

(VC)TCXO SBTO31

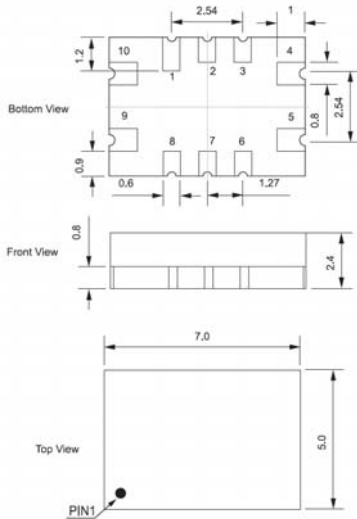
HC MOS
SMD PACKAGE

APPLICATIONS

- ▶ Ultra stable frequency
- ▶ Reapter
- ▶ Wi-Bro / 3G(CDMA, W-CDMA)
- ▶ GPRS / GSM

PICTURE
AREA

OUTLINE DIMENSIONS



| Pin no. | Function |
|-------------|-----------------------|
| #1 #3 #6 #7 | N/C |
| #4 | GND |
| #5 | Frequency output |
| #8 | N/C |
| #9 | Power supply output |
| #10 | Voltage control (N/C) |

ELECTRICAL SPECIFICATIONS

| | |
|-----------------------------|--|
| Frequency range | 10.000MHz~40.000MHz |
| Frequency stability | See below <i>*Inclusive of operating temperature range. Units: PPM max.</i> |
| Operating temperature range | See below |
| Storage temperature range | -55 °C ~ 105 °C |
| Input voltage | +3.3Vdc ±0.15V to +5.0Vdc ±0.5V |
| Input current | 3mA ~15mA . |
| Output wave form | HC MOS / TTL / LVTTTL |
| Load | 15pF |
| Symmetry | 45/55% or 55/45% Typical |
| Output high voltage (VOH) | +2.7V min. |
| Output low voltage (VOL) | +0.4V max. |
| Rising time (Tr) | 7nS max. (at 10% to 90% Vdc) |
| Input voltage stability | ±0.2ppm max. (at +3.3Vdc ±0.15V) |
| Input load stability | 0.2ppm max. (at 15pF ±2pF) |
| Aging (at 25 °C) | ±0.5ppm max. / year |
| Polarity & Linearity | Positive slope / 10% max. VC-TCXO |
| Pulling range | ±5ppm~±8ppm @+1.65V VC-TCXO |

Phase Noise(Typical @ 10.000MHz)

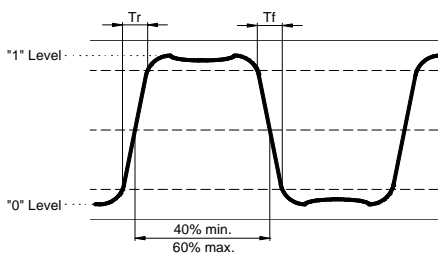
| | | | |
|--------|------------|---------|------------|
| .10Hz | -90dBc/Hz | .10KHz | -142dBc/Hz |
| .100Hz | -115dBc/Hz | .100KHz | -145dBc/Hz |
| .1KHz | -135dBc/Hz | | |

PART NUMBERING GUIDE

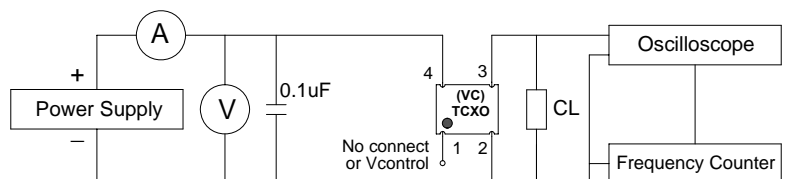
| Temperature °C | Stability | Day-aging | Year-ging | Stability vs Voltage | Stability vs Load | Code |
|----------------|-----------|-----------|-----------|----------------------|-------------------|------|
| 0~70 | 0.05PPM | 0.02PPM | 1PPM | 0.02PPM | 0.02PPM | A |
| 0~70 | 0.1PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | B |
| 0~70 | 0.28PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | C |
| -20~70 | 0.05PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | D |
| -20~70 | 0.1PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | E |
| -20~70 | 0.28PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | F |
| -40~85 | 0.05PPM | 0.02PPM | 0.5PPM | 0.05PPM | 0.05PPM | G |
| -40~85 | 0.28PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | H |
| -40~85 | 0.5PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | I |
| -40~85 | 0.5PPM | 0.02PPM | 1PPM | 0.05PPM | 0.05PPM | J |
| -55~85 | 0.5PPM | 0.01PPM | 0.5PPM | 0.1PPM | 0.1PPM | K |
| -55~85 | 1PPM | 0.01PPM | 0.5PPM | 0.1PPM | 0.1PPM | L |
| -55~85 | 2PPM | 0.02PPM | 1PPM | 0.1PPM | 0.1PPM | M |

Specifications subjects to change without notice & If you need other specifications, Contact our factory.

WAVE FORM



TEST CIRCUIT



NOTE : CL = INCLUDES ALL STRAY LOADING CAPACITANCE