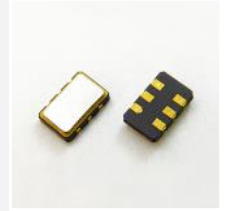


**DUAL FREQUENCY OUTPUT CERAMIC SMD VCXO (5.0 x 3.2mm)**
**FEATURES**

- 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

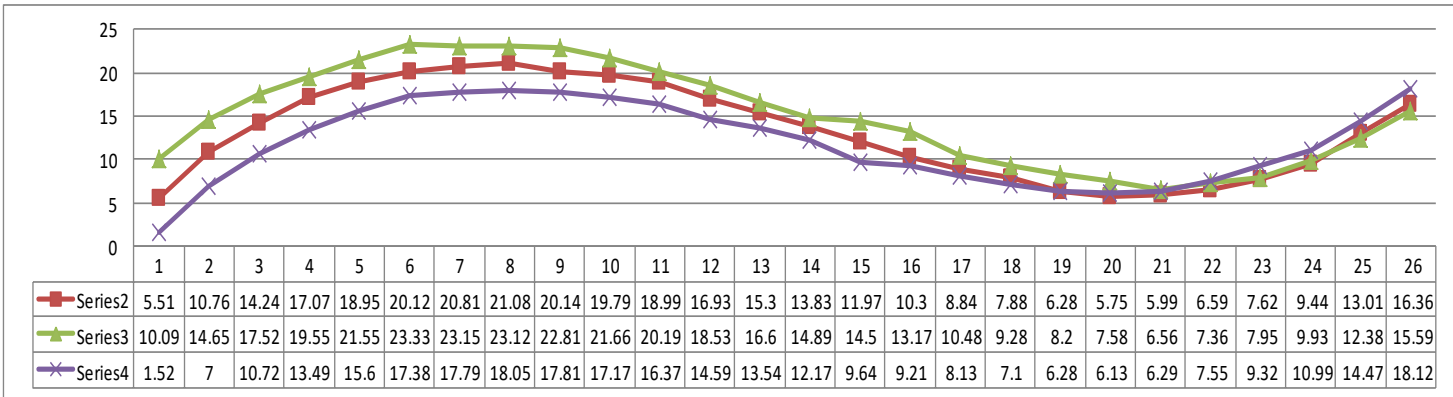

**■ SPECIFICATION**

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 <sub>DD</sub> = 2.5V <sub>DC</sub>	2.375	2.500	2.625	V	
		V <sub>DD</sub> = 3.3V <sub>DC</sub>	2.970	3.300	3.630	V	
SUPPLY CURRENT		CMOS		20	45	mA	
		LVDS		23	45	mA	
		LVPECL		54	60	mA	
OUTPUT		LOAD	CMOS		15	pF	
			LVDS		100	Ω	
			LVPECL		50	Ω	
		LEVEL	CMOS (V <sub>OH</sub> )	0.9 x V <sub>DD</sub>			V
			CMOS (V <sub>OL</sub> )			0.1 x V <sub>DD</sub>	V
			LVDS (V <sub>OH</sub> )		1.4	1.6	V
			LVDS (V <sub>OL</sub> )	0.9	1.1		V
			LVPECL (V <sub>OH</sub> )	V <sub>DD</sub> - 1.03V		V <sub>DD</sub> - 0.60V	V
			LVPECL (V <sub>OL</sub> )	V <sub>DD</sub> - 1.85V		V <sub>DD</sub> - 1.62V	V
SYMMETRY (DUTY CYCLE)	CMOS	45		55	%		
	LVDS	45		55	%		
	LVPECL	45		55	%		
RISE AND FALL TIME (Tr/Tf)	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 <sub>IH</sub> )	0.7 x V <sub>DD</sub>			V	
		DISABLE (V <sub>IL</sub> )			0.3 x V <sub>DD</sub>	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 <sub>DD</sub>	V		
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	ppm		
PHASE JITTER RMS			0.60	1.50	pS	@ 12kHz ~ 20MHz	
PERIOD JITTER			2.0	3.0	pS		

\* Available in selected operating temperature range

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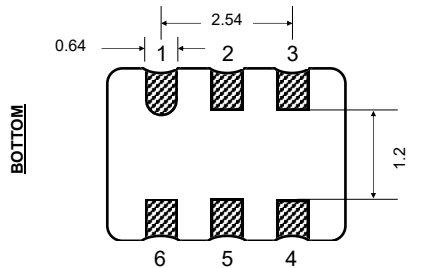
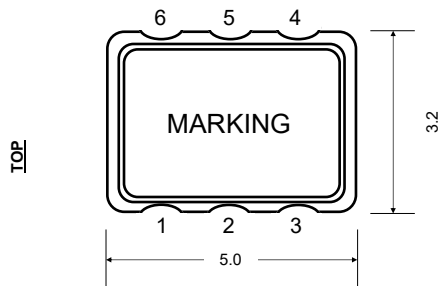
## 27MHz 3.3V VCXO Temperature Test Data (-40°C ~ 85°C)



## 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



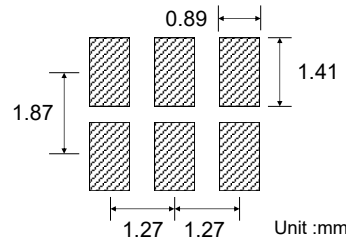
Unit:mm

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

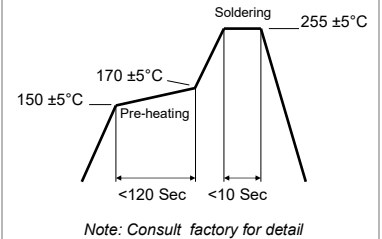
* Fsel	
Fsel	Corresponding Frequency
GND	148.3516MHz
VDD	148.500MHz

\*\* LVDS/LVPECL only

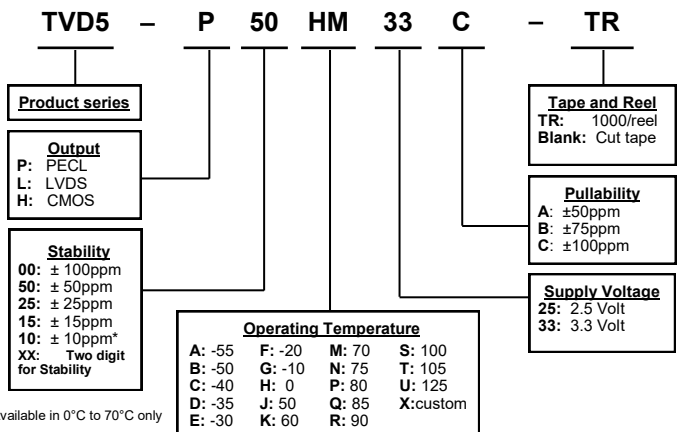
## SOLDER PATTERN



## REFLOW PROFILE



## PART NUMBERING GUIDE



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