

SMD Temperature Compensated Crystal Oscillator

SMD TCXO using analogue ASIC for compensation and an optional Enable/Disable pin for efficient power management.

Product description

The I(V)T2200J employs an analogue ASIC for the oscillator and a high order temperature compensation circuit in a 2.5 x 2.0 mm size package. The device can be placed in power down mode through a single input pin. During standard operation, power consumption is minimized by operating down to a supply voltage of 1.8V. The I(V)T2200J's high stability, low power consumption, small footprint and powerful compensation method makes it a TCXO ideally suited for demanding GPS mobile applications.

**Applications**

- Consumer
- Communications
- GPS
- Feature phone

Features

- Excellent phase noise performance
- Frequency slope and perturbation specifications can be customized to the application requirement
- Standard temperature stability choices are $\pm 0.5\text{ppm}$, $\pm 1\text{ppm}$, $\pm 1.5\text{ppm}$ and $\pm 2.5\text{ppm}$ over wide temperature ranges

Specifications**1.0 SPECIFICATION REFERENCES**

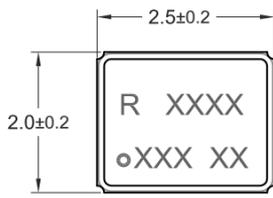
Line	Parameter	Description
1.1	Model description	IT2200J / IVT2200J / IT2200JP
1.2	RoHS compliant	Yes
1.3	Reference number	
1.4	Rakon part number	

2.0 FREQUENCY CHARACTERISTICS

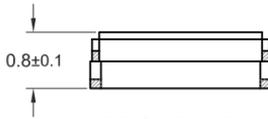
Line	Parameter	Test Condition	Value	Unit
2.1	Frequency		10 to 52	MHz
2.2	Frequency calibration	Offset from nominal frequency measured at $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$	± 1 max	ppm
2.3	Reflow shift	Two consecutive reflows as per attached profile after 1 hour recovery at 25°C	± 1 max	ppm
2.4	Temperature range	The operating temperature range over which the frequency stability is measured	-40 to 85	$^{\circ}\text{C}$
2.5	Frequency stability over temperature	Referenced to the midpoint between minimum and maximum frequency value over the specified temperature range. Control voltage set to midpoint of control voltage (Note 1)	± 0.5 to 2.5	ppm
2.6	Frequency slope	Minimum of 1 frequency reading every 2°C over the operating temperature range (Note 1)	0.1 to 1	ppm/ $^{\circ}\text{C}$
2.7	Static temperature hysteresis	Frequency change after reciprocal temperature ramped over the operating range. Frequency measured before and after at 25°C	0.6 max	ppm
2.8	Sensitivity to supply voltage variations	Supply voltage varied $\pm 5\%$ at 25°C	± 0.2 max	ppm
2.9	Sensitivity to load variations	$\pm 10\%$ load change at 25°C (Note 2)	± 0.2 max	ppm
2.10	Long term stability	Frequency drift over 1 year at 25°C	± 1 max	ppm

Drawing Name: I(V)T2200J Model Outline

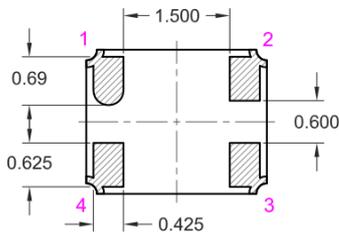
MODEL OUTLINE



TOP VIEW



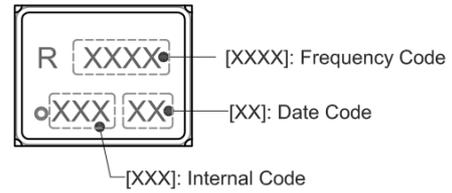
FRONT VIEW



BOTTOM VIEW

LID MARKING *

* Marking information is detailed in the specification.

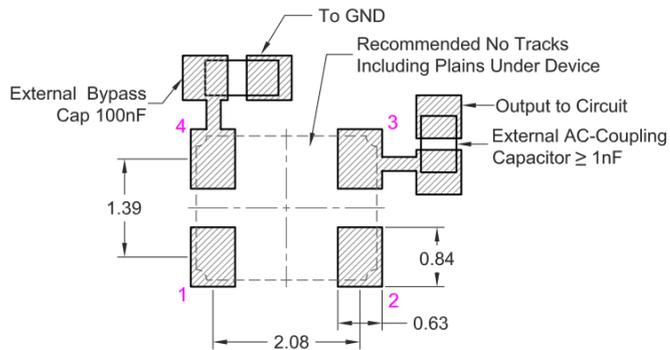


PIN CONNECTIONS

Pin	IT22..J	IVT22..J	IT22..JP
1	NC / GND	VCO	Enable / Disable**
2	GND	GND	GND
3	OUTPUT	OUTPUT	OUTPUT
4	VDD	VDD	VDD

** Connect to VDD or floating to enable TCXO.

RECOMMENDED PAD LAYOUT - TOP VIEW



TITLE: I(V)T2200J MODEL

RELATED DRAWINGS:

FILENAME: CAT676

REVISION: D

DATE: 28-Aug-14

SCALE: 10 : 1

Millimetres

TOLERANCES:

XX =

X.X =

X.XX = ±0.10

X.XXX = ±0.05

X° =

Hole =

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