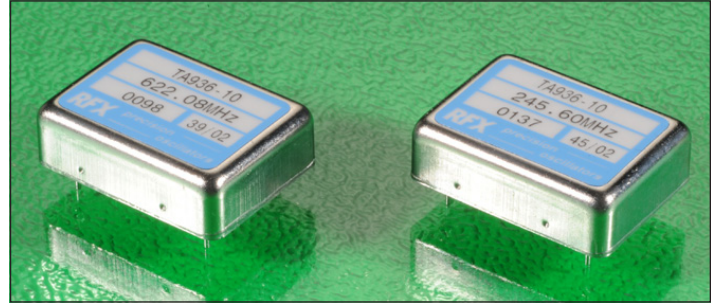


±0.5ppm, excellent phase noise, low ageing, wide frequency range.

Manufactured to standard and custom specifications over the frequency range of 1MHz to 1GHz.

Precision crystals provide outstanding long term ageing from ±4.6ppm over 10 years.



Standard options:

frequency range:

1MHz ~ 1GHz

accuracy codes:

temperature tolerance
temperature range

| (A) | (B) | (C) |
|-----------|-------------|-------------|
| ±0.5ppm | ±1.0ppm | ±2.0ppm |
| (0 +50)°C | (-20 +70)°C | (-40 +70)°C |

output codes:

output
harmonics -30dBc max.

| (S) | (L) |
|--------------------------|----------------------|
| sine wave, 0dBm into 50Ω | CMOS 15pF, 45% ~ 55% |
| <2ns max. rise and fall | |

supply voltage codes:

supply voltage
voltage reference option*

| (V1)* | (V2)* | (V3)* |
|-----------|-----------|------------|
| +3.3Vd.c. | +5.0Vd.c. | +12.0Vd.c. |
| +3.0Vd.c. | +3.0Vd.c. | +3.0Vd.c. |

*add suffix (R) for V_{ref} output on pin #2

Generic specification:

stability:

against supply voltage change
against load change
ageing short term

±0.02ppm max. for $V_{cc} \pm 5\%$
±0.02ppm max. for load ±10%
±0.005ppm max. per day
after 30 days continuous operation

ageing long term
voltage trim V_t
trim input impedance

±1.5ppm max. first year
±10ppm min. typical, linearity ±5%
100KΩ min.

power supplies:

supply voltage V_{cc}
supply current
insulation resistance

| | | |
|-------------------------------|-----------|------------|
| +3.3Vd.c. | +5.0Vd.c. | +12.0Vd.c. |
| 50mA max. frequency dependent | | |
| 500MegΩ min., 100Vd.c. | | |

phase noise:

single sideband, 1Hz bandwidth

-80dBc/Hz, $f_o + 10\text{Hz}$
-100dBc/Hz, $f_o + 100\text{Hz}$
-125dBc/Hz, $f_o + 1\text{kHz}$

temperature:

operating range
storage range

| | | |
|--------------|--------------|--------------|
| (0 +50)°C | (-10 +60)°C | (-40 +70)°C |
| (-40 +125)°C | (-40 +125)°C | (-40 +125)°C |

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

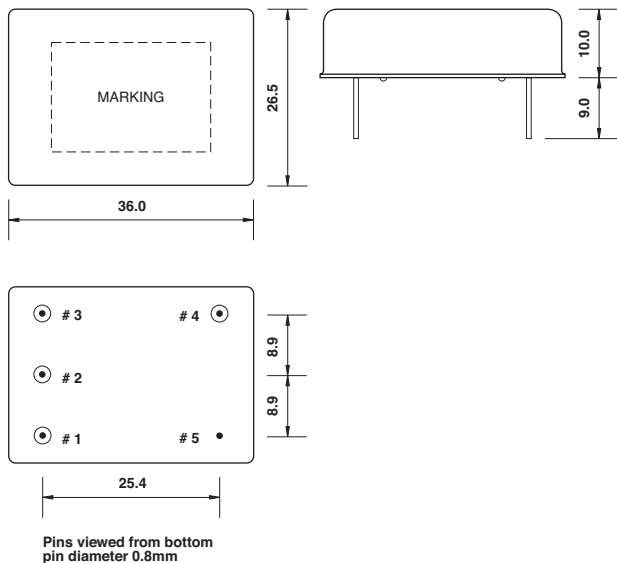
Marking: part number and frequency on high temperature metalised polyester label

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_{ref} output on pin #2
6.40M output frequency: **16.384M = 16.384MHz**

Custom specification: part number issued with custom specification and drawing

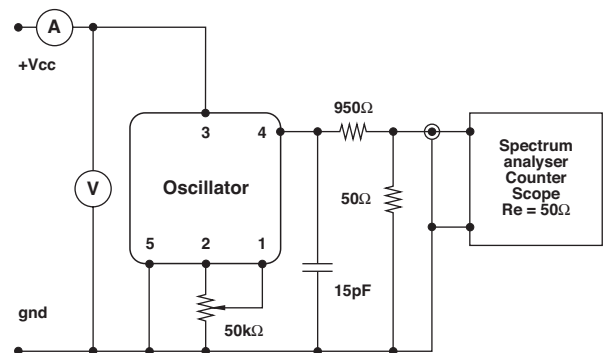
Dimensions(mm):



Pin connections:

- # 1 trim
- # 2 n.c. or trim reference voltage*
- # 3 +V_{cc}
- # 4 output
- # 5 ground

Test circuit, CMOS load:



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