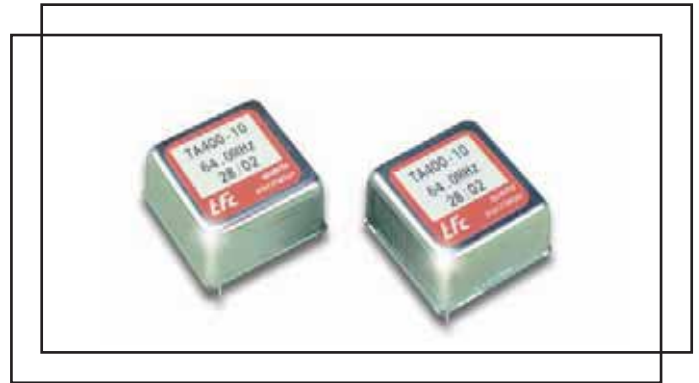


## Series TA400-10 1MHz ~ 1GHz

- # sine wave, CMOS output
- # hermetic seal
- # excellent phase noise
- # very low ageing
- # RoHS compliant



### 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 $\Omega$ harmonics -30dBc max.	CMOS 15pF, 45% ~ 55% <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.	+3.0Vd.c.	+3.0Vd.c.
	add suffix (R) for $V_{ref}$ output on pin #5		

### 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	$\pm 0.005\text{ppm max. per day}$
ageing long term	after 30 days continuous operation $\pm 1.5\text{ppm max. first year}$
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, $f_o + 10\text{Hz}$ -100dBc/Hz, $f_o + 100\text{Hz}$ -125dBc/Hz, $f_o + 1\text{kHz}$
<b>temperature:</b>	
operating range	$(0 +50)^\circ\text{C}$ $(-20 +70)^\circ\text{C}$ $(-40 +70)^\circ\text{C}$
storage range	$(-40 +125)^\circ\text{C}$ $(-40 +125)^\circ\text{C}$ $(-40 +125)^\circ\text{C}$

## Series TA400-10

### Environmental test conditions (on request):

**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:** MIL standard 202F, method 208, +235°C, RoHS compliant

### Marking:

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

### Ordering code:

**standard specification:** TA400-10 A S V2\* - 16.384M

**TA400-10 = 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**

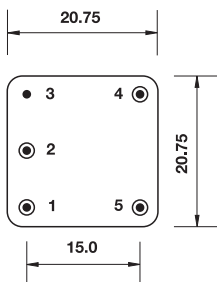
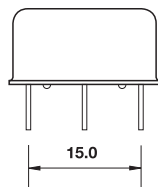
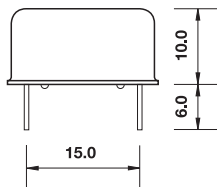
**V2\*** supply voltage code: **V2 = +5Vd.c. supply**

\*Add suffix (R) for  $V_{ref}$  output on pin #5

**16.384M** output frequency: **16.384M = 16.384MHz**

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

### Dimensions(mm):

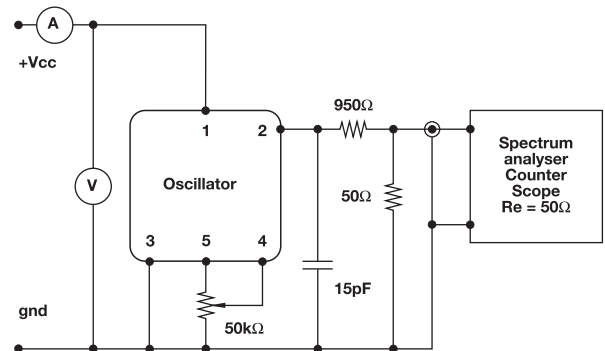


Pins viewed from bottom  
pin diameter 0.45mm

### Pin connections:

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

### Test circuit:



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