



SMD Temperature Compensated Crystal Oscillators

FEATURE

The SMK3225TCBI with voltage control option, employs an analogue IC for the oscillator and temperature compensation. The RSX-8 crystal is surface mounted on top of the ceramic IC carrier. The segregation of the crystal from the oscillator further improves the reliability of the product.

APPLICATION

Feature phone

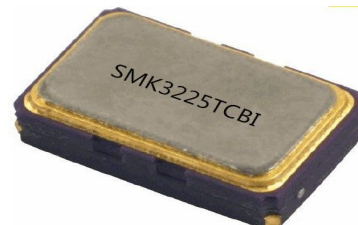
GPS

Wi-Fi

WiMAX/W-LAN

Other

3.2*2.5*0.8mm



ELECTRICAL SPECIFICATION

Parameter	Value				Unit
Nominal supply voltage range	2.4 to 3.7				V
Frequency Range	10 to 40				MHz
Standard Frequency (Clipped Sine)	10.0/12.8/16/16.384/19.2/25/38.88/40				
Frequency Tolerance*	±1.0		±1.0		ppm
Frequency stability over temperature	0.5–2.0				ppm
Temperature range	(–40 to 85)				° C
Frequency slope	0.05 to 1.0				ppm/° C
Sensitivity to supply voltage variations±5% at 25°C	±0.1max				ppm
Sensitivity to load variations±10%	±0.2 max				ppm
Long term stability	±1 max				ppm
Current	2.0				mA
Control voltage range	0.5 to 2.8				V
Frequency control range	6 to 50				ppm
Linearity	20 max				%
Control voltage inputresistance	500				K Ω
Output voltage level	0.8 min				V
Output loadresistance	9 to 11				k Ω
Output loadcapacitance	9 to 11				pF
Power down/RF disabled.Minimum GND	20 max				%Vcc
Normal operating mode/RF enabled. Maximum Vcc	80 min				%Vcc
Phase Noise @ 16.369MHz					
10Hz	–89				dBc/Hz
100Hz	–113				
1KHz	–132				
10KHz	–145				
Start Time	0.5				mSec
Storage Temp. Range	–55	125	–55	125	° C

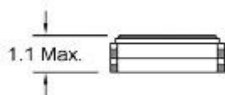


Shock	Half sine-wave acceleration of 3000g peak amplitude. Duration: 0.3ms, Velocity: 12.3ft/s [MIL-STD-202 M213] (Note 4)
Moisture resistance	1000 hours at 85° C, 85% relative humidity. Biased. [MIL-STD-202 M106g]
Thermal cycling	1000temperature cycles, where each cycle consists of a 25 minutes soak time at -40° C followed by a 25 minute soak time at 85° C, with a 60 second maximum transition time between temperatures. Air to air transition.
Vibration	10g peak acceleration for 4 minutes per sweep. 4 sweeps in each of the 3 orientations. Swept from 20-2000Hz [JESD22-B103-B] (Note 4)

MODEL DRAWING

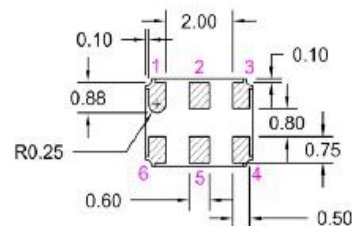


TOP VIEW



FRONT VIEW

Pin	
1	GND
2	NC
3	GND
4	OUTPUT
5	NC
6	V _{DD}



BOTTOM VIEW

RECOMMENDED LAYOUT

- TOP VIEW, 6 PAD

