IT3200C

1.0 Specification References

Parameter	Description
a. Rakon part number	T6237
b. Description	IT3205CE 26.000 MHz

2.0 Absolute Maximum Rating [1]

Parameter	Min.	Max.	Unit
a. Power supply	-0.6	6	V
b. Storage temperature	-40	85	°C

3.0 Frequency Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Nominal frequency		26.000		MHz	
b. Frequency calibration			±1	ppm	Offset from nominal frequency measured at 25°C ±2°C
c. Reflow shift			±1	ppm	Two consecutive reflows as per attached profile after 2 hours relaxation at 25°C
d. Temperature range	-30		85	°C	The operating temperature range over which the frequency stability is measured
e. Frequency stability over temperature			±0.5	ppm	Referenced to the midpoint between minimum and maximum frequency value over the specified temperature range [2]
f. Sensitivity to supply voltage variations			±0.1	ppm	Supply voltage varied ±5% at 25°C
g. Sensitivity to load variations			±0.2	ppm	±10% load change at 25°C [3]
h. Long term stability			±1	ppm	Frequency drift over 1 year at 25°C

4.0 Power Supply

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Supply voltage (V_{DD})		3.0		V	With a tolerance of ±5%
b. Supply current			2	mA	At maximum V_{DD} [3]

5.0 Oscillator Output

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Output waveform					DC coupled clipped sine-wave [4]
b. Output voltage level	0.8			V	At minimum supply voltage [3]
c. Output load					(10kΩ || 10pF) ±10%

[1] Operating beyond this limit may result in change or permanent damage to the device.
[2] Parts should be shielded from drafts causing unexpected thermal gradients. Temperature changes due to ambient air currents on the oscillator can lead to short term frequency drift.
[3] Specified for load stated in Oscillator Output section at 25°C.
[4] External AC-Coupling capacitor required. 1nF or greater recommended.

6.0 SSB Phase Noise (26.000 MHz, at 25°C)

Parameter	Min.	Typ.	Max.	Unit.	Test Condition / Description
a. 1Hz offset		-57		dBc/Hz	
b. 10Hz offset		-88		dBc/Hz	
c. 100Hz offset		-112		dBc/Hz	
d. 1kHz offset		-133		dBc/Hz	
e. 10kHz offset		-145		dBc/Hz	
f. 100kHz offset		-148		dBc/Hz	

7.0 Marking

Parameter	Test Condition / Description
a. Type	Engraved
b. Line 1	[R], [XXXX] = the last four characters of the Rakon Part Number
c. Line 2	[o] = Pin 1, [XXX] = Internal code, and [XX] = Date code

8.0 Manufacturing Information

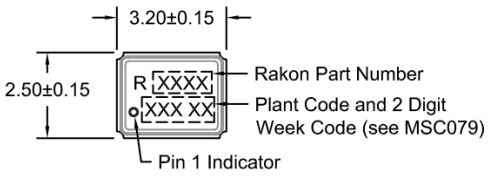
Parameter	Test Condition / Description
a. Washing	Able to withstand aqueous washing process
b. Reflow	Solder reflow processes as per profile attached
c. Packaging description	Tape and reel. Standard packing quantity is 3000 units per reel

9.0 Environmental Specification

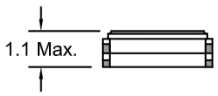
Parameter	Test Condition / Description
a. RoHS compliant	Yes
b. Shock	Half sine-wave acceleration of 100g peak amplitude for 6ms duration, 3 cycles each plane
c. Moisture resistance	After 48 hours at 85°C ±2°C, 85% relative humidity non-condensing
d. Thermal shock test	Exposed at -40°C for 30 minutes then to 85°C for 30 minutes constantly for a period of 5 days

10.0 Model Outline:

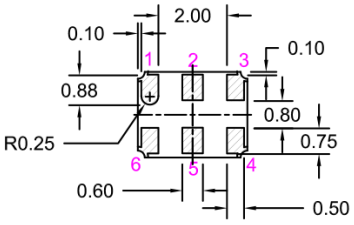
MODEL DRAWING



TOP VIEW



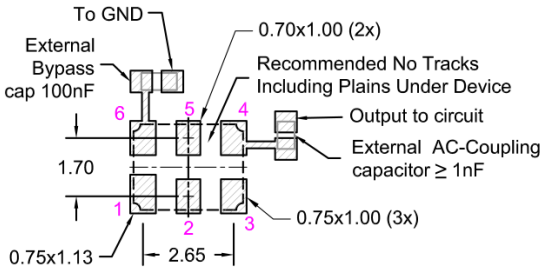
FRONT VIEW



BOTTOM VIEW

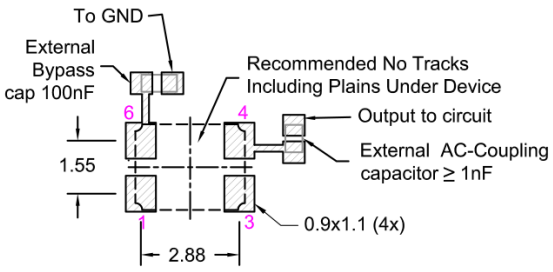
RECOMMENDED LAYOUT

- TOP VIEW, 6 PAD



RECOMMENDED LAYOUT

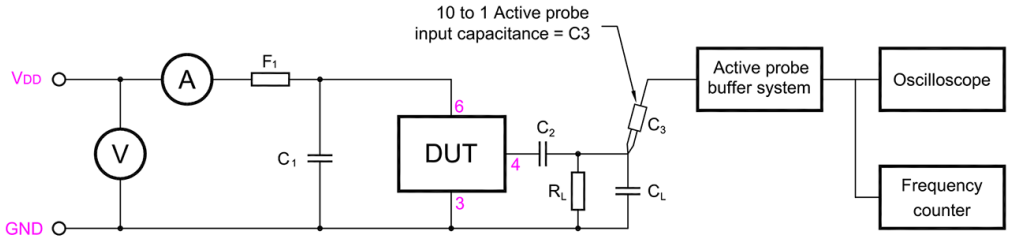
- TOP VIEW, 4 PAD



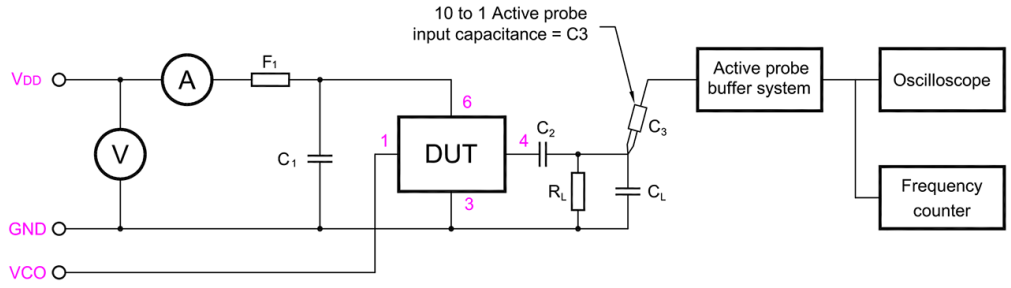
TITLE: I(V)T3200C MODEL	FILENAME: CAT434	TOLERANCES:	
RELATED DRAWINGS:	REVISION: H	XX	= ±0.5
	DATE: 29-May-2019	X.X	= ±0.2
	SCALE: 5 : 1	X.XX	= ±0.10
	Millimetres	X.XXX	= ±0.05
		X°	= ±1.0°
		Hole	= ±0.10

11.0 Test Circuit:

IT TEST CIRCUIT:



IVT TEST CIRCUIT:

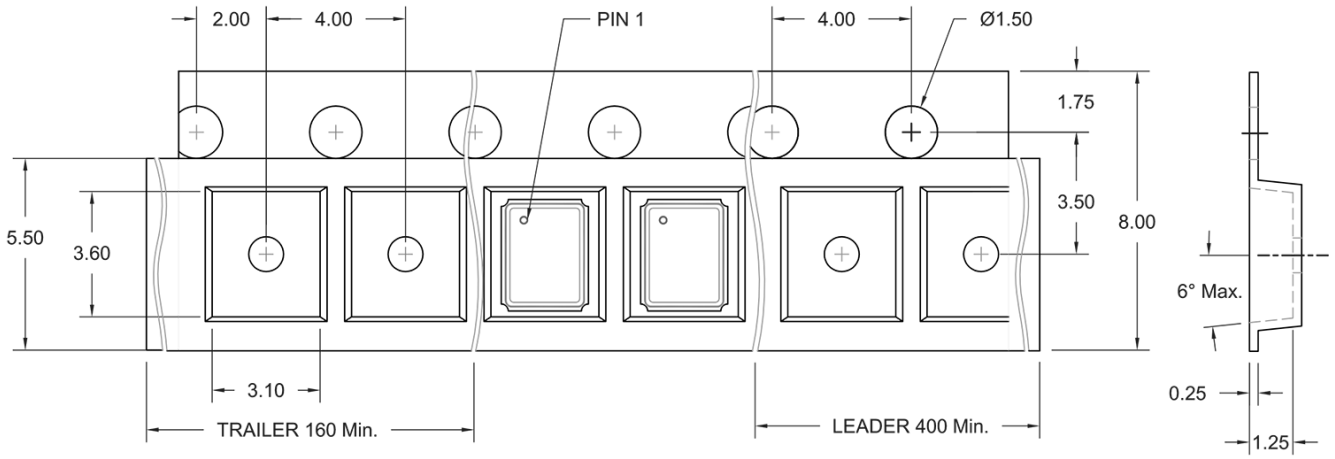


C1: 100nF C2: ≥1nF RL: 10kΩ	CT: = CL + C3 (C3 - Oscillope probe capacitoance) CT as stated in OSCILLATOR OUTPUT selection F1: A ferrite bead or a resistor between 22Ω ~ 47Ω recommended.

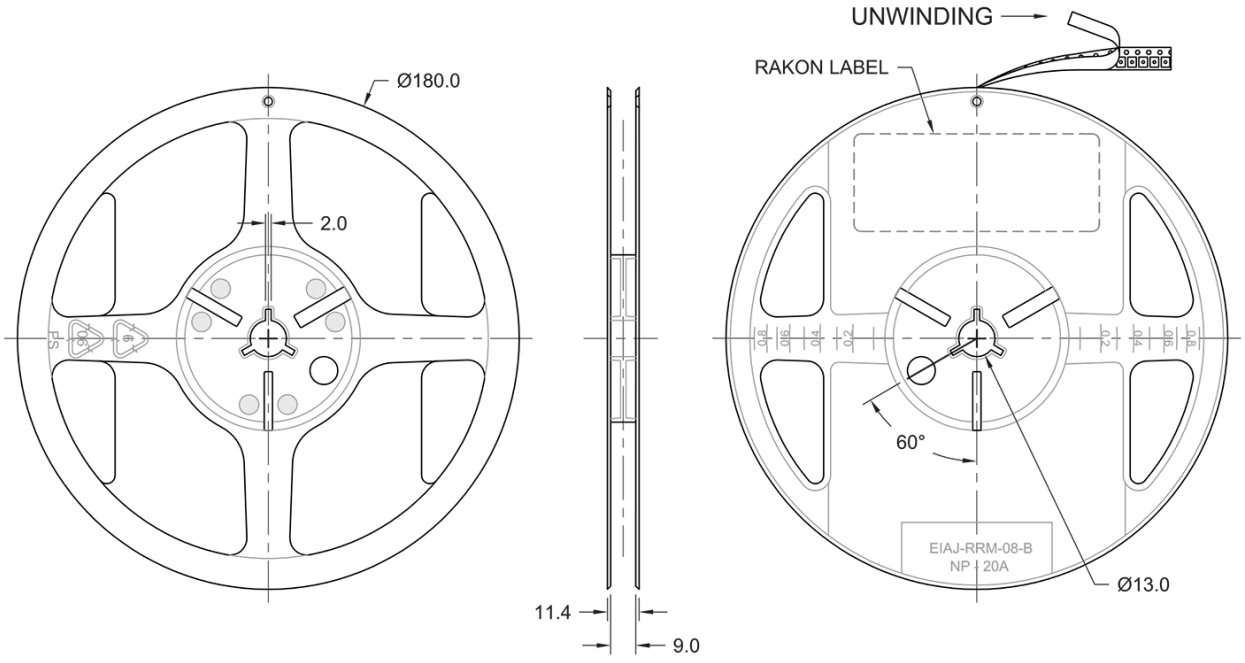
TITLE: I(V)T3200 SERIES TEST CIRCUIT	FILENAME: CAT286
RELATED DRAWINGS:	REVISION: G
	DATE: 29-Jul-13
	SCALE: NTS
	Millimetres

12.0 Tape and Reel (Ø180mm):

TAPE DETAIL (Scale 5 : 1)

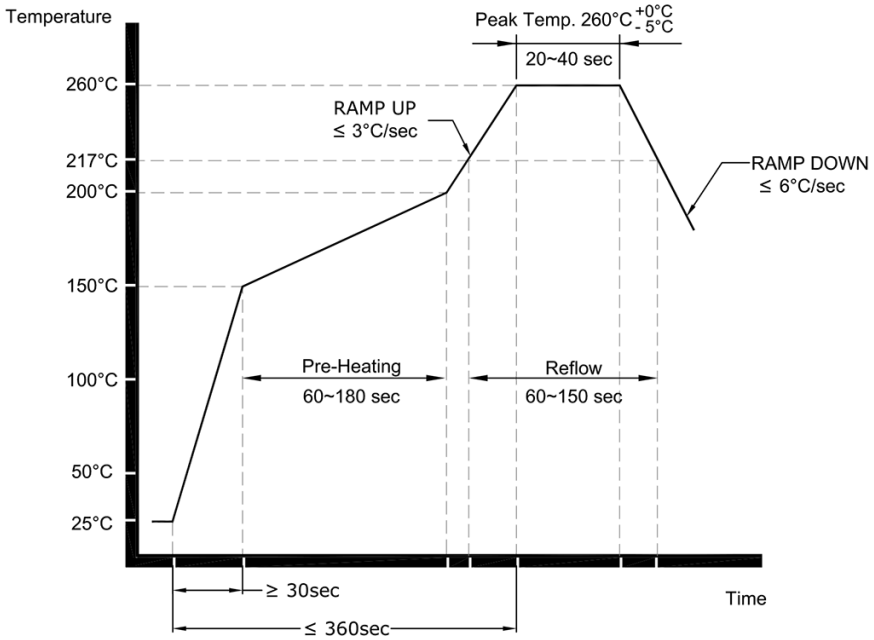


REEL DETAIL (Scale 1 : 2.5)



TITLE: 3200 SERIES TAPE & REEL	FILENAME: CAT300	TOLERANCES:	
RELATED DRAWINGS:	REVISION: K	XX =	
	DATE: 29-Jul-13	X.X =	±0.2
	SCALE: See Above	X.XX =	±0.10
	Millimetres	X.XXX =	
		X° =	
		Hole =	

13.0 Reflow:



NOTE:
The product has been tested to withstand the Reflow Profile shown. The Reflow Profile used to solder Rakon products is determined by the solder paste Manufacturer's specification. It is recommended that the Reflow Profile used does not exceed the one shown above.

TITLE: Pb-FREE SERIES OSCILLATORS REFLOW	FILENAME: CAT541
RELATED DRAWINGS:	REVISION: B
	DATE: 05-Sep-11
	SCALE: NTS
	Millimetres

14.0 Specification History

Version	User	Notes	Approver	Date
1.0	SI	Specification created	FP	07 Jul, 2019