

Product Features

1. Output Frequency : 1 ~ 200MHz
2. Frequency Stability : ± 25 , ± 50 ppm
3. Supply Voltage : 1.8 , 2.5 , 3.3V
4. Operating Temperature : -40~105°C
5. Output Type : CMOS
6. Phase Jitter : 1ps (typ.) @100MHz , 3.3V
7. RoHS and REACH Compliant , Pb-free , Halogen-free
8. Fast Delivery
9. Industry Standard Package :
5.0 x 3.2 x 1.2 mm (7C Series)
3.2 x 2.5 x 1.0 mm (7X Series)
2.5 x 2.0 x 0.8 mm (8W Series)

Application :

- NB , PC , Tablet , Smartphone , PC peripherals , IPC , Server , Storage , Ethernet , USB , etc.
- Audio ADC , Video , AI Vision Processing Unit , CPLD , FPGA , CPU , GPU , MCU , BMC , etc.



● Table 1 . Electrical Specifications

Test condition
Ambient temperature : $25 \pm 5^\circ\text{C}$
Relative humidity : 40% ~ 70%

Parameters	Symbol	Min.	Typ.	Max.	Units	Notes
Frequency Range and Stability						
Nominal Frequency	F	1 ~ 200			MHz	
Frequency Tolerance	FT	± 25			ppm	Note 1, & -40~85℃
		± 50				Note 1, & -40~105℃
Operating Temperature Range						
Operating Temperature	Topr	-40	25	105	℃	
Supply Voltage and Current Consumption						
Supply Voltage	Vdd	1.8 , 2.5 , 3.3 (± 10%)			V	
Current Consumption	Icc	-	-	30	mA	
Standby Current	Icc(ST)	-	-	5	mA	OE = Low
CMOS Type Signal Characteristics						
Output Load : CMOS	CL	15			pF	
Output Voltage High	VoH	90%Vdd	-	-	V	Vdd @ 2.5 or 3.3 V
		Vdd-0.4	-	-		Vdd @ 1.8 V
Output Voltage Low	VoL	-	-	10%Vdd	V	Vdd @ 2.5 or 3.3 V
		-	-	0.4		Vdd @ 1.8 V
Rise Time	Tr	-	-	5	ns	10% → 90% Vdd Level
		-	-	4	ns	20% → 80% Vdd Level
Fall Time	Tf	-	-	5	ns	90% → 10% Vdd Level
		-	-	4	ns	80% → 20% Vdd Level
Symmetry (Duty ratio)	TH/T	45	~	55	%	

Note 1: Inclusive of frequency tolerance at 25°C , variation over temperature, supply voltage variation, aging and vibration.

● Table 1 . Electrical Specifications (continued)

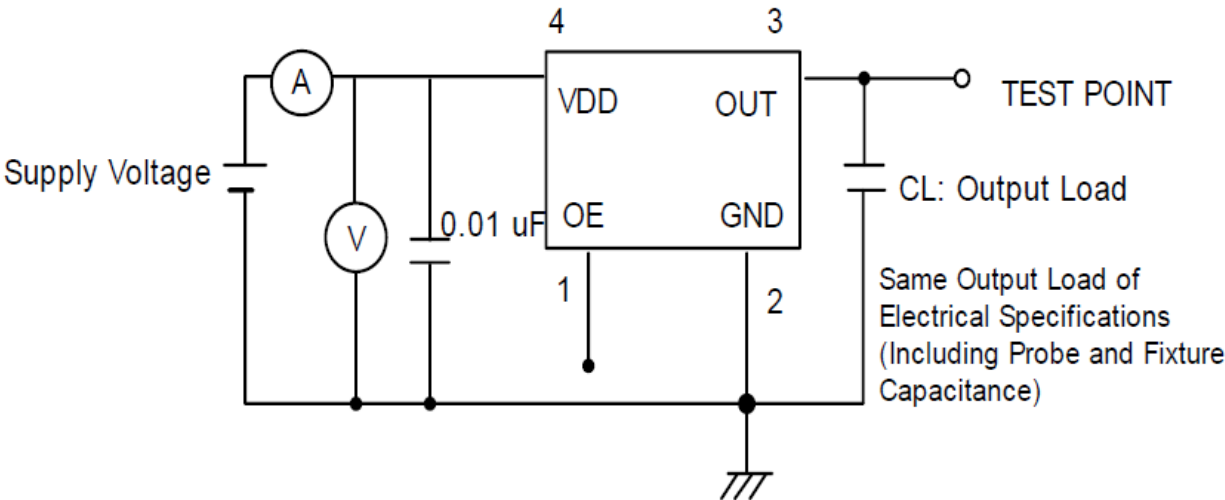
Test condition
 Ambient temperature : 25 ± 5°C
 Relative humidity : 40% ~ 70%

Parameters	Symbol	Min.	Typ.	Max.	Units	Notes
Startup and Resume time						
Start-up Time	Tosc	-	-	10	ms	To 90% of Final Amplitude
Output Disable Delay Time	T off	-	-	250	us	
Resume Time	T Res	-	-	7	ms	
Enable Pin Control and Input Characteristics						
Enable Control	-	Yes			-	Pad 1
Enable Voltage High	VIH	70%Vdd	-	-	V	
Disable Voltage Low	VIL	-	-	30%Vdd	V	
Aging Performance						
Aging	-	± 3			ppm/yr.	1st. Year at 25°C
Jitter Performance						
RMS Phase Jitter Fout range : 10MHz~40MHz @ Integrated from 12KHz ~ 5MHz Note1	PJ	-	1.2	-	ps	Vdd @ 3.3 V
		-	1.5	-	ps	Vdd @ 2.5 V
		-	2.0	-	ps	Vdd @ 1.8 V
RMS Phase Jitter Fout range : 40MHz~200MHz @ Integrated from 12KHz ~ 20MHz Note1	PJ	-	1.0	-	ps	Vdd @ 3.3 V
		-	1.1	-	ps	Vdd @ 2.5 V
		-	1.5	-	ps	Vdd @ 1.8 V

Note 1 : Phase Jitter will be slightly different according to output frequency and supply voltage.

● Test Diagram

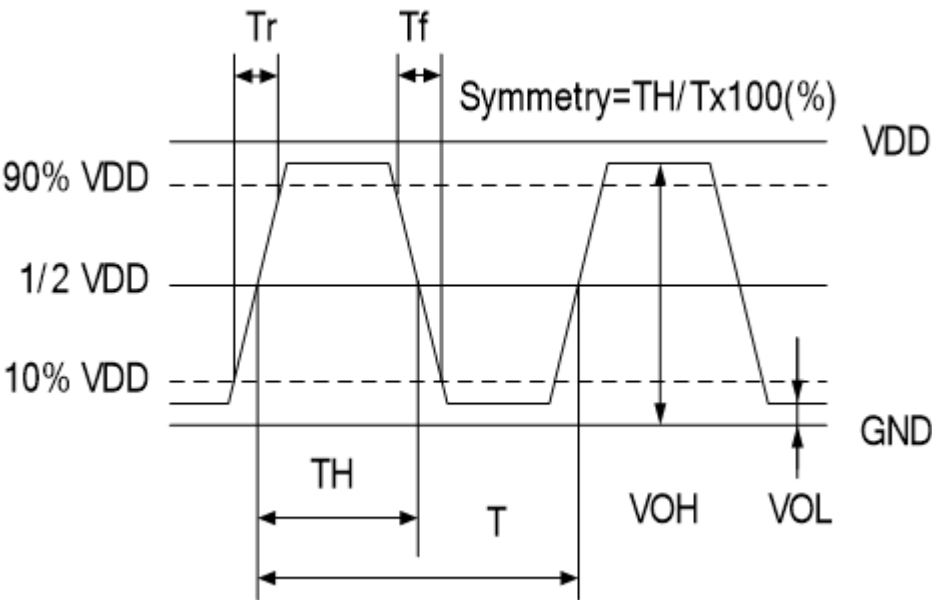
Pad 1(OE)	Pad 3 (Output)	Oscillator
High (or open)	OSC out	Normal operation
Low	High impedance	Stop oscillation



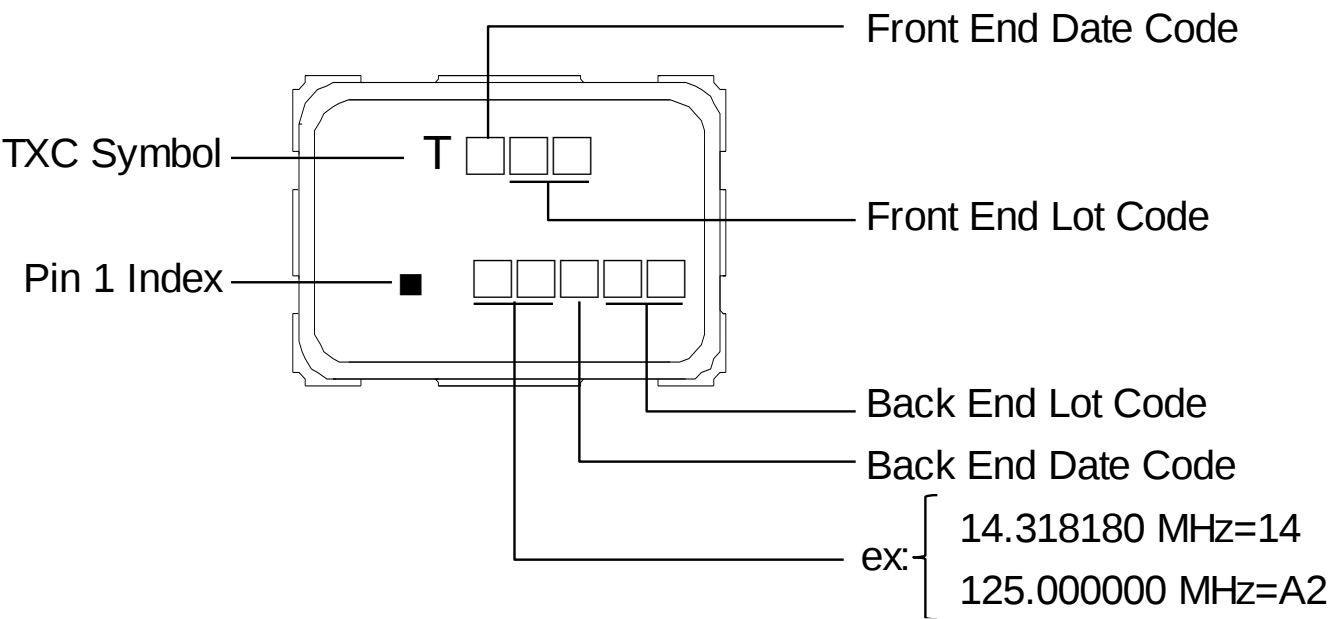
Note : TXC sets CL to 15pF for simulation IC load. Customer does not need to layout it in reality circuit.

● Waveform Conditions

Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.



● Marking



Date Code:

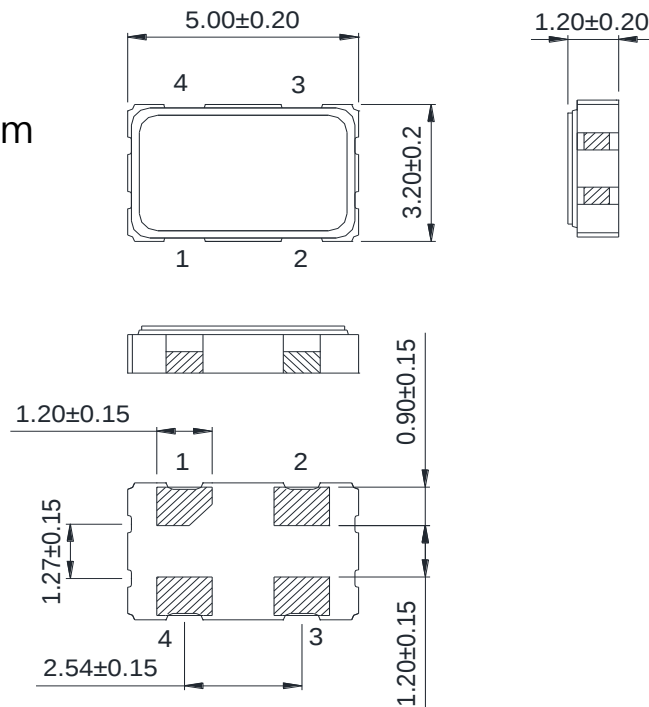
YEAR \ MONTH					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					A	B	C	D	E	F	G	H	J	K	L	M
2021	2025	2029	2033	2037	N	P	Q	R	S	T	U	V	W	X	Y	Z
2022	2026	2030	2034	2038	a	b	c	d	e	f	g	h	j	k	l	m
2023	2027	2031	2035	2039	n	p	q	r	s	t	u	v	w	x	y	z
2024	2028	2032	2036	2040												

*This date code will be cycled every four years

● Dimensions & footprint(Recommended)

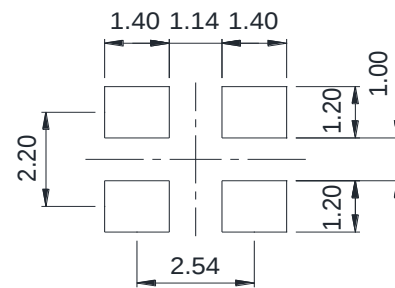
Unit : mm

7C Series
5.0 x 3.2 x 1.2 mm

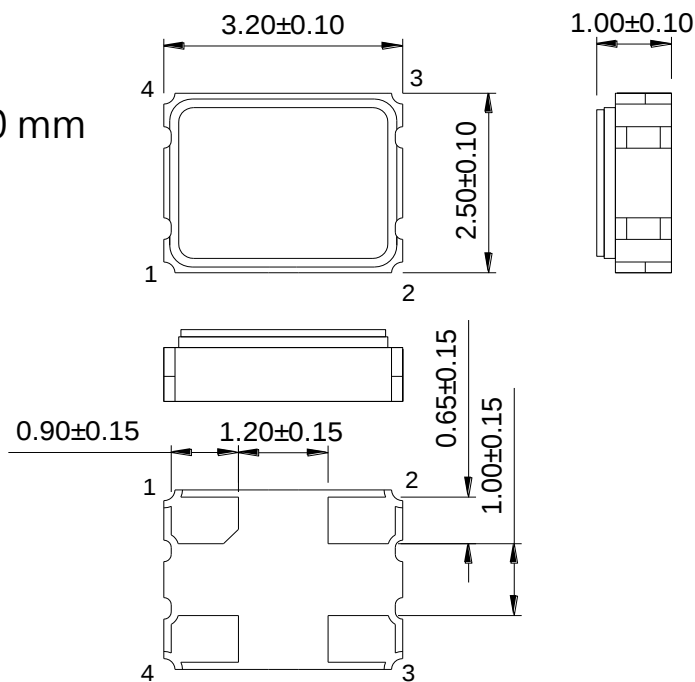


PAD FUNCTION:
1: OE
2: GND
3: OUT
4: VDD

Suggested Layout

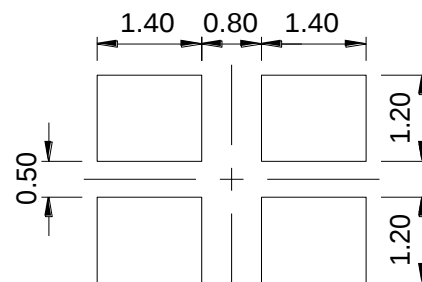


7X Series
3.2 x 2.5 x 1.0 mm

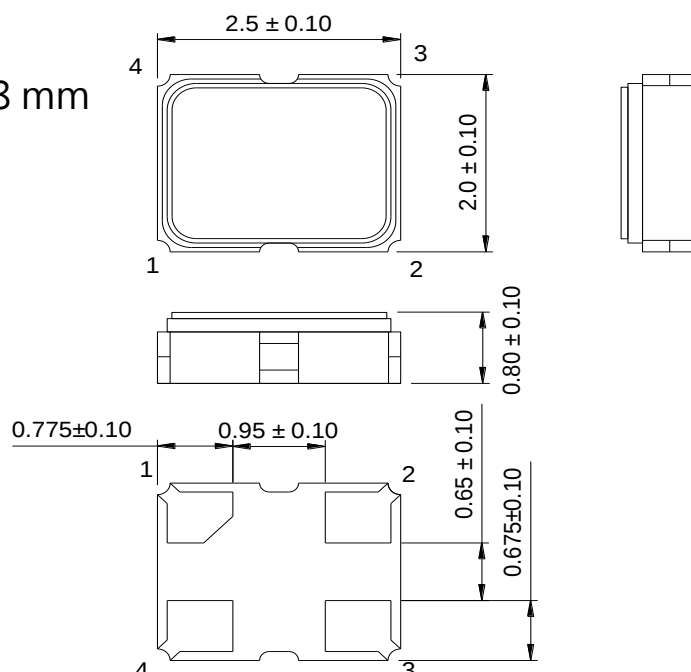


PAD FUNCTION:
1: ENABLE CONTROL
2: GND
3: OUT
4: VDD

Suggested Layout

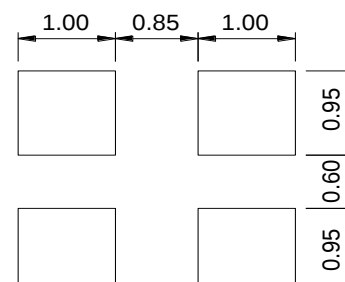


8W Series
2.5 x 2.0 x 0.8 mm



PAD FUNCTION:
1: ENABLE/DISABLE
2: GND
3: OUTPUT
4: VDD

Suggested Layout



● Table 2 . Revision History

Reversion	Revise contents	Release Date
A	Initial released	2022.05.26
B	1. Modify the FT Spec. from $\pm 30\text{ppm}$ to $\pm 25\text{ppm}$ at operating temperature -40 to $+85^{\circ}\text{C}$ 2. Add Waveform Conditions	2022.06.08