

## SMD STRATUM 3 DIGITAL (VC) TCXO, TU102 AND TY102 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.	V <sub>s</sub>	V <sub>s</sub> ±5%	3.3   5.0	V
Supply current, max.	I <sub>s</sub>	V <sub>s</sub> , nom. / T <sub>a</sub> =25°C	12.0 to 20.0	mA
Frequency, nom.	f <sub>o</sub>	-	10.000 to 40.000	MHz
Overall frequency stability over 10 years of operation including Initial Frequency Calibration	Δf <sub>c</sub> /f <sub>o</sub>	T <sub>a</sub> =-40°C to + 85°C or T <sub>a</sub> = 0°C to + 70°C	±4.6	ppm
Frequency drift during 24 hours of continuous operation, max (See note 1)	Δf <sub>c</sub> /f <sub>o</sub>	T <sub>a</sub> =-40°C to + 85°C or T <sub>a</sub> = 0°C to + 70°C	±0.37	ppm
Temperature Stability (See note 2)		T <sub>a</sub> =-40°C to + 85°C	±0.30	ppm
		T <sub>a</sub> =0°C to + 70°C	±0.28	ppm
Frequency Adjustment Range (see note 3)	Δf/f <sub>o</sub> (V <sub>c</sub> )	V <sub>c</sub> = 0.25V V <sub>c</sub> = 2.25V	-5 ... -10 +5 ... +10	PPM PPM
Voltage control (pin 4) input impedance, min. (see note 3)	Z <sub>in</sub>	-	100	kΩ
Jitter (peak to peak), max (F <sub>nom</sub> = 20 MHz)	J(f)	Offset Δf = 12kHz to 20MHz	10	ps
Phase noise SSB @ freq.offset, max (F <sub>nom</sub> = 20 MHz)	ε (Δf)	Δf=10Hz Δf=100Hz Δf=1kHz Δf ≥ 10kHz	-80 -110 -130 -145	dBc/Hz dBc/Hz dBc/Hz dBc/Hz
HCMOS output levels Clipped Sine	V <sub>OH</sub> /V <sub>OL</sub>	Load = 15pF	0.9V <sub>cc</sub> / 0.1V <sub>cc</sub>	V
	V <sub>out</sub>	Load=10 kΩ  20pF	0.7	V <sub>p-p</sub>

### ■ 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

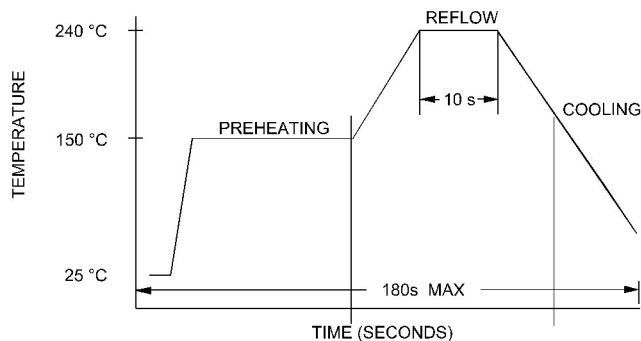
#### Notes:

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. TY102 series only.

\* Telecordia is a trademark of Telecordia Technologies

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

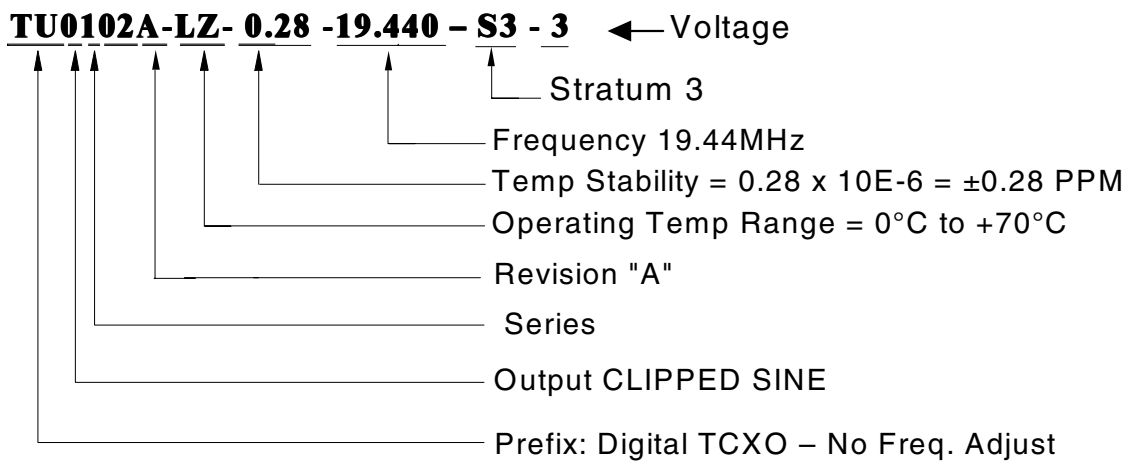
### ■ REFLOW PROFILE



## 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:LVC MOS	102	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:



## MECHANICAL SPECIFICATION

