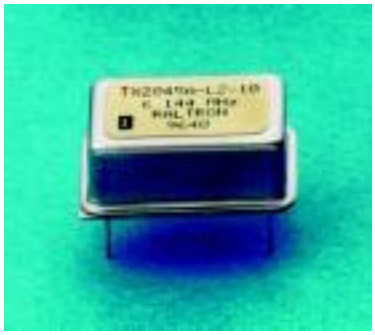
SERIES TX 045 AND TV045

FEATURES

- WIDE FREQUENCY RANGE TO 100.000 MHz IN 14 PIN DIP
- ENABLE/DISABLE AND VOLTAGE CONTROL OPTIONS
- TTL, HCMOS, ACMOS, SINEWAVE, CLIPPED SINEWAVE, ECL, AND PECL

SPECIFICATIONS

FREQUENCY RANGE	1.50 MHz TO 100.00 MHz
FREQUENCY STABILITY OVER OPERATING TEMPERATURE (SEE NOTE 1)	LZ-1: ±1.0 PPM OVER 0° C TO 70° C HZ-1: ±1.0 PPM OVER -20° C TO 70° C F1-1.5: ±1.5 PPM OVER -30° C TO 75° C D3-2: ±2.0 PPM OVER -40° C TO 85° C
FREQUENCY STABILITY VS. CALIBRATION	±2.0 PPM MAXIMUM
FREQUENCY STABILITY VS. AGING	±1.0 PPM MAXIMUM PER YEAR
STORAGE TEMPERATURE RANGE	-50° C TO 90° C
OUTPUT WAVEFORM	SEE TABLE 1 FOR OUTPUT TYPES
LOAD	SEE TABLE 1 FOR LOAD CHARACTERISTICS
FREQUENCY STABILITY VS. LOAD VARIATION	±0.3 PPM MAXIMUM FOR ±10% VARIATION FROM STANDARD LOAD
SUPPLY VOLTAGE (VCC)	+5.0 VDC ± 5%, +3.3 VDC ± 5%(OPTIONAL)
FREQUENCY STABILITY VS. SUPPLY VARIATION	±0.3 PPM MAXIMUM FOR ±5% VARIATION FROM NOMINAL SUPPLY
SUPPLY CURRENT	SEE TABLE 1 FOR CURRENT CHARACTERISTICS
ENABLE/DISABLE FUNCTION (TE OPTION)	SEE TABLES 2 AND 3 FOR PIN FUNCTION AND VOLTAGE
VOLTAGE CONTROL FUNCTION (TV OPTION)	SEE TABLE 4 FOR CHARACTERISTICS
ENVIRONMENTAL CONDITIONS	SEE TABLE 5



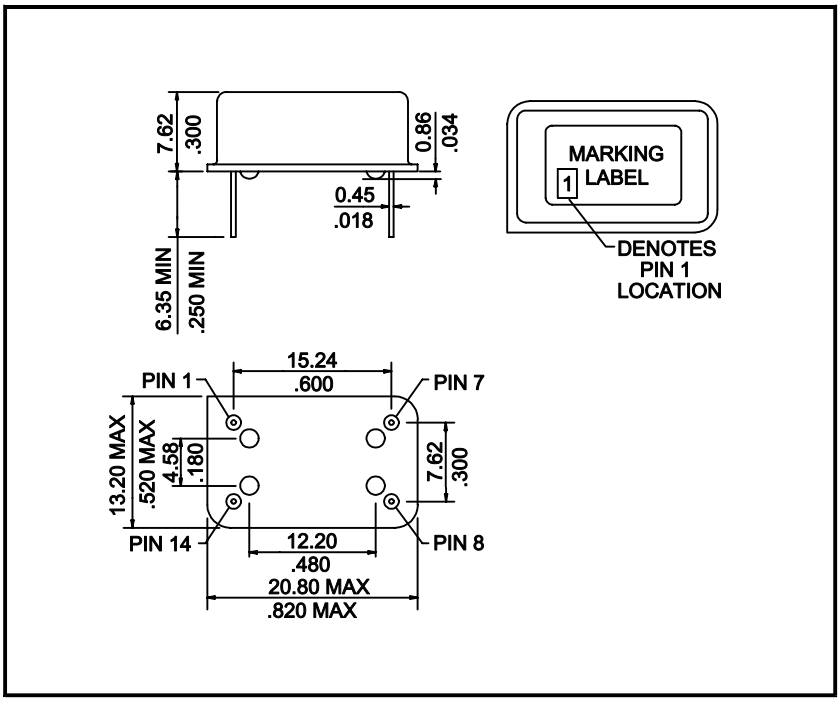
NOTE 1: OTHER STABILITY OPTIONS AVAILABLE PLEASE CONSULT FACTORY

OUTPUT WAVEFORM AND LOAD CHARACTERISTICS

TABLE 1 - OUTPUT WAVEFORM AND CHARACTERISTICS, FREQUENCY RANGE, AND MODE OF OSCILLATION

OUTPUT WAVEFORM	OUTPUT CODE	FREQUENCY RANGE	MODE OF OSCILLATION CODE	OUTPUT CHARACTERISTICS
CLIPPED SINEWAVE	0	8.00 MHz TO 40.00 MHz	F: FUNDAMENTAL	LOAD: 10 K OHM // 10pF OUTPUT LEVEL: 0.7 V P-P MINIMUM SYMMETRY: 60/40 % TO 40/60 % TYPICAL
TTL	1	1.50 MHz TO 40.00 MHz 40.00 MHz TO 100.00 MHz	F: FUNDAMENTAL O: OVERTONE	LOAD: HCMOS TO DRIVE 2 LS TTL NOMINAL OR 10 LS TTL MAXIMUM GATES "1" LEVEL: +2.4 VDC MINIMUM "0" LEVEL: +0.1 VCC MAXIMUM SYMMETRY: 40/60 TO 60/40% AT 1.2 V RISE AND FALL TIME: 10 ns MAXIMUM CURRENT: 20 mA MAXIMUM (F), 30 mA MAXIMUM (O), 45 mA MAXIMUM (PLL)
HCMOS	2	1.50 MHz TO 40.00 MHz 40.00 MHz TO 100.00 MHz	F: FUNDAMENTAL O: OVERTONE	LOAD: 2 LS TTL/HCMOS NOMINAL OR 10 LS TTL/HCMOS MAXIMUM GATES "1" LEVEL: +4.5 VDC MINIMUM "0" LEVEL: +0.5 VDC MAXIMUM SYMMETRY: 40/60 TO 60/40% AT 50% VCC LEVEL RISE AND FALL TIME: 10 ns MAXIMUM JITTER: 10 ps PEAK TO PEAK MAXIMUM CURRENT: 20 mA MAXIMUM (F), 30 mA MAXIMUM (O), 45 mA MAXIMUM (PLL)
ACMOS	3	1.50 MHz TO 40.00 MHz 40.00 MHz TO 100.00 MHz	F: FUNDAMENTAL O: OVERTONE	LOAD: 2 LS TTL/ACMOS NOMINAL OR 10 LS TTL/ACMOS MAXIMUM GATES "1" LEVEL: +4.5 VDC MINIMUM "0" LEVEL: +0.5 VDC MAXIMUM SYMMETRY: 40/60 TO 60/40% AT 50% VCC LEVEL RISE AND FALL TIME: 10 ns MAXIMUM JITTER: 10 ps PEAK TO PEAK MAXIMUM CURRENT: 20 mA MAXIMUM (F), 30 mA MAXIMUM (O), 45 mA MAXIMUM (PLL)
SINEWAVE	6	8.00 MHz TO 60.00 MHz	F: FUNDAMENTAL	LOAD: 50 OHMS NOMINAL OUTPUT LEVEL: 0 dBm MINIMUM HARMONICS: -25 dBc MAXIMUM SPURIOUS: -60 dBc MAXIMUM CURRENT: 20 mA MAXIMUM

OUTLINE DRAWING



PIN FUNCTION

TABLE 2 - PIN FUNCTION			
	TX	TE	TV
PIN 1	NO CONNECT	ENABLE/DISABLE	V CONTROL
PIN 7	CASE/GROUND	CASE/GROUND	CASE/GROUND
PIN 8	OUTPUT	OUTPUT	OUTPUT
PIN 14	VCC	VCC	VCC

ENABLE/DISABLE FUNCTION

TABLE 3 - ENABLE/DISABLE FUNCTION	
ENABLE	+2.0 VDC MINIMUM OR NO CONNECT
DISABLE	+0.4 VDC MAXIMUM

VOLTAGE CONTROL FUNCTION

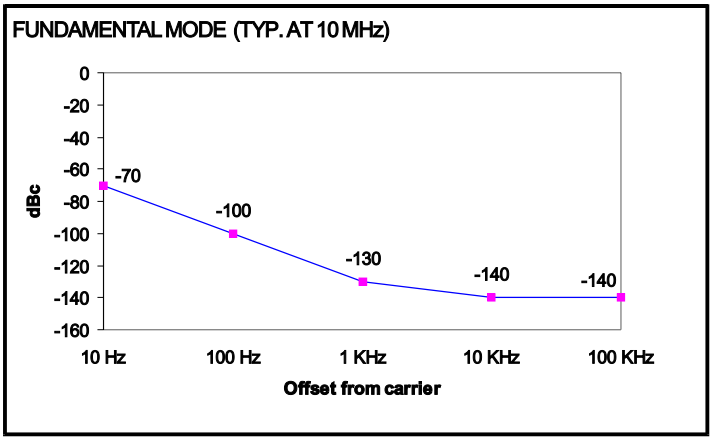
TABLE 4 - VOLTAGE CONTROL OPTION	
CONTROL VOLTAGE RANGE	+0.5 TO +4.5 VDC (0 TO +3.3 VDC)
NOMINAL CONTROL VOLTAGE	+2.5 VDC (1.65 V AT Vcc = 3.3 V)
FREQUENCY DEVIATION	±5 PPM MINIMUM
LINEARITY	10% MAXIMUM MONOTONIC
MODULATION BANDWIDTH	10 KHz MINIMUM FOR -3 dBc POINT
INPUT IMPERDANCE	10 K OHMS MINIMUM
SLOPE	POSITIVE

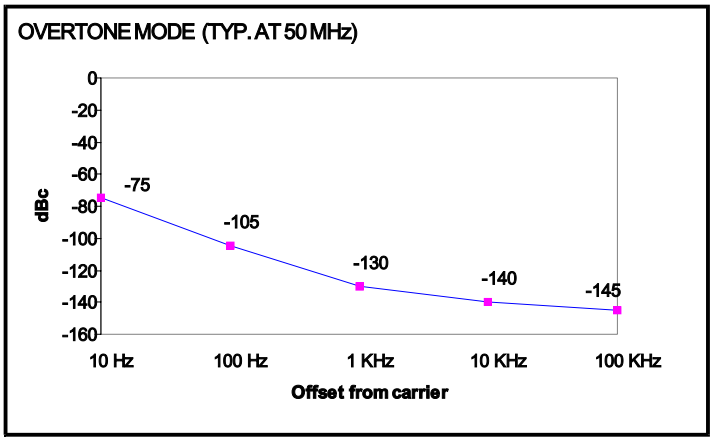
ENVIRONMENTAL CONDITIONS

TABLE 5 - ENVIRONMENTAL CONDITIONS	
MECHANICAL SHOCK	MIL-STD-202F, TEST CONDITION 213, CONDITION A
RANDOM VIBRATION	MIL-STD-202F, TEST CONDITION 214, CONDITION A
SINUSOIDAL VIBRATION	MIL-STD-202F, TEST CONDITION 204, CONDITION A
HERMETICITY	<5 x 10-8 cc ATM/s
SOLDERABILITY	260° C FOR 10 s MAXIMUM

SERIES TX 045 AND TV045

● PHASE NOISE CHARACTERISTICS





● PART NUMBERING SYSTEM

OPTION 1: TCXO TYPE			
TX:	TCXO		
TE:	TCXO WITH ENABLE DISABLE		
TV:	TCXO WITH VOLTAGE CONTROL		
OPTION 2: OUTPUT TYPE			
0:	CLIPPED SINEWAVE	6:	SINEWAVE
1:	TTL		
2:	HCMOS		
3:	ACMOS		
OPTION 3: REVISION			
OPTION 4: STABILITY OVER TEMPERATURE			
LZ-1	±1.0 PPM OVER 0 °C TO +70 °C		
HZ-1	±1.0 PPM OVER -20 °C TO +70 °C		
F1-1.5	±1.5 PPM OVER -30 °C TO +75 °C		
D3-2	±2.0 PPM OVER -40 °C TO +85 °C		

EXAMPLE:

TV 2 045 A - HZ-1 - 10.000

- 10.000 — FREQUENCY (10.000 MHz)
- HZ-1 — ±1.0 PPM OVER -20°C TO +70°C
- A — REVISION
- 045 — SERIES
- 2 — HCMOS OUTPUT
- TV — TCVCXO

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