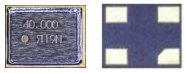
GT-CUT CRYSTAL OSCILLATOR

3.2 mm × 2.5 mm／1 MHz to 150 MHz／-40 °C to 200 °C／CMOS

GTXO-04

FEATURES

- High stability over extended temperature ranges (±50 ppm over -40 °C to 200 °C)
- Broad choice of available frequencies (1 MHz to 150 MHz)
- Low current consumption, Typ. 8 mA (F = 150 MHz, V_{DD} = 3.3 V, No load)



(3.2 × 2.5 × 0.85 mm)

RoHS 2.0 Compliant 10 substances

Pb Free

APPLICATIONS

- Recommended for applications requiring tight frequency stability at temperatures up to 200 °C
- Applications requiring better frequency accuracy than ordinary oscillators

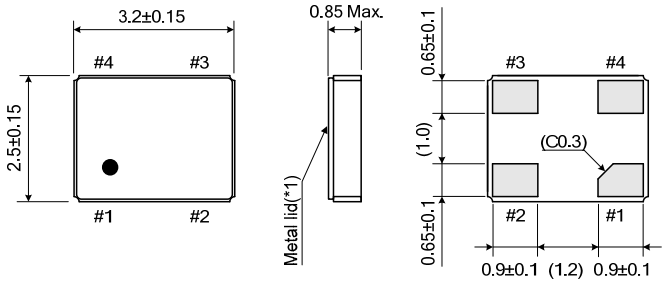
STANDARD SPECIFICATIONS

Item		Specifications MIN	TYP	MAX	Unit	Conditions ／ Remarks
Nominal frequency		1		150	MHz	-
Storage temperature	Standard	-40	-	+125	°C	-
	High Temp	-40	-	+200	°C	-
Operating temperature	Standard	-40	-	+125	°C	-
	High Temp	-40	-	+200	°C	-
Frequency stability (*1)	Standard	-30	-	+30	ppm	-40 ° C to +125 °C
		-100	-	+100	ppm	-40 ° C to +200 °C
	High Precision	-20	-	+20	ppm	-40 ° C to +125 °C
		-50	-	+50	ppm	-40 ° C to +200 °C
Supply voltage (V_{DD})		-10%	1.8	+10%	V	-
		-10%	2.5	+10%	V	-
		-10%	3.3	+10%	V	-
Output			CMOS		-	-
Current consumption	Enable	5.8	8	10	mA	F: 1 MHz to 150 MHz, V_{DD} = 3.3 V, No load
	Standby	35	60	100	µA	-
Output voltage	V_{OH}	0.9V_{DD}	-	-	V	I_{OH} = 60 mA, V_{DD} = 3.3 V
	V_{OL}	-	-	0.1V_{DD}	V	I_{OL} = 1 mA, V_{DD} = 1.8 V
Standby function	V_{IH}	0.7V_{DD}	-	-	V	-
	V_{IL}	-	-	0.3V_{DD}	V	-
Output load		-	-	15	pF	-
Symmetry (Duty Cycle)		45	50	55	%	V_{TH} = 0.5V_{DD}
Rise time / Fall time		-	1.5	5	ns	0.1V_{DD} to 0.9V_{DD}
Start-up time		-	-	10	ms	-
Random jitter (RJ)		-	3.6	-	ps	V_{DD} = 3.3 V, BER = 10^{-12}
Total jitter (TJ)		-	51	-	ps	WAVECREST 3100C Instrument
Phase jitter		-	20	-	ps	Offset frequency: 12 kHz to 20 MHz

*1 : Inclusive of frequency tolerance (at 25 °C) and frequency deviation over temperature.

OUTLINE DIMENSIONS

(Unit: mm)

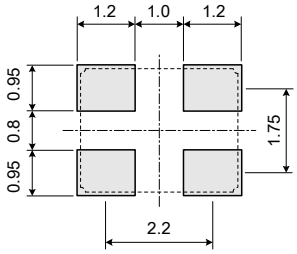


Pin	Function
#1	Standby
#2	Ground
#3	Output
#4	V_{DD}

・Pin #2 is connected to the metal lid (*1)

RECOMMENDED LAND PATTERN

(Unit: mm)



GENERAL NOTES

- Particular combinations of standard options may be classified as high-spec models.
- Custom specifications are available. Please contact us with requested modifications.
- The information in this document is subject to change without notice.
- For operational stability, a 0.1 µF bypass capacitor should be placed between V_{DD} and Ground as close as possible to the oscillator.

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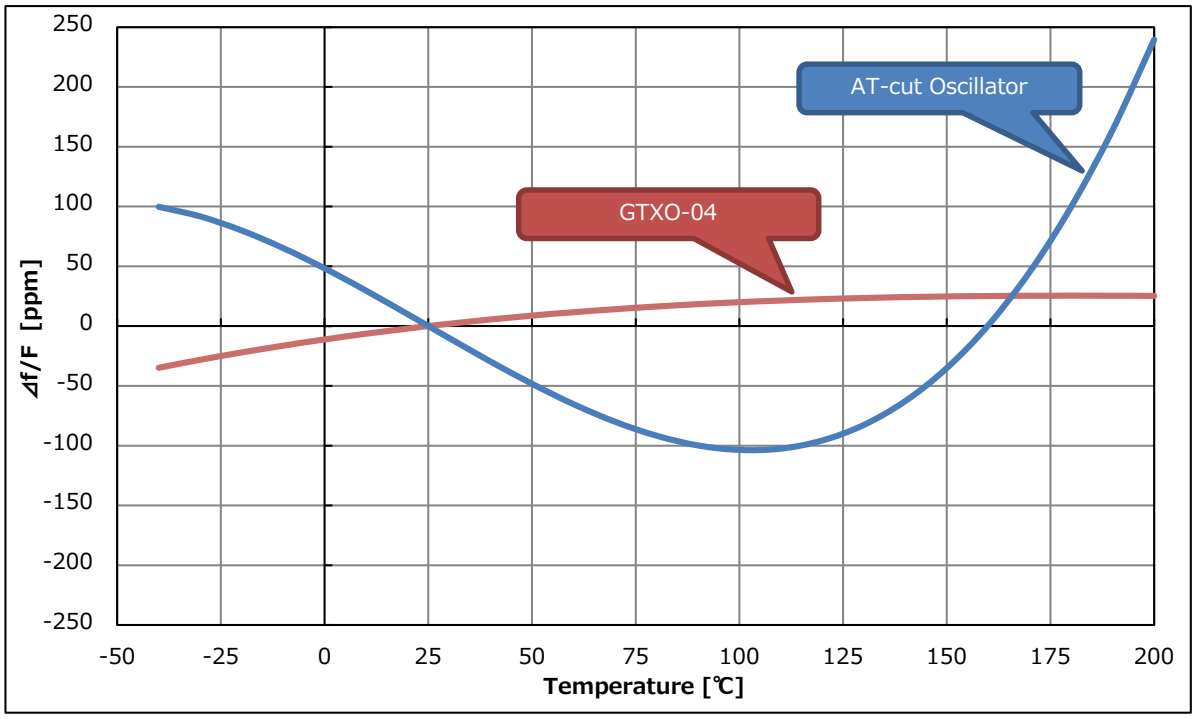
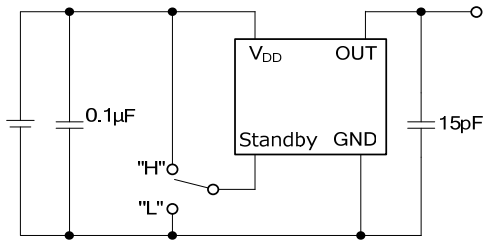
May. 16. 2022

*2 : Frequency versus Temperature characteristics (Typical example)



*3 : Test circuit

・Output (CMOS)



RIVER
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