

DIP 14 STRATUM 3 DIGITAL (VC) TCXO, TU045A AND TY045A SERIES

■ FEATURES:

- Fully meeting free run frequency accuracy and 24 hours maximum frequency drift requirements for STRATUM 3 according to Telecordia GR-1244-CORE*
- Very low power consumption suitable for portable and/or battery operated equipment

■ ELECTRICAL SPECIFICATION**

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Supply voltage, nom.	Vs	Vs±5%	3.3 5.0	V
HCMOS / LVCMOS Supply current, max. CLIPPED SINWAVE	Is	Vs, nom. / Ta=25°C	12.0 to 20.0 2.0 to 5.0	mA
Frequency, nom.	fo	-	10.000 to 40.000	MHz
Overall frequency stability over 10 years of operation including Initial Frequency Calibration	$\Delta f/f_o$	Ta=-40°C to + 85°C or Ta= 0°C to + 70°C	±4.6	ppm
Frequency drift during 24 hours of continuous operation, max (See note 1)	$\Delta f/f_o$	Ta=-40°C to + 85°C or Ta= 0°C to + 70°C	±0.37	ppm
Temperature Stability (See note 2)		Ta=-40°C to + 85°C or Ta= 0°C to + 70°C	±0.30 ±0.28	ppm ppm
Elect. Frequency Adjustment Range (see note 3)	$\Delta f/f_o$ (Vc)	Vc= 0.25V Vc= 2.25V	-5 ...-10 +5 ...+10	PPM PPM
Jitter (peak to peak), max (Fnom = 20 MHz)	J(f)	Offset Δf = 12kHz to 20MHz	10	ps
Phase noise SSB @ freq.offset, max (Fnom = 20 MHz)	$\mathcal{E}$ (Δf)	Δf =10Hz Δf =100Hz Δf =1kHz $\Delta f \geq 10$ kHz	-80 -110 -130 -145	dBc/Hz dBc/Hz dBc/Hz dBc/Hz
HCMOS output levels Clipped Sine	VOH/VOL Vout	Load = 15pF Load=10 k Ω //20pF	0.9Vcc / 0.1Vcc 0.7	V Vp-p
Duty Cycle (HCMOS output)		Load = 15pF	45 to 55	%
Raise/Fall time, max (HCMOS output)	Tr/Tf	Load = 15pF	4	ns

■ ENVIRONMENTAL SPECIFICATION

Storage temperature range	-	-45°C....+85°C	
Vibration	-	IEC 68-2-6, test Fc: 10..500 Hz, 10g, 2 h, 3 directions	All parameters within initial limits
Mechanical shocks	-	IEC 68-2-27, test Ea: 100g, ½ sine, 3 bumps, 6 directions	All parameters within initial limits

Notes:

1. The 24 hours drift can be measured any time after minimum 1 hour from initial turn on. Please contact factory for details.
2. The Temperature Stability is calculated with regard to frequency reading at 25°C±1°C.
3. TY045A series only.

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** This specification is typical. Other frequencies, output types and custom parameters are available. Please, contact factory for details.

■ HOW TO ORDER (PART NUMBER)

Prefix	Output Type	Series	Revision	Temperature Range	Stability	Frequency	Stratum3	Voltage
TU: No Freq. Adjust option TY: With Freq Adjust	0: CLIPPED SINE 2: HCMOS 4: LVCMOS	045	A	LZ: 0°C to +70°C D3: -40°C to +85°C	0.28= 0.28PPM 0.3= 0.3PPM	In MHZ	S3	3: 3.3V 5: 5.0V

Example:

TU4045A-LZ- 0.28 -19.440 - S3 - 3 ← Voltage

Stratum 3
Frequency 19.44MHz
Temp Stability = $0.28 \times 10E-6 = \pm 0.28$ PPM
Operating Temp Range = 0°C to +70°C
Revision "A"
Series
Output LV HCMOS
Prefix: Digital TCXO, no Freq. Adjust

■ MECHANICAL SPECIFICATION

