

### smd series TA560-10

- 1MHz ~ 1GHz
- stability from  $\pm 0.5\text{ppm}$
- sine wave, CMOS output
- hermetically sealed smd package
- ageing from  $\pm 4.6\text{ppm}$  over 10 years

### Applications:

- communications equipment
- instrumentation
- telemetry



### 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.	+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 $V_t$	$\pm 1.5\text{ppm max. first year}$		
trim input impedance	$\pm 10\text{ppm min. typical, linearity } \pm 5\%$ 100K $\Omega$ min.		
<b>power supplies:</b>			
supply voltage $V_{cc}$	+3.3Vd.c.	+5.0Vd.c.	+12.0Vd.c.
supply current	50mA typical		
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) $^{\circ}\text{C}$	(-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:** TA560-10 A S V2\* - 16.384M

TA560-10 = 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

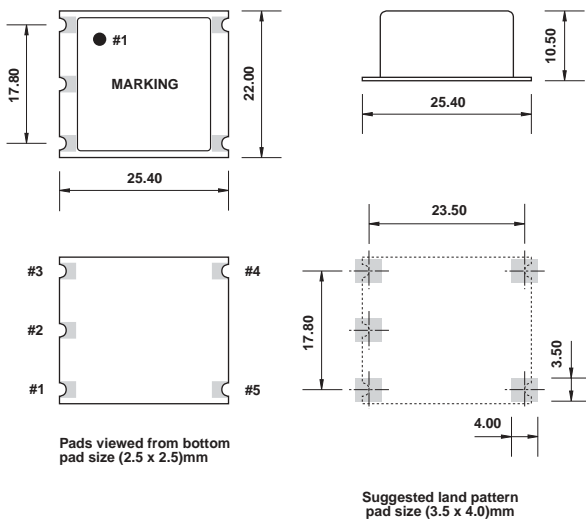
V2\* supply voltage code: V2 = +5Vd.c. supply

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

16.384M output frequency: 16.384M = 16.384MHz

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

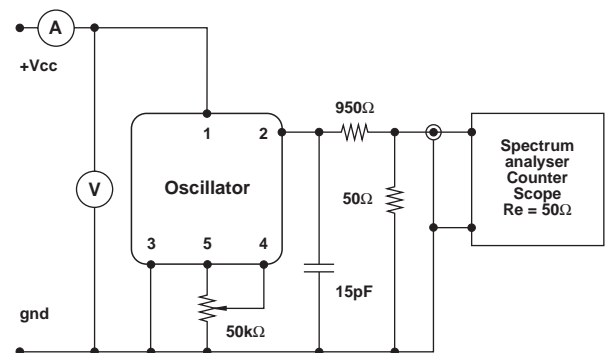
### Dimensions(mm):



### 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