

## Typical Applications

Base Stations  
 Test Equipment  
 Synthesizers

## Features

AT-Cut Crystal  
 Dual-inline oscillator  
 Surface Mount Option



## Previous Vectron Model Numbers

TQDILP; TQDILC; TQDILAC

## Frequency range

1 MHz – 90 MHz

## Standard frequencies

10.00; 16.384; 19.44; 30.72; 32.768; MHz;  
 50.00; 77.76 MHz;

## Frequency stabilities<sup>1</sup>

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code <sup>5</sup>
vs. operating temperature range (Referenced to +25°C)	-100.0		+100.0	ppm	-55 ... +125°C	H104
	-50.0		+50.0	ppm	-55 ... +125°C	H505
	-50.0		+50.0	ppm	-55 ... +105°C	G505
	-25.0		+25.0	ppm	-55 ... +105°C	G255
	-15.0		+15.0	ppm	-40 ... +85°C	F255
	-50.0		+50.0	ppm	-20 ... +70°C	D505
	-20.0		+20.0	ppm	-20 ... +70°C	D205
	-10.0		+10.0	ppm	-20 ... +70°C	D105
	-7.5		+7.5	ppm	-20 ... +70°C	D756
	-5.0		+5.0	ppm	-20 ... +70°C	D506
Parameter	Min	Typ	Max.	Units	Condition	Ordering Code <sup>5</sup>
Initial tolerance	-100.0		+100.0	ppm	V <sub>S</sub> ± 5% Load ± 10% fo ≤ 90 MHz	T104
	-50.0		+50.0	ppm		T505
	-20.0		+20.0	ppm		T205
	-10.0		+10.0	ppm		T105
	-5.0		+5.0	ppm		T506
vs. supply voltage change	-2.0		+2.0	ppm	V <sub>S</sub> ± 5% Load ± 10% fo ≤ 90 MHz	
vs. load change	-1.0		+1.0	ppm		
vs. aging /1. Year	-2.0		+2.0	ppm		

## Supply voltage

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code <sup>5</sup>
Supply voltage (V <sub>S</sub> )	4.75	5.0	5.25	VDC		SV050
Current consumption			40	mA	@ HCMOS fo ≤ 90.0 MHz	

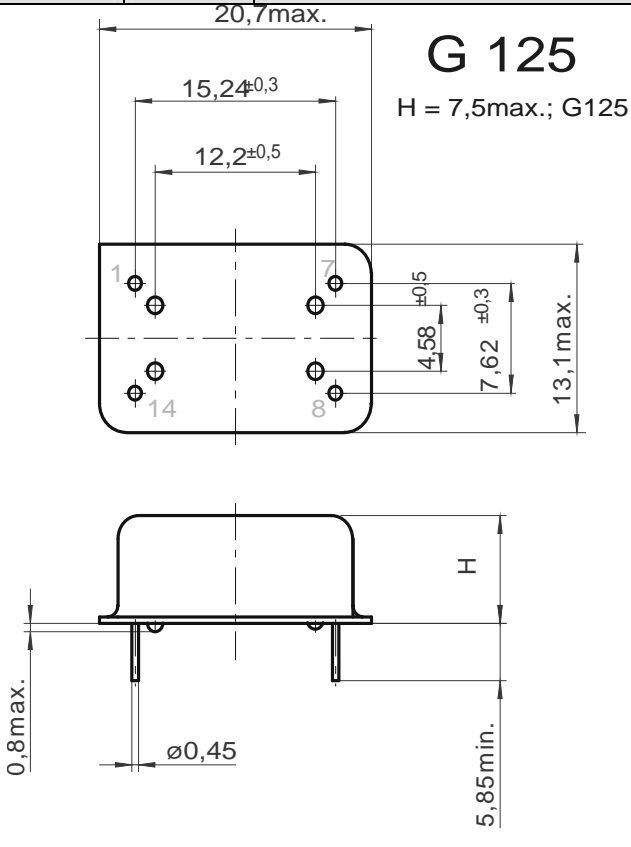
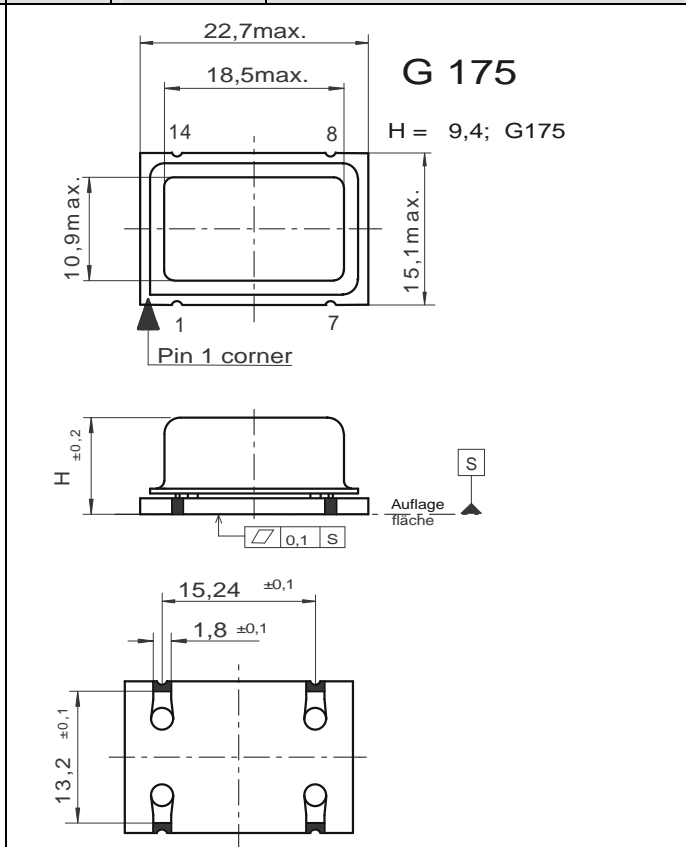
## RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code <sup>5</sup>
Signal	HCMOS					RFH
Load		15.0		pF	@ 15 pF 10 to 90 % @ V <sub>S</sub> /2	
Rise and Fall time			5	ns		
Duty cycle	40		60	%		

### Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise		-80		dBc/Hz	10 Hz	@10.000
		-110		dBc/Hz	100 Hz	MHz
		-135		dBc/Hz	1 kHz	HCMOS
		-145		dBc/Hz	10 kHz	5.0 V
		-150		dBc/Hz	100 kHz	
Weight			6	g		
Processing & Packing	handling&processing note					

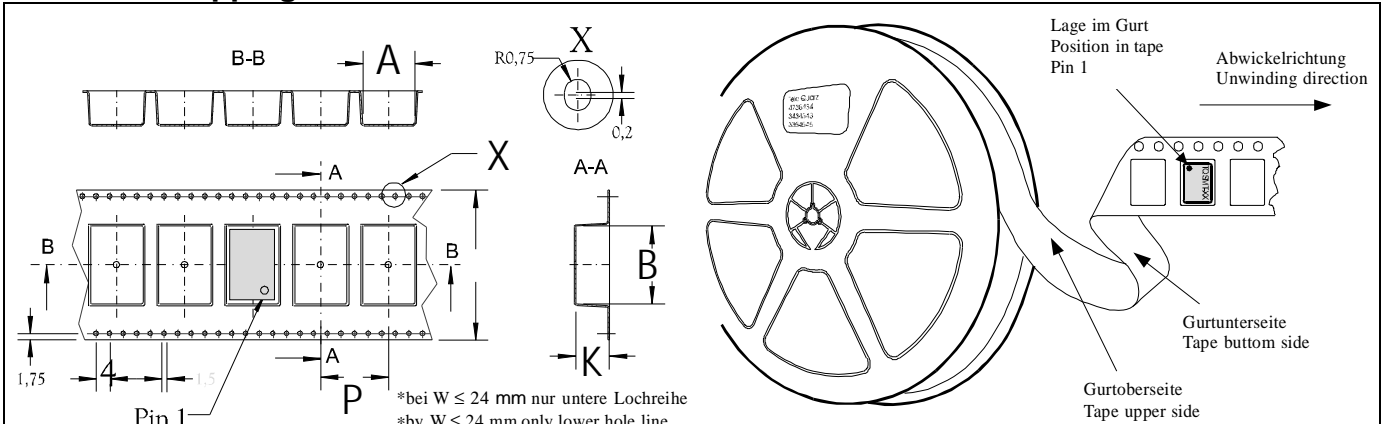
## Enclosures

Type G125				Type G175		
Package Codes:						
Code A1	Height "H" 7.5	Pin Length "L" 5.85		Code B1	Height "H" 9.4	Pin Length "L" NA
 <p><b>G 125</b> H = 7,5max.; G125</p> <p>Dimensions: mm</p>				 <p><b>G 175</b> H = 9,4; G175</p> <p>Dimensions: mm</p>		
Pin Connections				Pin Connections		
1 NC 7 Ground (Case) 8 RF Output 14 Supply Voltage Input (Vs)  Outline Drawing: G125				1 NC 7 Ground (Case) 8 RF Output 14 Supply Voltage Input (Vs)  Outline Drawing: G175		
Marking						
C1410A1-xxxx frequency * C AYYWW						

## Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-40		+80	°C	For temperature Code F, D
Storage temperature range	-40		+90	°C	For temperature Code F, D

## Standard Shipping Method

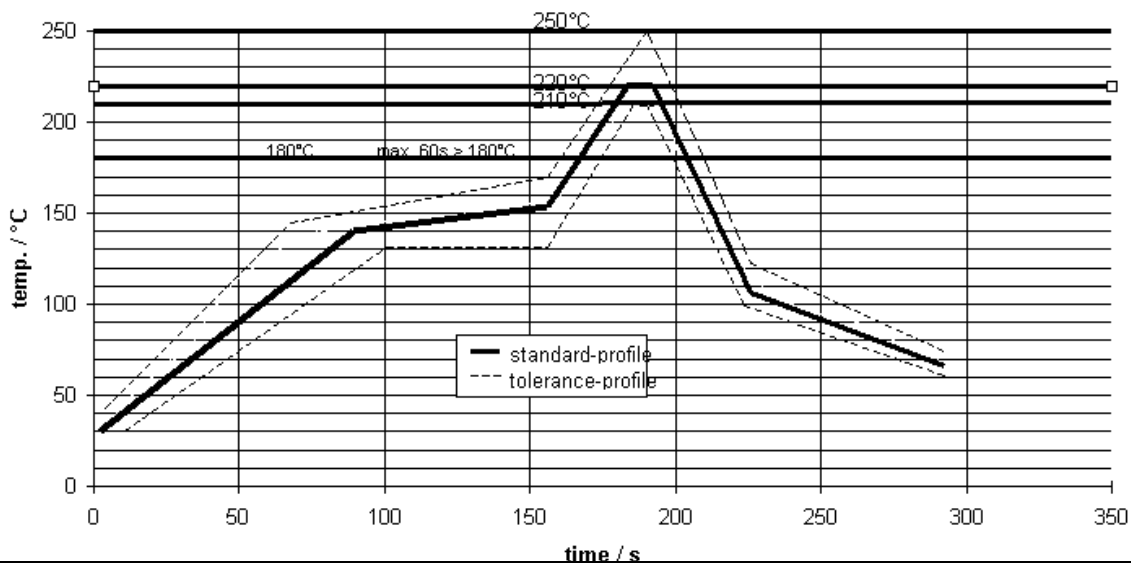


Production tolerance complying DIN IEC 286-3

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P
G175	44	50	300	20

## Recommended Reflow Profile

standard-reflow-profile for SMD-oscillators



SMD oscillators must be on the top side of the PCB during the reflow process.

## How to Order this Product:

<b>Step 1</b>	<b>Use this worksheet to forward the following information to your factory representative:</b>					
	<b>Model</b>	<b>Stability Code</b>	<b>Initial tolerance</b>	<b>Supply Voltage Code</b>	<b>RF Output Code</b>	<b>Package Code</b>
	C1410					
	<i>Example: C1410</i>	<i>D205</i>	<i>T104</i>	<i>SV050</i>	<i>RFH</i>	<i>A1</i>

<b>Step 2</b>	<b>The factory representative will then respond with a Vectron Model Number in the following Configuration:</b>			
	<b>Model</b>	<b>Package Code</b>	<b>Dash</b>	<b>Dash Number</b>
	C1410	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

*Typical P/N = C1410A1-0001*

### Notes:

- 1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
- 3 Phase noise degrades with increasing output frequency.
- 4 Subject to technical modification.
- 5 Contact factory for availability.