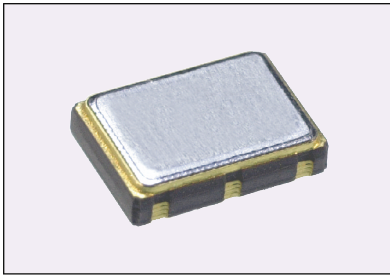


Crystal Clock Oscillator



**TCO-7116X1V**

SMO-N-K VCXO

**Features**

- CMOS logic output
- Ceramic package
- Space saving
- Enable / Disable feature
- Voltage controlled oscillator

**Specifications**

**Absolute Maximum Ratings**

Parameter	Symbol	Rating
Supply voltage	V <sub>CC</sub>	-0.5 to +6.0 V
Input voltage	V <sub>IN</sub>	-0.5 to V <sub>CC</sub> +0.5 V
Output voltage	V <sub>O</sub>	-0.5 to V <sub>CC</sub> +0.5 V
Output current	I <sub>O</sub>	±10 mA
Storage temperature	T <sub>stg</sub>	-55 to +125°C
Soldering condition	T <sub>sol</sub> T	+260°C / 20sec or +230°C / 180sec

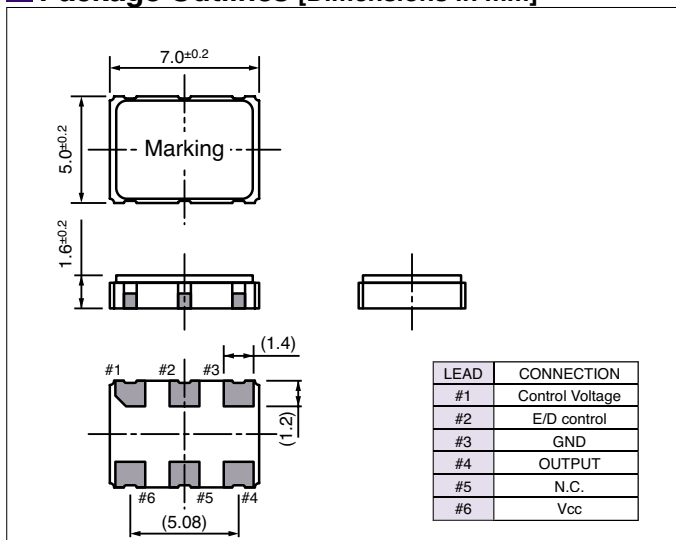
Parameter		TCO-7116X1V	Conditions
Frequency	f <sub>o</sub>	1.5 to 55 MHz	(*1)
Frequency Stability	Δf/f <sub>o</sub>	±50 ppm max.	(*2)
Pullability		±100 ppm min.	at V <sub>cont</sub> =0.0 to +3.3V Ref=+1.65V
Control Voltage Range	V <sub>cont</sub>	+1.65 V ±1.65 V	DC, Lead #1
Operating Temperature	T <sub>opr</sub>	0°C to +70°C	
Supply Voltage	V <sub>CC</sub>	+3.3 V ±5 %	DC, Lead #6
Supply Current	I <sub>CC</sub>	25 mA max.	V <sub>CC</sub> =+3.46V
Input Voltage	V <sub>IH</sub> V <sub>IL</sub>	V <sub>IH</sub> =70% V <sub>CC</sub> min. / V <sub>IL</sub> =30% V <sub>CC</sub> max.	#2:V <sub>IH</sub> or OPEN ... Enable #2:V <sub>IL</sub> or GND ... Disable
Output Voltage	V <sub>OH</sub> V <sub>OL</sub>	V <sub>OH</sub> =90% V <sub>CC</sub> min. / V <sub>OL</sub> =10% V <sub>CC</sub> max.	I <sub>OH</sub> =-0.8mA, I <sub>OL</sub> =+3.2mA, Lead #4
Symmetry	SYM	40 to 60 %	CMOS logic output at 50 % V <sub>CC</sub>
Rise/Fall time	tr/tf	10 ns max.	CMOS logic output at 20 to 80% V <sub>CC</sub>
Load Capacitance	CL	15 pF max.	CMOS logic output
Start-up time	t <sub>st</sub>	5 ms max.	(*3)

\*1 Please contact us for standard frequency.

\*2 Inclusive of calibration tolerance at +25°C, operating temperature, operating voltage range.

\*3 Rise time (0 to +3.0V) of V<sub>CC</sub> >150μs

**Package Outlines [Dimensions in mm]**



**Test Circuit**

See Test Circuit page TEST-8

**Footprint [Dimensions in mm]**

