

Typical Applications

Base Stations
 Test Equipment
 Synthesizers
 Digital Switching

Features

4-Pin Dip
 Surface Mount Package Optional
 Fast Warm-up
 TCXO Replacement for better short term stability



Previous Vectron Model Numbers

4887, TQDILOC, OC-400

Frequency range

10 MHz – 160 MHz

Standard frequencies

10; 12, 12.8, 16.385, 19.44, 20, 38.88, 51.84, 133Mhz

Frequency stabilities¹ [AT-Cut Crystal – Standard]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code
vs. operating temperature range (Referenced to +25°C)	-100		+100	ppb	-20 ... +70°C	D107
	-250		+250	ppb	-20 ... +70°C	D257
	-250		+250	ppb	-40... +85°C	F257
Parameter	Min	Typ	Max.	Units	Condition	
Initial tolerance	-0.5		+0.5	ppm	at time of shipment, nominal EFC	
vs. supply voltage change	-10		+10	ppb	V _s ± 5%	
vs. load change	-10		+10	ppb	Load ± 5%	
vs. aging / day	-10		+10	ppb	after 30 days of operation	
vs aging / year	-300		+300	ppb	≤ 60MHz; after 30 days of operation	
vs. aging / year	-500		+500	ppb	>60MHz; after 30 days of operation	
Warm-up Time			2	minutes	to ± 100ppb of final frequency (1 hour reading) @ +25°C	

Better Frequency Stabilities with SC-Cut Crystal within 10 to 40MHz on request

Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Supply voltage [Standard]	4.75	5	5.25	VDC		SV050
Supply voltage [Option]	11.4	12.0	12.6	VDC		SV120
Supply voltage [Option]	3.135	3.3	3.465	VDC		SV033
Power consumption			2.5	Watts	during warm-up	
			1.0	Watts	steady state @ +25°C	

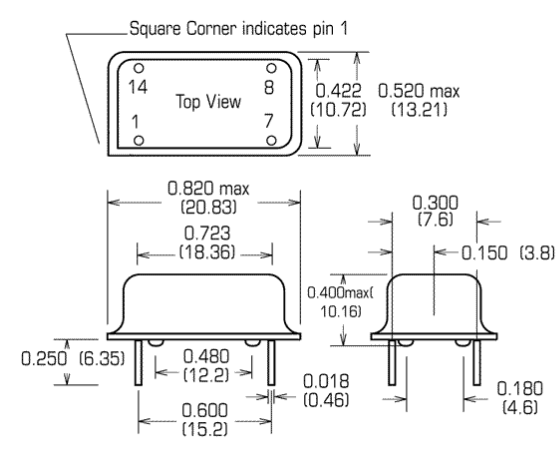
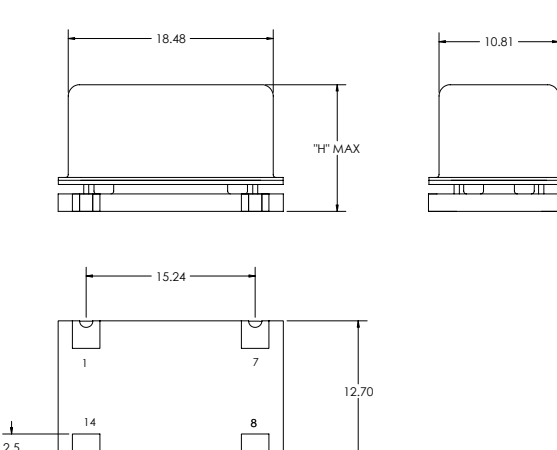
RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Signal [Standard]		HCMOS				RFH
Load		15		pF		
Signal Level (Vol)			0.5	VDC	with Vs=12.0V or 5.0V and 15pF load with Vs=3.3V and 15pF load with Vs=12.0V or 5.0V and 15pF load with Vs=3.3V and 15pF load @ (Voh-Vol)/2	
			0.3	VDC		
Signal Level (Voh)	3.7			VDC		
	2.4			VDC		
Duty cycle	45		55	%		

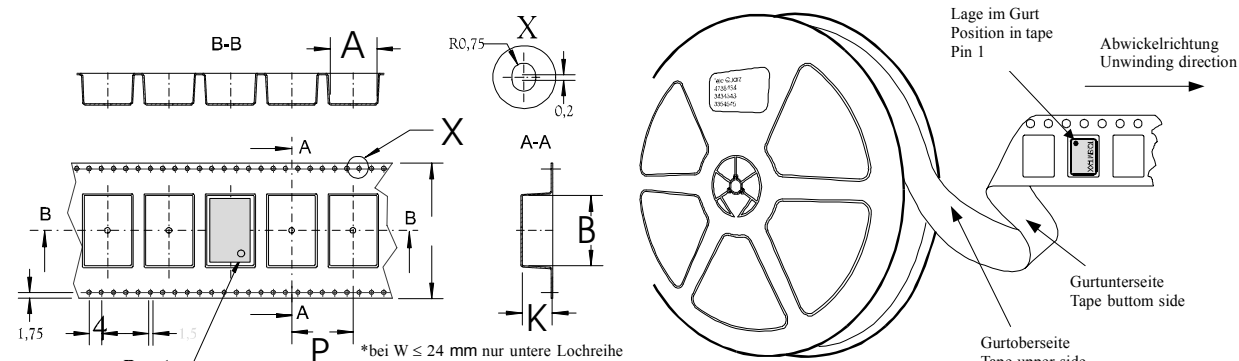
Frequency Tuning (EFC) 10 to 80MHz

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±5.0		±12	ppm	
Linearity			5	%	
Tuning Slope	Positive				
Control Voltage Range	0	2	4	VDC	with Vs=12.0V or 5.0V
Control Voltage Range					with Vs=3.3V

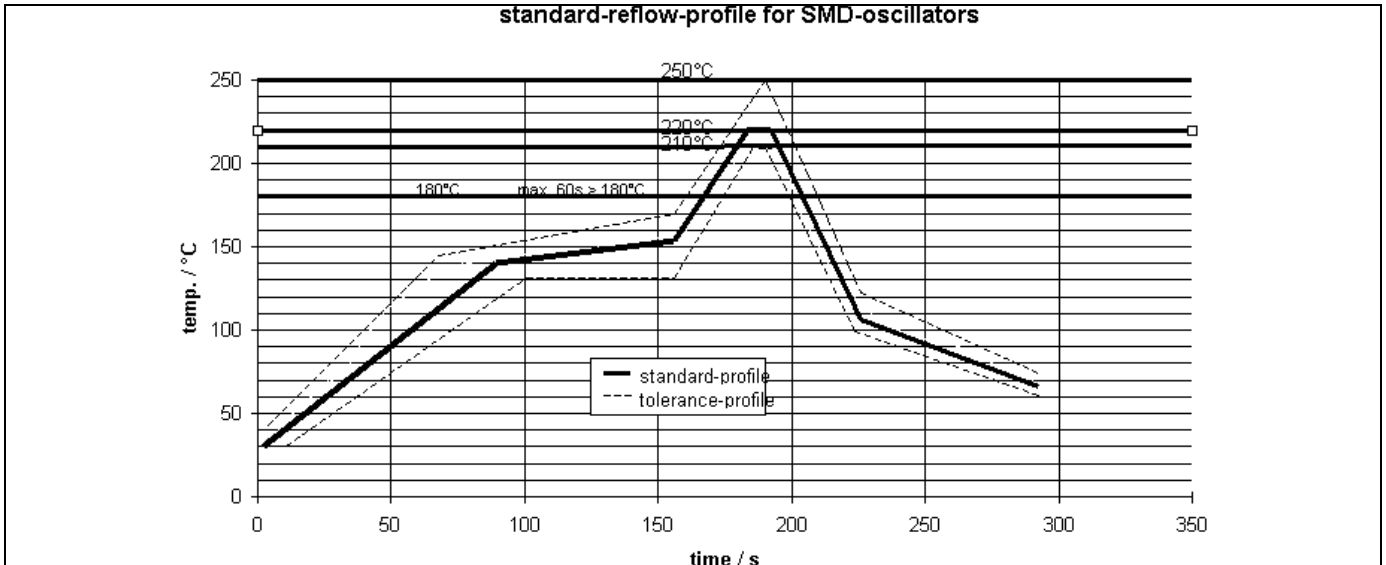
Enclosures

Type A			Type B		
Package Codes:					
Code A1 A2	Height "H" 10.16 9.0	Pin Length "L" 6.35 6.35	Code B1	Height "H" 12.06	Pin Length "L" NA
 <p>Square Corner indicates pin 1</p> <p>Top View</p> <p>Dimensions: Inches (mm)</p>			 <p>Dimensions: mm</p>		
Pin Connections 1 Electrical Frequency Adjust Input (EFC) 7 Ground (Case) 8 RF Output 14 Supply Voltage Input			Pin Connections 1 Electrical Frequency Adjust Input (EFC) 7 Ground (Case) 8 RF Output 14 Supply Voltage Input		

Standard Shipping Method (For Type B Enclosures)

 <p>Production tolerance complying DIN IEC 286-3</p> <p>*bei W ≤ 24 mm nur untere Lochreihe *by W ≤ 24 mm only lower hole line</p>					
Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P	
Type B	44	50	300	20	

Recommended Reflow Profile



Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise ³			-65	dBc/Hz	1 Hz	@ 10 MHz
			-95	dBc/Hz	10 Hz	
			-120	dBc/Hz	100 Hz	
			-140	dBc/Hz	1 kHz	
			-145	dBc/Hz	10 kHz	
Weight			8.0	g		
Processing & Packing	Handling & processing note					

Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7.0	V	with Vs=5.0VDC
			28	V	with Vs=12VDC
			7.0	V	with Vs=3.3VDC
Output Load			50	pF	
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

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
C4400			RFH		

Example : C4400 D207 SV050 RFH A1 10.000 Mhz

Step 2	The factory representative will then respond with a Vectron Model Number in the following configuration:		
Model	Package Code	Dash	Dash Number
C4400	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C4400A1-0001

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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