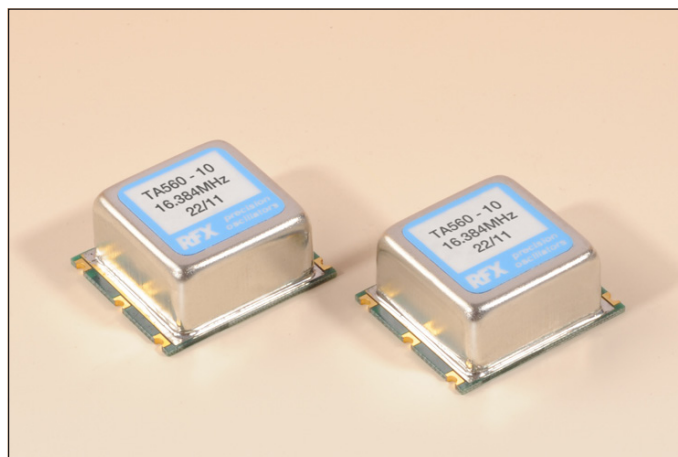


### TA560 - 10

- $\pm 0.5\text{ppm}$ , excellent phase noise, low ageing, wide frequency range.
- A low profile hermetically sealed smd package, manufactured to standard and custom specifications over the frequency range of 1MHz to 1GHz.
- Precision crystals provide outstanding long term ageing from  $\pm 4.6\text{ppm}$  over 10 years.



### 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 $\Omega$	CMOS 15pF, 45% ~ 55%	
harmonics -30dBc max.	<2ns max. rise and fall		
<b>supply voltage codes:</b>	(V1)*	(V2)*	(V3)*
supply voltage	+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 #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
voltage trim $V_z 0\text{ppm min. typical, linearity } \pm 5\%$	$\pm 1.5\text{ppm max. first year}$
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	50mA max. typical
insulation resistance	500Meg $\Omega$ min., 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) $^{\circ}\text{C}$ (-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:**

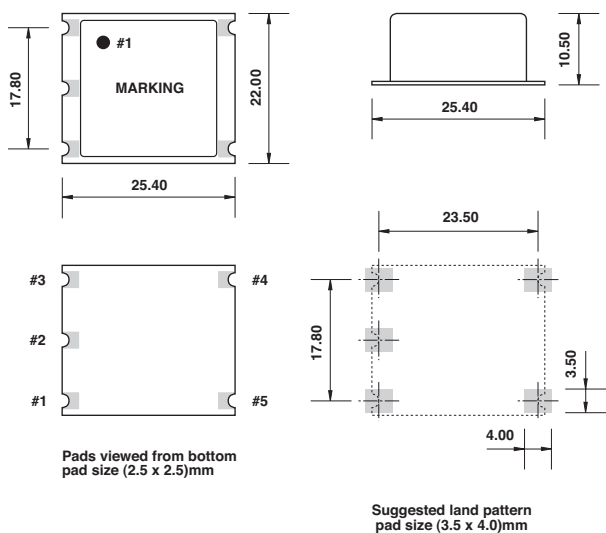
- mechanical shock:** MIL standard 202F, method 213, condition J
- thermal shock:** MIL standard 202F, method 107, condition A
- vibration:** MIL standard 202F, method 204, condition B
- solderability:** 5 seconds max. at +230°C, 3 seconds max. at +350°C

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

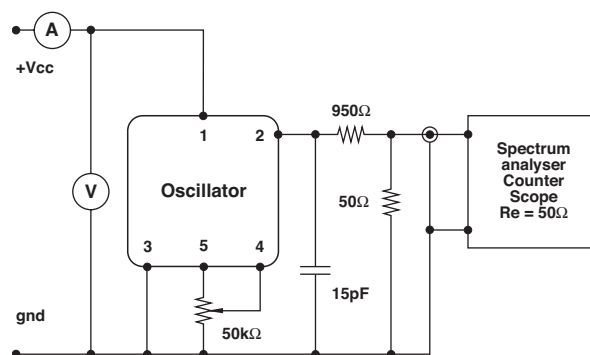
**Ordering code:**

- standard specification:** **TA560-10 A S V2\* - 16.384M**  
**TA560-10 = 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):**

**Pin connections:**

- # 1 +V<sub>cc</sub>
- # 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