

**DUAL FREQUENCY OUTPUT CERAMIC SMD VCXO (7.0 x 5.0mm)**
**FEATURES**

- Designed specifically for Digital Video application
- 2 user-selectable output frequencies: 148.3516MHz, 148.500MHz
- High reliability and low aging
- Available CMOS, LVDS, and LVPECL outputs
- 3.3V and 2.5V supply options

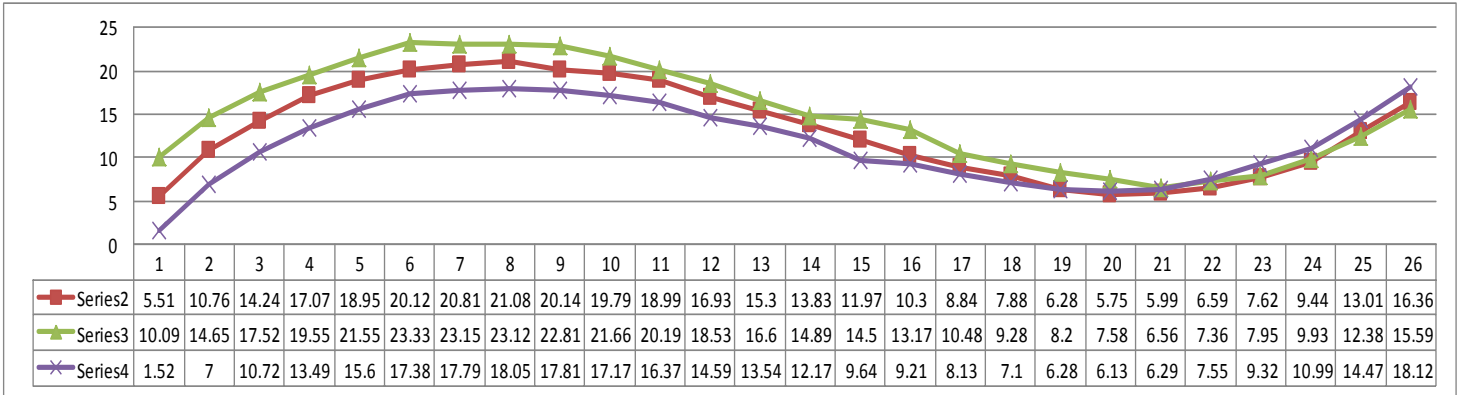

**■ SPECIFICATION**

PARAMETER		MIN.	TYP.	MAX.	UNIT	NOTE			
FREQUENCY		148.3516MHz, 148.500MHz							
FREQUENCY STABILITY		±10*	±50	±100	ppm	See P/N guide for other options			
OPERATING TEMPERATURE RANGE		-40		85	°C	See P/N guide for other options			
STORAGE TEMPERATURE RANGE		-55		125	°C				
SUPPLY VOLTAGE ±10%		$V_{DD} = 2.5V_{DC}$	2.375	2.500	2.625	V			
		$V_{DD} = 3.3V_{DC}$	2.970	3.300	3.630	V			
SUPPLY CURRENT		CMOS		20	45	mA			
		LVDS		23	45	mA	$(V_{DD} = 2.5V_{DC}, 3.3V_{DC})$		
		LVPECL		54	60	mA			
OUTPUT		LOAD		CMOS		15	pF		
				LVDS		100		Ω	Output - Complementary Output
				LVPECL		50		Ω	into $V_{DD} - 2V_{DC}$
		LEVEL		CMOS ( $V_{OH}$ )		$0.9 \times V_{DD}$			V
						CMOS ( $V_{OL}$ )			
				LVDS ( $V_{OH}$ )			1.4	1.6	V
						LVDS ( $V_{OL}$ )		0.9	1.1
				LVPECL ( $V_{OH}$ )		$V_{DD} - 1.03V$		$V_{DD} - 0.60V$	V
				LVPECL ( $V_{OL}$ )		$V_{DD} - 1.85V$		$V_{DD} - 1.62V$	V
SYMMETRY (DUTY CYCLE)		CMOS		45		55	%		
		LVDS		45		55	%		
		LVPECL		45		55	%		
RISE AND FALL TIME ( $T_r/T_f$ )		CMOS			1.0	3.0	nS		
		LVDS			0.25	0.6	nS		
		LVPECL			0.25	0.6	nS		
START-UP TIME				2.0	3.0	mS			
STAND-BY VOLTAGE		ENABLE ( $V_{IH}$ )		$0.7 \times V_{DD}$			V		
		DISABLE ( $V_{IL}$ )				$0.3 \times V_{DD}$	V		
ENABLE DELAY TIME				100		nS			
DISABLE DELAY TIME				100		nS			
FREQUENCY DEVIATION		±50				ppm	See P/N guide for other options		
CONTROL VOLTAGE		0.00		$V_{DD}$		V			
CONTROL PORT BANDWIDTH		10				MHz			
SLOPE		Positive							
LINEARITY				10		%			
MODULATION BANDWIDTH		10				kHz			
INPUT IMPEDANCE		100				kΩ			
AGING		per 1year				±3.0	ppm @ 25°C ±3°C		
		per 10years				±5.0			
PHASE JITTER RMS			0.60	1.50		pS	@ 12kHz ~ 20MHz		
PERIOD JITTER			2.0	3.0		pS			

\* Available in selected operating temperature range

Transko Electronics, Inc reserves the right to make changes to the product (s), service (s), and specification (s) described herein without notice. See "Terms of Sale" for details on our website.

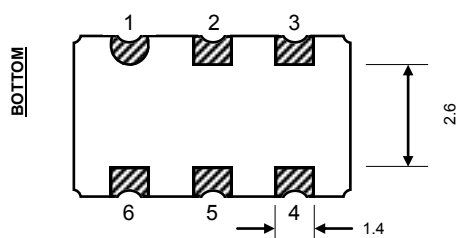
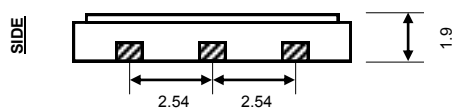
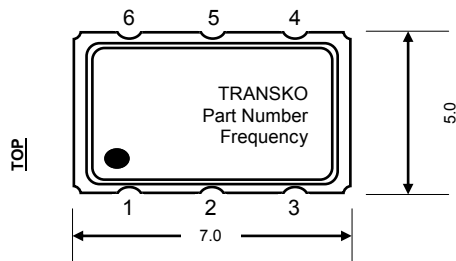
## 27MHz 3.3V VCXO Temperature Test Data (-40°C ~ 85°C)



## Phase Noise & RMS Jitter measurement

NO	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	5MHz	RMS Jitter
1	-80.6273	-112.688	-129.15	-137.313	-147.43	-155.45	-156.504	361.533 fsec
2	-61.0806	-97.5347	-128.019	-137.417	-147.984	-155.629	-154.72	349.765 fsec
3	-77.2813	-112.702	-127.812	-138.709	-149.653	-155.171	-154.144	346.426 fsec
Average	-72.9964	-107.642	-128.327	-137.813	-148.356	-155.416	-155.122	352.57 fsec

## PACKAGE DIMENSIONS



Unit:mm

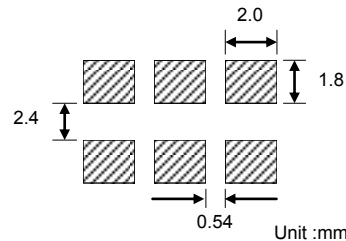
Pin Configuration	
1	Vcon
2	*Fsel
3	Ground
4	Output
5	**C.output
6	VDD

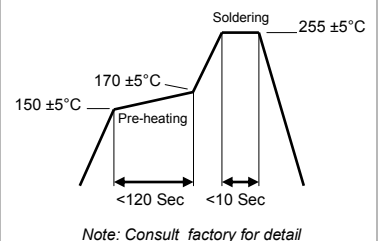
* Fsel	Corresponding Frequency
Fsel	
GND	148.3516MHz
VDD	148.500MHz

\*\* LVDS/LVPECL only

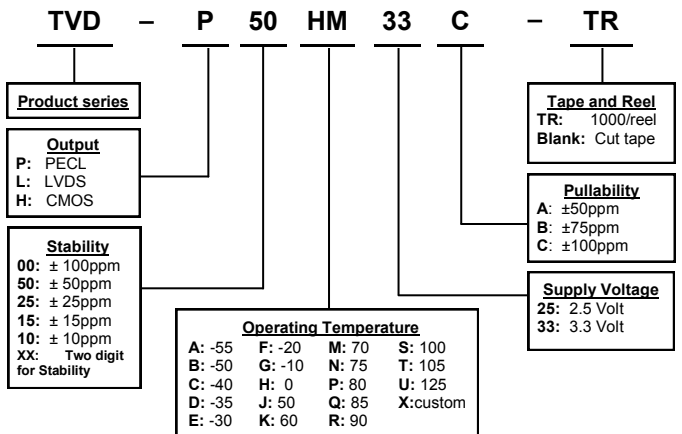
## SOLDER PATTERN



## REFLOW PROFILE



## PART NUMBERING GUIDE



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