

# Voltage Controlled Crystal Oscillators (VCXO) Surface Mount Type KV7050W-P3 Series (K50V-3P Series)



LV-PECL/ 3.3V/ 7.0×5.0mm



Ph Free

RoHS Compliant

## Features

- Miniature ceramic package
- Highly reliable with vacuum welding
- LV-PECL output
- Supply voltage  $V_{CC}=3.3V$
- With built-in by-pass capacitor
- Low jitter

## How to Order

**KV7050W 155.520 P 3 0 D 00**  
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (7.0×5.0mm SMD VCXO)
- ② Output Frequency
- ③ Output Type (LV-PECL)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ Enable Function (45/ 55%, Disable)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Table 1

Freq. Tol. Code	Tolerance $\times 10^{-6}$	Operating Temperature Range (°C)	Note
0	$\pm 50$	0 to +70	Standard specifications
F	$\pm 100$	-40 to +85	With only certain frequencies
G	$\pm 50$	-40 to +85	With only certain frequencies

Packaging (Tape & Reel 1000 pcs./ reel)

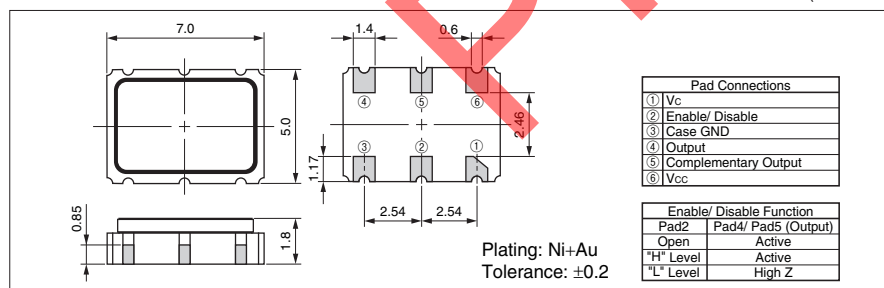
## Specifications

Item	Symbol	Conditions	Min.	Max.	Units
Output Frequency Range	Fo		70	180	MHz
Frequency Tolerance	F <sub>tol</sub>	Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration	-100	+100	$\times 10^{-6}$
Aging	Aging	@25°C 20 years	—	$\pm 15$	$\times 10^{-6}$
Absolute Pull Range	APR		$\pm 100$	—	$\times 10^{-6}$
Linearity	Lin		-10	+10	%
Control Voltage	Vc		0	3.3	V
Storage Temperature Range	T <sub>std</sub>		-55	+90	°C
Operating Temperature Range	T <sub>use</sub>	Standard Specifications Extend (Option)	0 -40	+70 +85	°C
Max. Supply Voltage			-0.5	+7	V
Supply Voltage	V <sub>CC</sub>		2.97	3.63	V
Current Consumption	I <sub>CC</sub>	50 ohm	—	60	mA
Disable Current	I <sub>dis</sub>		—	10	mA
Symmetry	SYM	50 ohm @50% Output Swing	45	55	%
Rise/ Fall Time (20% V <sub>CC</sub> to 80% V <sub>CC</sub> )	tr/ tf	50 ohm	—	0.6	nS
Low Level Output Voltage	V <sub>OL</sub>	Op. Temp.: 0 to +85°C/ Typ. 1.600V Op. Temp.: -40 to 0°C/ Typ. 1.605V	V <sub>CC</sub> -1.810 V <sub>CC</sub> -1.830	V <sub>CC</sub> -1.620 V <sub>CC</sub> -1.555	V
High Level Output Voltage	V <sub>OH</sub>	Op. Temp.: 0 to +85°C/ Typ. 2.350V Op. Temp.: -40 to 0°C/ Typ. 2.295V	V <sub>CC</sub> -1.025 V <sub>CC</sub> -1.085	V <sub>CC</sub> -0.880 V <sub>CC</sub> -0.900	V
Output Load	L <sub>ECL</sub>	LV-PECL		50	ohm
Input Voltage Range	V <sub>IN</sub>		0	V <sub>CC</sub>	V
Low Level Input Voltage	V <sub>IL</sub>		—	30% V <sub>CC</sub>	V
High Level Input Voltage	V <sub>IH</sub>		70% V <sub>CC</sub>	—	V
Disable Time	t <sub>dis</sub>		—	200	nS
Enable Time	t <sub>ena</sub>		—	200	nS
Start-up Time	t <sub>str</sub>	@ Minimum operation voltage to be 0 sec.	—	10	mS
Input Resistance	—		150k	—	ohms
Modulation bandwidth	—		20k	—	Hz
Phase Jitter	J <sub>Phase</sub>	12KHz to 20MHz @ 155.52MHz	—	1	pS
Phase Noise @ 155.52MHz	—	- 60 (@ 10Hz offset) - 90 (@ 100Hz offset) - 120 (@ 1KHz offset) - 140 (@ 10KHz offset) - 147 (@ 100KHz offset) - 147 (@ 1Hz offset) - 147 (@ 10Hz offset)			dBc/ Hz

Note: All electrical characteristics are defined at the maximum load and operating temperature range.  
Please contact us for inquiries about operating temperature range, available frequencies and other conditions.

## Dimensions

(Unit: mm)



## Recommended Land Pattern

(Unit: mm)

