

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

GTX0-04

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)



APPLICATIONS

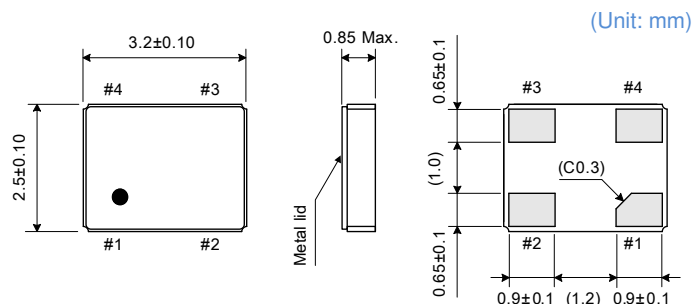
- Recommended for applications requiring tight frequency stability at temperatures up to 200 °C
- Applications requiring better frequency accuracy than ordinary oscillators

STANDARD SPECIFICATIONS

Item		Specifications			Unit	Conditions / Remarks
		MIN	TYP	MAX		
Nominal frequency		1		150	MHz	-
Storage temperature		-40	-	+200	°C	-
Operating temperature		-40	-	+200	°C	-
Frequency stability (*1)	Standard	-100	-	+100	ppm	-
	High Precision	-50	-	+50	ppm	-
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.

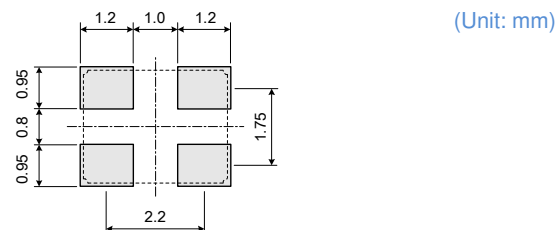
OUTLINE DIMENSIONS



Pin	Function
#1	Standby
#2	Ground
#3	Output
#4	V _{cc}

- Pin #2 is connected to the metal lid

RECOMMENDED LAND PATTERN



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.
- Do not install or remove the product while voltage is applied to the test circuit VDD.
(No hot socketing allowed)

GT-CUT CRYSTAL OSCILLATOR

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

GT XO-04

*2 : Frequency versus Temperature characteristics (Typical example)

