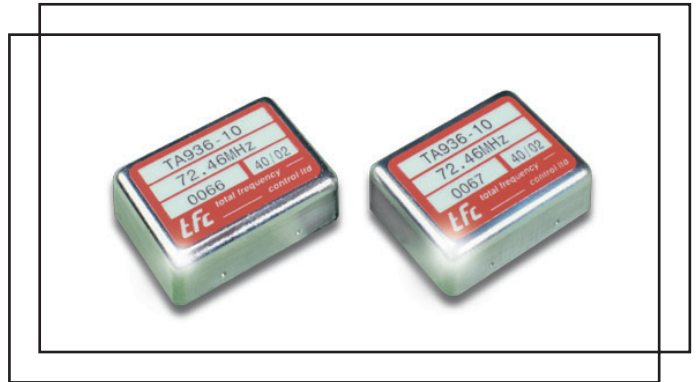


## Series TA936-10 1MHz ~ 1GHz

- # sine wave, CMOS output
- # custom designs
- # excellent phase noise
- # very low ageing



### Standard options:

|                              |   |   |                           |
|------------------------------|---|---|---------------------------|
| <b>frequency range:</b>      | 1MHz ~ 1GHz   |   |                           |
| <b>accuracy codes:</b>       | (A)   | (B)   | (C)                       |
| temperature tolerance        | $\pm 0.5\text{ppm}$                                       | $\pm 1.0\text{ppm}$                             | $\pm 2.0\text{ppm}$       |
| temperature range            | $(0 +50)^\circ\text{C}$                                   | $(-20 +70)^\circ\text{C}$                       | $(-40 +70)^\circ\text{C}$ |
| <b>output codes:</b>         | (S)   | (L)   |                           |
| output                       | sine wave, 0dBm into 50 $\Omega$<br>harmonics -30dBc max. | CMOS 15pF, 45% ~ 55%<br><2ns max. rise and fall |                           |
| <b>supply voltage codes:</b> | (V1)*   | (V2)*   | (V3)*                     |
| supply voltage $V_{CC}$      | +3.3Vd.c.   | +5.0Vd.c.                                       | +12.0Vd.c.                |
| voltage reference option*    | +3.0Vd.c.   | +4.5Vd.c.                                       | +4.5Vd.c.                 |
|                              | add suffix (R) for $V_{ref}$ output on pin #2             |   |                           |

### Generic specification:

|                                |   |
|--------------------------------|---|
| <b>stability:</b>              |   |
| against supply voltage change  | $\pm 0.02\text{ppm max. for } V_{CC} \pm 5\%$   |
| against load change            | $\pm 0.02\text{ppm max. for load } \pm 10\%$  |
| ageing short term              | $\pm 0.005\text{ppm max. per day}$  |
|                                | after 30 days continuous operation  |
| ageing long term               | $\pm 1.5\text{ppm max. first year}$   |
| voltage trim $V_t$             | $\pm 10\text{ppm min. typical, linearity } \pm 5\%$   |
| trim input impedance           | 100K $\Omega$ min.  |
| <b>power supplies:</b>         |   |
| supply voltage $V_{CC}$        | +3.3Vd.c.      +5.0Vd.c.      +12.0Vd.c.  |
| supply current                 | frequency, $V_{CC}$ and output load dependent   |
| insulation resistance          | 500Meg $\Omega$ min., at +100Vd.c.  |
| <b>phase noise:</b>            |   |
| single sideband, 1Hz bandwidth | -80dBc/Hz, $f_o + 10\text{Hz}$<br>-100dBc/Hz, $f_o + 100\text{Hz}$<br>-125dBc/Hz, $f_o + 1\text{kHz}$ |
| <b>temperature:</b>            |   |
| operating range                | $(0 +50)^\circ\text{C}$ $(-10 +60)^\circ\text{C}$ $(-40 +70)^\circ\text{C}$                           |
| storage range                  | $(-40 +125)^\circ\text{C}$ $(-40 +125)^\circ\text{C}$ $(-40 +125)^\circ\text{C}$                      |

## Series TA936-10

**Environmental conditions:**

**mechanical shock:** MIL standard 202F, method 213, condition J

**thermal shock:** MIL standard 202F, method 107, condition A

**vibration:** MIL standard 202F, method 204, condition B

**solderability:** 5 seconds max. at +230°C, 3 seconds max at +350°C

**Marking:**

frequency, date code, serial number on high temperature metalised polyester label

**Ordering code:**

**standard specification:** TA936-10 A S V2\* - 6.40M

TA936-10 = series generic code

**A** temp. tol. and temp. range code: A = ±0.5ppm(0 +50)°C

**S** output code: S = sine wave output, 0dBm into 50Ω

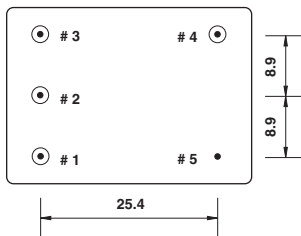
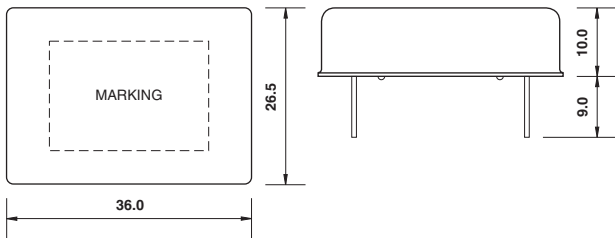
**V2\*** supply voltage code: V2 = +5Vd.c. supply

\*Add suffix (R) for V<sub>ref</sub> output on pin #2

**6.40M** output frequency: 6.40M = 6.40MHz

**custom specification:** part number issued with custom specification and drawing

**Dimensions(mm):**

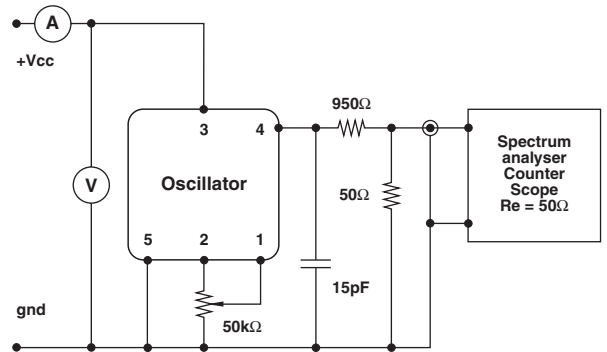


Pins viewed from bottom  
pin diameter 0.8mm

**Pin connections:**

- #1 trim
- #2 n.c. or trim reference voltage\*
- #3 +V<sub>CC</sub>
- #4 output
- #5 ground

**Test circuit:**



Test circuit includes a 20:1 step down into a matched 50Ω load