

## 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<br>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 | $\Delta f/f_0$               | Ta=-40°C to + 85°C<br>or<br>Ta= 0°C to + 70°C                                       | ±4.6                        | ppm                                  |
| Frequency drift during 24 hours of continuous operation, max (See note 1)                      | $\Delta f/f_0$               | Ta=-40°C to + 85°C<br>or<br>Ta= 0°C to + 70°C                                       | ±0.37                       | ppm                                  |
| Temperature Stability (See note 2)   |                              | Ta=-40°C to + 85°C<br>or<br>Ta= 0°C to + 70°C                                       | ±0.30<br>±0.28              | ppm                                  |
| Elect. Frequency Adjustment Range (see note 3)   | $\Delta f/f_0$ (Vc)          | Vc= 0.25V<br>Vc= 2.25V  | -5 ...-10<br>+5 ...+10      | PPM                                  |
| Jitter (peak to peak), max (Fnom = 20 MHz)   | J(f)                         | Offset $\Delta f$ = 12kHz to 20MHz  | 10                          | ps                                   |
| Phase noise SSB @ freq.offset, max (Fnom = 20 MHz)   | $\mathcal{E}$ ( $\Delta f$ ) | $\Delta f$ =10Hz<br>$\Delta f$ =100Hz<br>$\Delta f$ =1kHz<br>$\Delta f \geq 10$ kHz | -80<br>-110<br>-130<br>-145 | dBc/Hz<br>dBc/Hz<br>dBc/Hz<br>dBc/Hz |
| HCMOS output levels Clipped Sine   | VOH/VOL<br>Vout              | Load = 15pF<br>Load=10 k $\Omega$   20pF  | 0.9Vcc / 0.1Vcc<br>0.7      | V<br>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:<br>10..500 Hz, 10g, 2 h, 3 directions   | All parameters within initial limits |
| Mechanical shocks         | - | IEC 68-2-27, test Ea:<br>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.

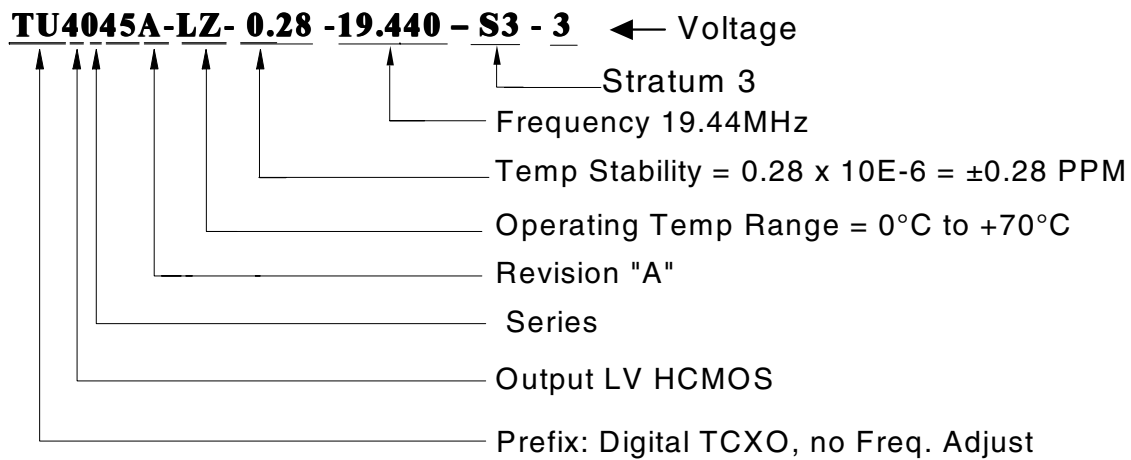
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\*\* This specification is typical. Other frequencies, output types and custom parameters are available. Please, contact factory for details.

## ■ HOW TO ORDER (PART NUMBER)

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

Example:



## ■ MECHANICAL SPECIFICATION

