PETERMANN TECHNIK
your clocking experts

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LOW POWER HIGH STABILITY TCXO

SERIES „TXO2520-33–2.5-W-50M-1-CSW-E“

TCXO SPECIFICATION

PARAMETER AND CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITION
FREQUENCY						
Output Frequency	f		50.000		MHz	
FREQUENCY STABILITY AND AGING						
Frequency Tolerance at 25°C±3°C	f_In.-T.	-2	-	+2	ppm	Max. after 2 times reflow (ref. to nominal frequency)[1]
Frequency Stability vs. Temperature	f_Temp.	-2.5	-	+2.5	ppm	Over –40/+85°C (ref. to +25°C)
Frequency Stability vs. Supply Voltage	f_V_{DD}	-0.2	-	+0.2	ppm	3.3 VDC ±5%
Frequency Stability vs. Load Variation	f_Load	-0.2	-	+0.2	ppm	Load R/C=(10 kΩ//10pF)±10%
Frequency Stability vs. Aging	f_Aging	-1.0	-	+1.0	ppm	Max. per year (ref. +25°C)
OPERATING TEMPERATURE RANGE						
Operating Temperature Range	T_use	-40	-	+85	°C	
Storage Temperature Range	T_stor	-40	-	+85	°C	
SUPPLY VOLTAGE AND CURRENT CONSUMPTION						
Operable Supply Voltage	V_{DD}	+3.135	+3.3	+3.465	VDC	Specified frequency tolerances are guaranteed for 3.3 VDC ±5%
Current Consumption	I_{DD}	-	-	+2.0	mA	Without load
CLIPPED SINE WAVE OUTPUT CHARACTERISTICS						
Output Level		0.8	-	-	Vp-p	Clipped Sine Wave
Load Impedance (resistance part)	Load_R	-	-	10	kΩ	
Load Impedance (parallel capacitance)	Load_C	-	-	10	pF	
PHASE NOISE / HARMONICS						
Phase Noise / 1 kHz offset	SSB	-	-	-124	dBc/Hz	Relative to f0 offset 1 kHz
STARTUP TIMING						
Startup Time	T_start	-	-	2.0	ms	90% of final Vout Level
ORDERING DATA						
RoHS	Lead free and RoHS compliant					
Delivery Form	Tape & Reel / 3.000 pcs per reel					
Ordering Code	TXO2520-33-2.5-W-50M-1-CSW-E					
Marking	Line 1 = P250XE Line 2 = Date code (xxxx)					
Customer P/N						
PETERMANN-TECHNIK P/N	OEU90010123					

Note:
1. Please leave after reflow in 2 hours or more at +25°C, reflow solder process can shift the frequency ±2 ppm max. If frequency get shifted by reflow process, frequency do not come back to initial value before reflow solder process.
2. Reference Temperature for all parameters: +25°C
3. Do not use ground-line below oscillator.

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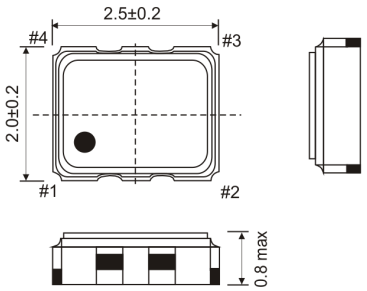
DIMENSIONS AND PATTERNS

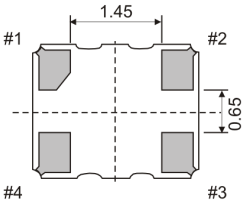
PACKAGE SIZE – DIMENSIONS (UNIT:MM)

2.5 X 2.0 X 0.80 MM

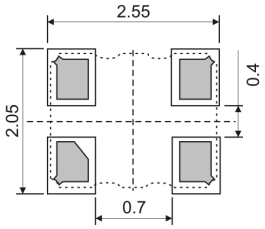


PIN	CONNECTION
#1	OE
#2	GROUND
#3	OUTPUT
#4	VDD

Enable/Disable functional description
When pin1 goes high (>=0.8VDD), the Oscillator in normal operation and has output in frequency. When pin1 goes low (0~0.2VDD), the oscillator stops. Do not use pin1 in open condition

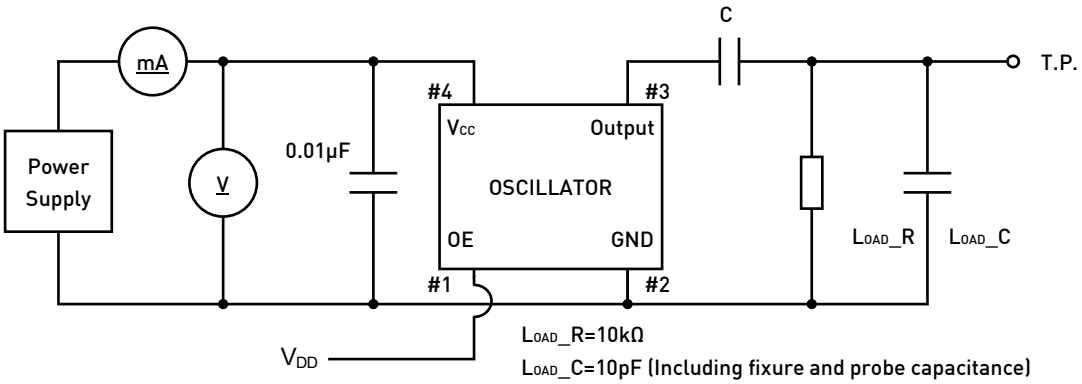


Recommended Land Pattern
(Top View)



Unit:mm

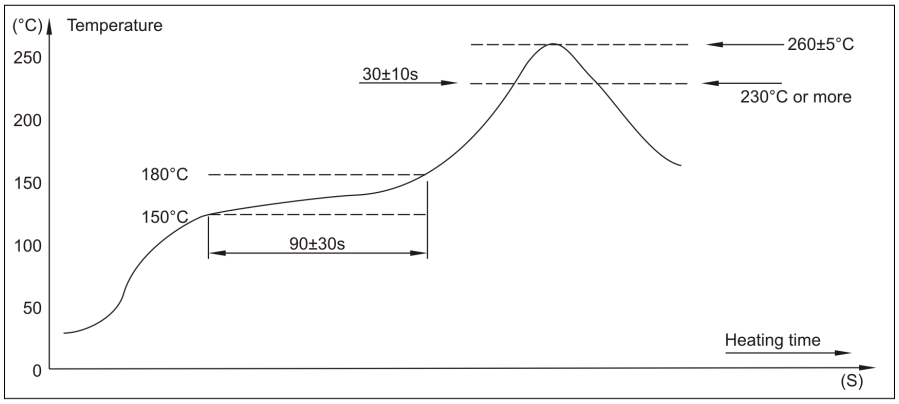
TEST CIRCUIT CLIPPED SINE WAVE OUTPUT



LOAD_R=10kΩ
LOAD_C=10pF (Including fixure and probe capacitance)
C: for DC blocking

REFLOW SOLDER PROFILE

1. Peak: 260±5°C Soldering zone: 230°C or more, 30±10s
2. Pre-heating zone 1: 150~180°C, 90±30s



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PREMIUM QUALITY BY PETERMANN-TECHNIK

DMSZ certified according to ISO 9001 QM 00886

OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2015 AND 14001:2015

THIS IS FOR YOU TO ENSURE THAT THE PRINCIPLES OF QUALITY MANAGEMENT ARE FULLY IMPLEMENTED IN OUR QUALITY MANAGEMENT SYSTEM AND QUALITY CONTROL METHODS ALSO DOMINATE OUR QUALITY STANDARDS.