

Series TA400-10

- 1MHz ~ 1GHz
- stability from $\pm 0.5\text{ppm}$
- sine wave, CMOS output
- good phase noise
- ageing from $\pm 4.6\text{ppm}$ over 10 years

Applications:

- communications equipment
- instrumentation
- telemetry



Standard options:

frequency range:	_____ 1MHz ~ 1GHz _____		
accuracy codes:	_____ (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) $^{\circ}\text{C}$
output codes:	_____ (S) _____	_____ (L) _____	
output	sine wave, 0dBm into 50 Ω harmonics -30dBc max.	CMOS 15pF, 45% ~ 55% <2ns max. rise and fall	
supply voltage codes:	_____ (V1)* _____	_____ (V2)* _____	_____ (V3)* _____
supply voltage	+3.3Vd.c.	+5.0Vd.c.	+12.0Vd.c.
voltage reference option*	+3.0Vd.c.	+3.0Vd.c.	+3.0Vd.c.

*add suffix (R) for V_{ref} output on pin #5

Generic specification:

stability:	
against supply voltage change	$\pm 0.02\text{ppm max. for } V_{\text{cc}} \pm 5\%$
against load change	$\pm 0.02\text{ppm max. for load } \pm 10\%$
ageing short term	$\pm 0.005\text{ppm max. per day}$
ageing long term	after 30 days continuous operation
voltage trim V_t	$\pm 1.5\text{ppm max. first year}$
trim input impedance	$\pm 10\text{ppm min. typical, linearity } \pm 5\%$ 100K Ω min.
power supplies:	
supply voltage V_{cc}	+3.3Vd.c. +5.0Vd.c. +12.0Vd.c.
supply current	50mA typical
insulation resistance	500Meg Ω 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	(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) $^{\circ}\text{C}$

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 options:

TA400-10 A S V2* - 16.384M

TA400-10 = series generic code

A temp. tol. and temp. range code: A = $\pm 0.5\text{ppm}(0 +50)^\circ\text{C}$

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

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

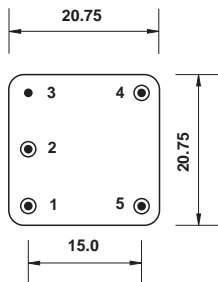
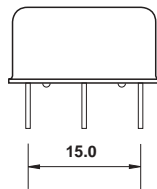
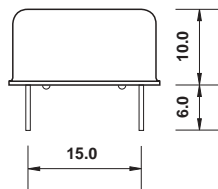
**add suffix (R) for V_{ref} output on pin #5*

16.384M output frequency: 16.384M = 16.384MHz

custom specification:

part number issued with custom specification and drawing

Dimensions(mm):

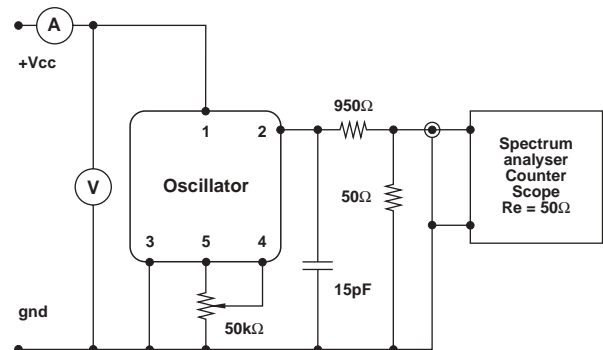


Pins viewed from bottom
pin diameter 0.45mm

Pin connections:

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

Test circuit, CMOS load:



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