C2410

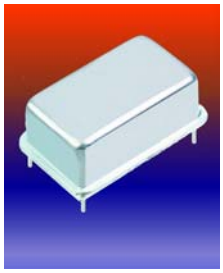
TCXO

Typical Applications

PCS Base Stations
Land Mobile Radio
Cellular Telephony
Radio in the Local Loop

Features

EFC Standard
Non hermetic
Wide Frequency Range



Previous Vectron Model Numbers TQDILTC; 979; 979W, 959; 959W, TC-400

Frequency range 10 MHz – 200 MHz

Standard frequencies 10, 19.44, 20.48, 38.88, 77.76MHz

Frequency stabilities[1]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code[5]
vs. operating temperature range	-2.0		+2.0	ppm	-40 … +85°C	F206
(Referenced to +25°C)	-1.0		+1.0	ppm	-40 … +85°C	F106
	-2.0		+2.0	ppm	-20 … +70°C	D206
	-1.0		+1.0	ppm	-20 … +70°C	D106
	-1.0		+1.0	ppm	0 … +50°C	B106
	-0.5		+0.5	ppm	0 … +50°C	B507
Parameter	**Min**	**Typ**	**Max.**	**Units**	**Condition**	
Initial tolerance	- 1.0		+1.0	ppm	at time of shipment, nominal EFC	
vs. supply voltage change	- 0.2		+0.2	ppm	V_S ± 5%	
vs. load change	- 0.2		+0.2	ppm	Load ± 10%	
vs aging		1		ppm/yr		

Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Supply voltage [Standard]	3.135	3.3	3.465	VDC		SV033
Supply voltage [Option]	4.75	5	5.25	VDC		SV050
Current consumption			15	mA	@ +25°C & 3.3VDC & clipped sinewave	
			50	mA	@ +25°C & 3.3VDC & CMOS	
			18	mA	@ +25°C & 5.0VDC & clipped sinewave	
			50	mA	@ +25°C & 5.0VDC & CMOS	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Signal [Standard]	HCMOS					RFH
Load	13.5	15	16.5	pF		
Signal Level (Vol)			0.5	VDC	with Vs= 5.0V and 15pF load	
			0.3	VDC	with Vs=3.3V and 15pF load	
Signal Level (Voh)	4.5			VDC	with Vs= 5.0V and 15pF load	
	3.0			VDC	with Vs=3.3V and 15pF load	
Rise and Fall time			5	ns		
Duty cycle	40	50	60	%	@ (Voh-Vol)/2	
Signal [Option]	clipped Sinewave					RFC
Load R	9	10	11	kΩ		
|| C	9	10	11	pF		
Output power	0.7			V_{pp}	@ 10kΩ ||10pF	

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Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Mechanical (No EFC)	± 3.0				
Tuning Range	± 8.0	±12.0	± 20.0	ppm	Standard Version
Linearity			10	%	
Tuning Slope		Positive			
Control Voltage Range	0.3	1.65	3.0	VDC	with Vs=3.3VDC
	0.5	2.5	4.5	VDC	with Vs=5.0VDC
Freq. control input impedance	10			kΩ	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise[3]		-90		dBc/Hz	10 Hz	@40 MHz
		-120		dBc/Hz	100 Hz	
		-140		dBc/Hz	1 kHz	
		-150		dBc/Hz	10 kHz	
Weight			6	g		
Processing & Packing		Handling & processing note				

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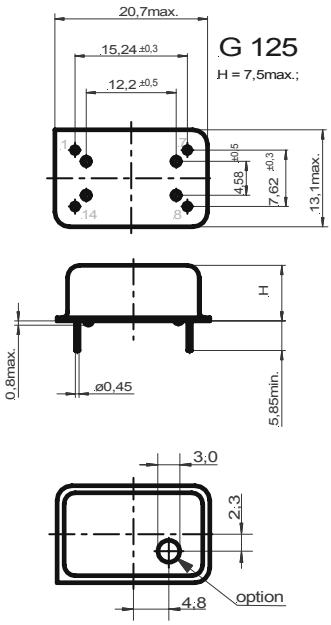
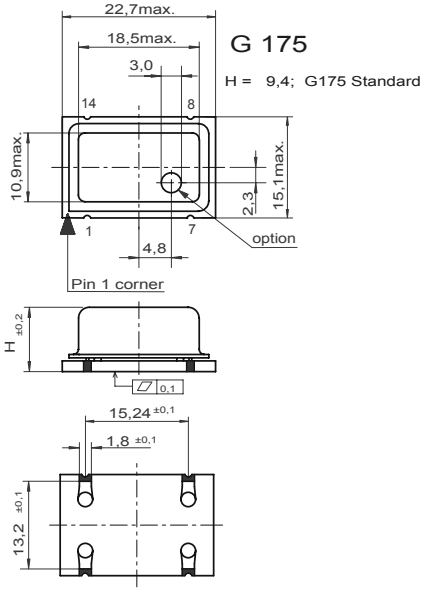
Enclosures

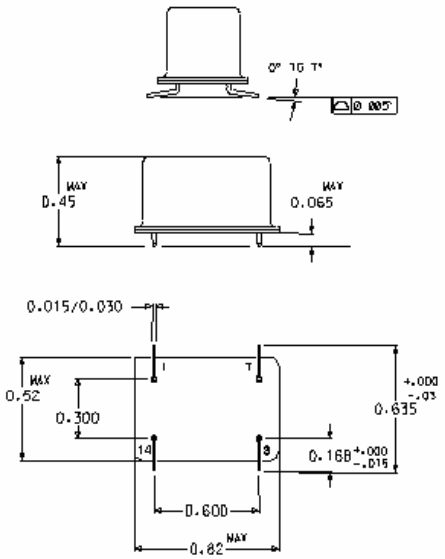
Type G125			Type G175			Type C		
Package Codes:								
Code	Height "H"	Pin Length "L"	Code	Height "H"	Pin Length "L"	Code	Height "H"	Pin Length "L"
A1	7.5	5.85	B1	9.4	NA	C1	0.45	NA
A2	8.0	5.85						



Dimensions: mm



Dimensions: Imm



Dimensions: inches

Pin Connections	Pin Connections	Pin Connections
1 Electronic Frequency Control Input (EFC)	1 Electronic Frequency Control Input (EFC)	1 Electronic Frequency Control Input (EFC)
7 Ground (Case)	7 Ground (Case)	7 Ground (Case)
8 RF Output	8 RF Output	8 RF Output
14 Supply Voltage Input (Vs)	14 Supply Voltage Input (Vs)	14 Supply Voltage Input (Vs)
Outline Drawing: G125	Outline Drawing: G175	Outline Drawing: VD-XXXXX

Marking

C2410xx-xxxx
Frequency
* C AYYWW

Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			**6.0**	V	
Control Voltage	0		**Vs**	V	
Maximum output load @ CMOS			50	pF	
Operable temperature range Storage temperature range	-40 -55		+85 +125	°C °C	

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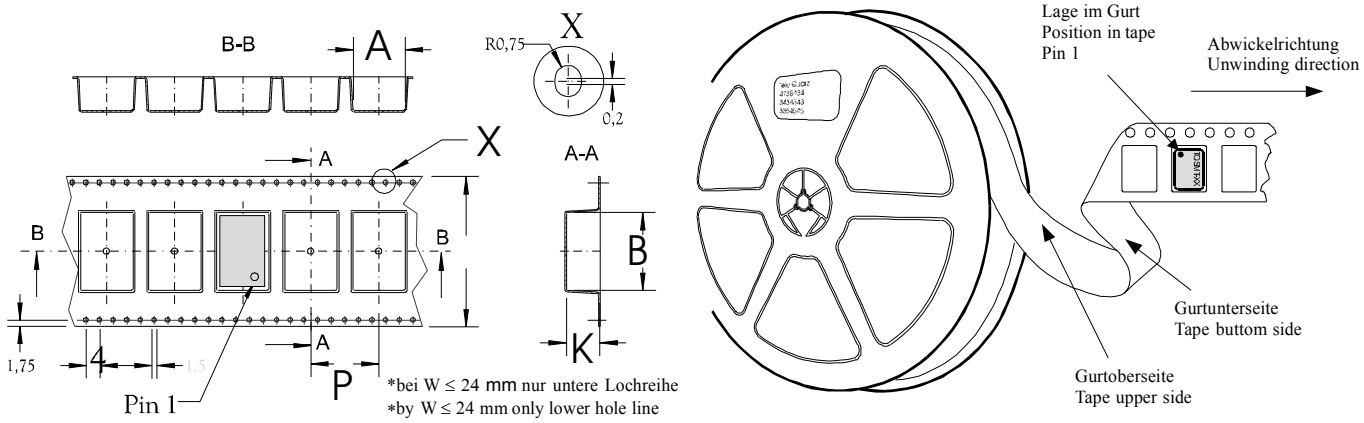
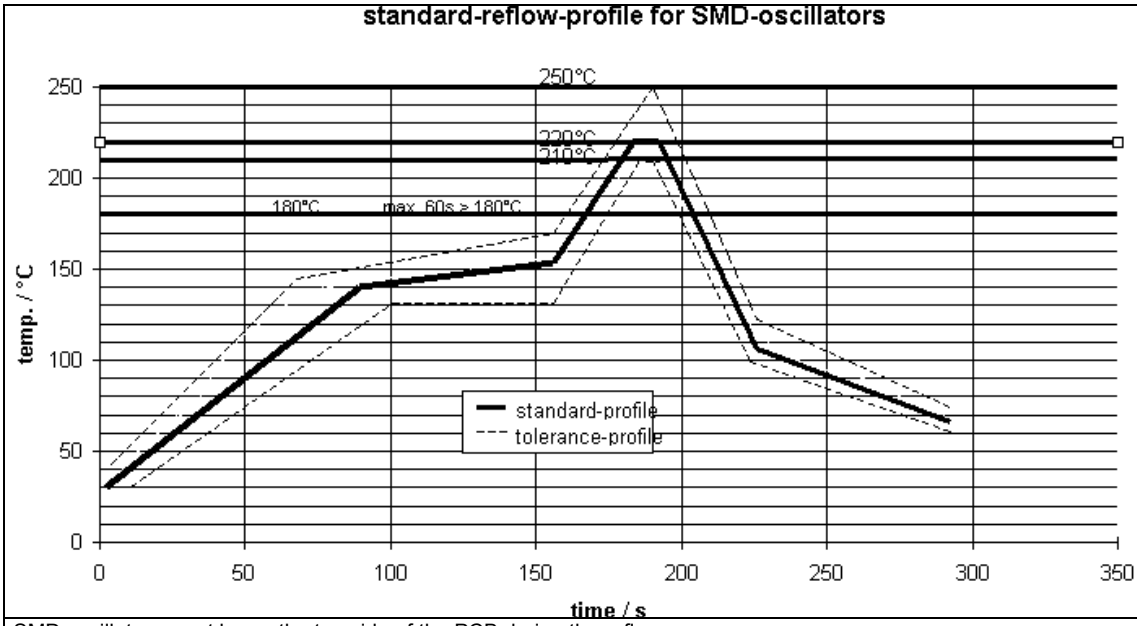
Standard Shipping Method



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



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

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How to Order this Product:

Step 1	Use this worksheet to forward the following information to your factory representative:					
Model		Stability Code	Supply Voltage Code	RF Output Code	Package Code	Frequency
C2410						
Example:	*C2410*	*D256*	*SV033*	*RFC*	*A1*	*20.48 MHz*

Step 2	The factory representative will then respond with a Vectron Model Number in the following Configuration:		
Model	Package Code	Dash	Dash Number
C2410	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C2410A1-0001

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.

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