

Typical Applications

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

Features

EFC Standard
 Low Profile
 Small Size
 100 % RoHS compliant



Frequency range

6.4 MHz – 52 MHz

Standard frequencies

10; 12.8; 19.44; 20MHz, 20.48MHz

Frequency stabilities¹

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code ⁵
vs. operating temperature range (Referenced to +25°C)	-2.5		+2.5	ppm	-20 ... +70°C	D256
	-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	- 2.5		+2.5	ppm	at time of shipment, nominal EFC	
vs. supply voltage change	- 0.5		+0.5	ppm	V _S ± 5%	
vs. load change	- 0.2		+0.2	ppm	Load ± 10%	
vs aging /1. Year	- 1.0		+1.0	ppm		

Frequency stabilities¹ [Stratum 3 TCXO] < 32MHz

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code ⁵
vs. operating temperature range (Referenced to +25°C)	-0.8		+0.8	ppm	-20 ... +70°C	D807
	-0.28		+0.28	ppm	0 ... +50°C	B287*
	-0.28		+0.28	ppm	-20 ... +70°C	D287*
	-0.80		+0.80	ppm	-40 ... +85°C	F807
	-0.28		+0.28	ppm	-30 ... +85°C	G287
	-0.28		-0.28	ppm	-40 ... +85°C	F287
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	- 0.1		+0.1	ppm	Load ± 10%	
vs aging /15 Years	- 2.5		+2.5	ppm		
overall tolerance	-4.6		-4.6	ppm		
Note * Stratum 3 per GR-1244-CORE: <±4.6 ppm for all causes and 20 years aging, Holdover: <±0.37 ppm over 24 hours (Code: D287 & B287)						

Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Supply voltage [Standard]	3.135	3.3	3.465	VDC		SV033
Current consumption			6	mA	steady state @ +25°C	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Signal [Standard]	clipped Sinewave				> 12.288MHz	RFC
Load R	9	10	11	kΩ	@ 10kΩ 10pF	
C	9	10	11	pF		
Output power	0.7			V _{pp}		

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Signal [Standard]	HCMOS					RFH
Load	13.5	15	16.5	pF	with Vs=3.3V and 15pF load with Vs=3.3V and 15pF load @ (Voh-Vol)/2	
Signal Level (Vol)			0.3	VDC		
Signal Level (Voh)	3.0			VDC		
Rise and Fall time			5	ns		
Duty cycle	40	50	60	%		

Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	± 8.0	±14.0	± 20.0	ppm	
Linearity			10	%	
Tuning Slope	Positive				
Control Voltage Range	0.3	1.65	3.0	VDC	with Vs=3.3VDC
Freq. control input impedance	10			kΩ	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
Phase Noise ³		-90 -120 -135 -140 -145		dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	10 Hz 100 Hz 1 kHz 10 kHz 100 kHz @19.44MHz
Weight			2	g	
Processing & Packing	Handling & processing note				

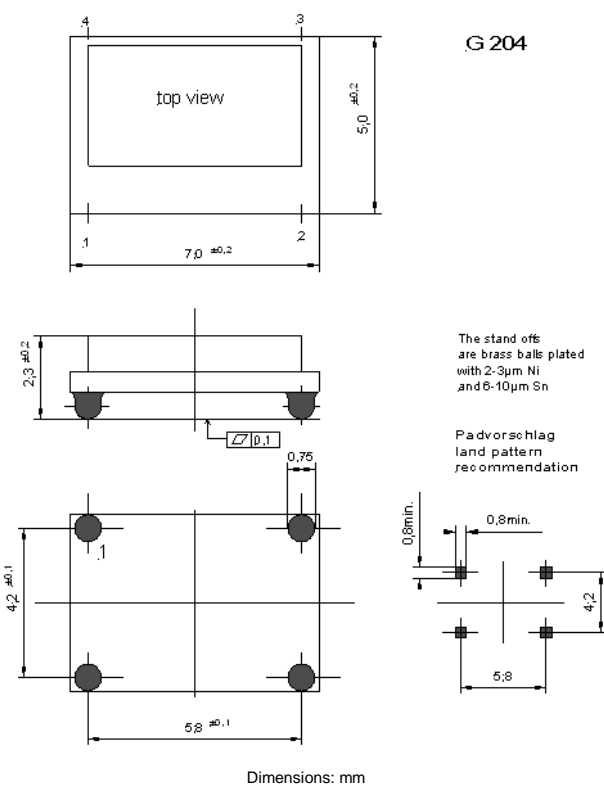
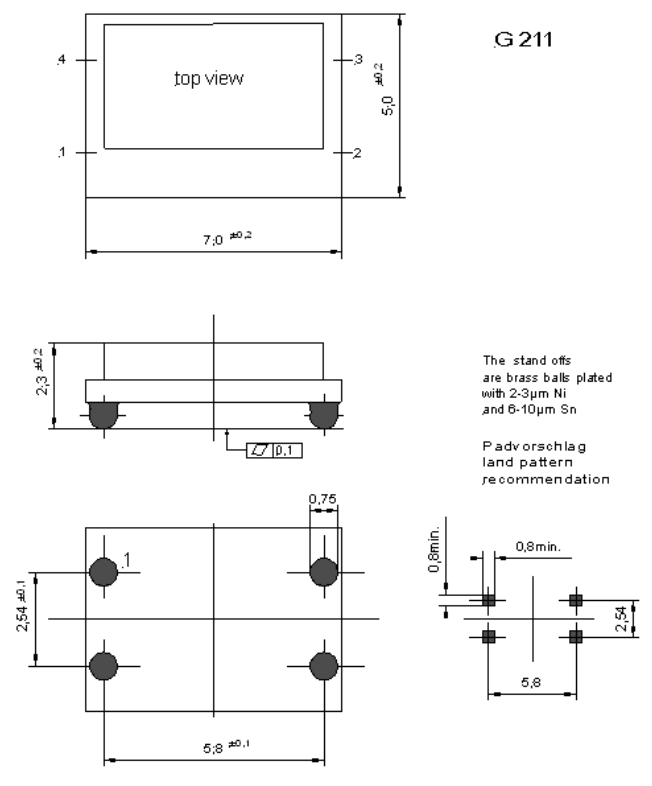
Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			6.0	V	
Control Voltage	0		Vs	V	
Operable temperature range	-40		+85	°C	
Storage temperature range	-55		+125	°C	

Cross reference list

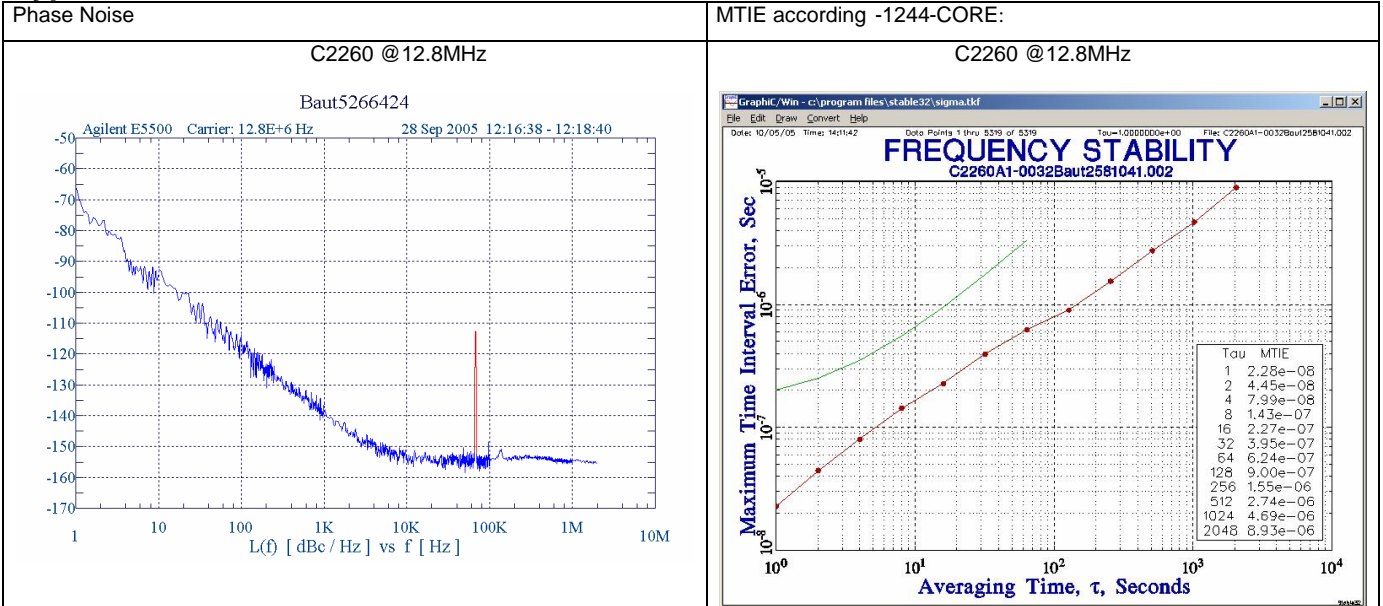
Vectron Part	Frequency [MHz]	Temp range C	Temp. Stability [ppm]	H/over Stab. [ppm]	overall Stab. [ppm]	Supply [V]	
C2260A1-0028	12,8	-20...70	±0,28	±0,37	±4,6	3,3	Semtech
C2260A1-0032	12,8	-40..85	±0,28	±0,37	±4,6	3,3	Semtech
C2260A1-0029	12,8	-40..85		±4,6	±20	3,3	Semtech
C2260A1-0021	20	-20...70	±0,28		±4,6	3,3	Zarlink
C2260A1-0009	20	-20..80	±0,28		±4,6	3,3	Zarlink
C2260A1-0015	20	-40..85		±4,6	±20	3,3	Zarlink

Enclosures

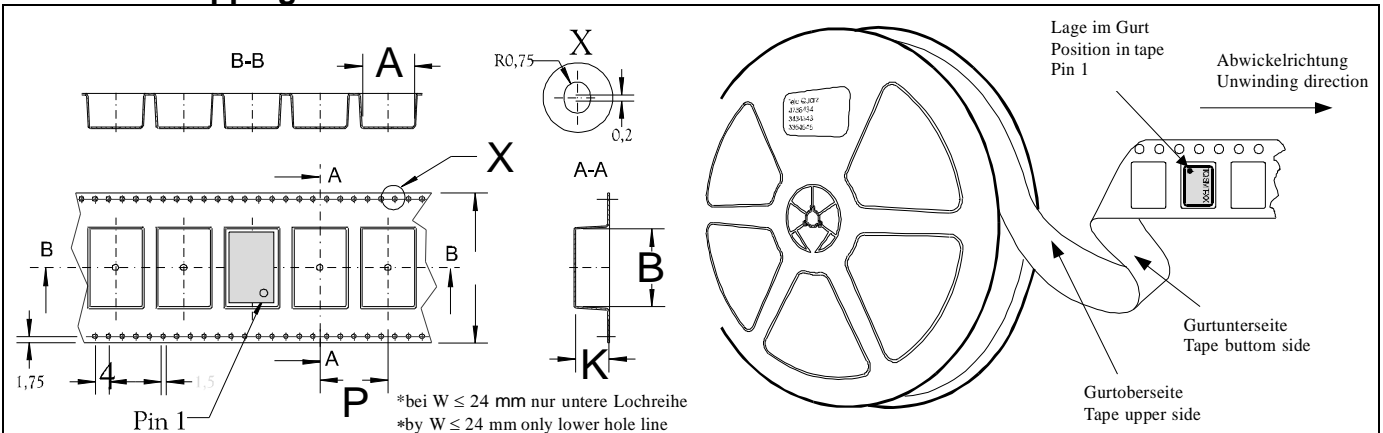
Type G204			Type G211		
Package Codes:			Package Codes:		
Code A1	Height "H" 3.0	Pin Length "L" NA	Code B1	Height "H"	
 <p>G 204</p> <p>The stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p> <p>Padvorschlag land pattern recommendation</p> <p>Dimensions: mm</p>			 <p>G 211</p> <p>The stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p> <p>Padvorschlag land pattern recommendation</p> <p>Dimensions: mm</p>		

Pin Connections
1 Voltage Control (Vc) 2 Ground (Case) 3 RF output 4 Supply Voltage Input (Vs)
Marking
C2260-xxxx frequency * C AYYWW

Typical measurement data



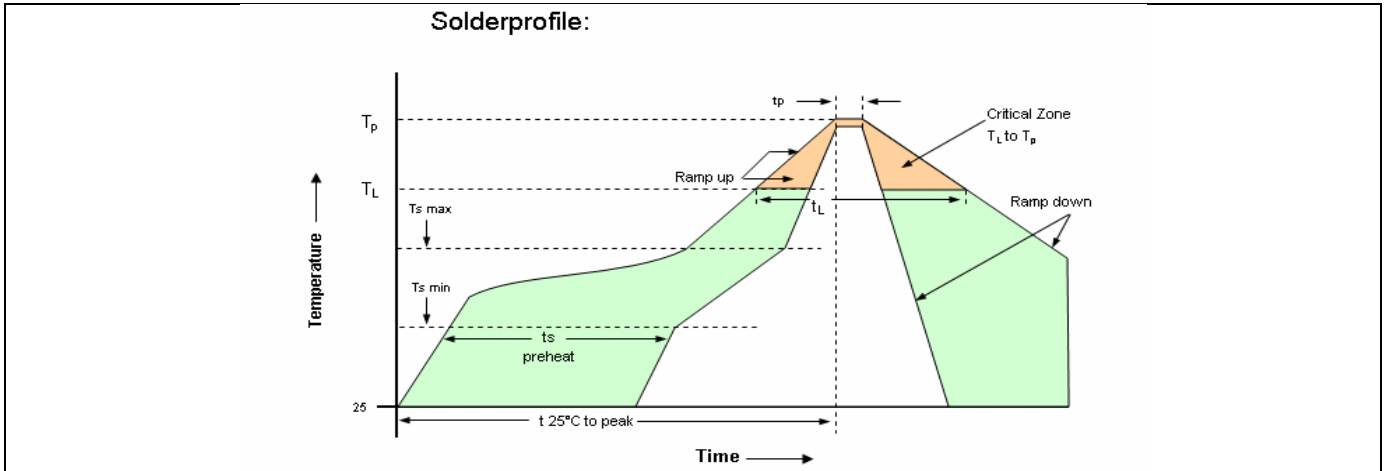
Standard Shipping Method



Production tolerance complying DIN IEC 286-3

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P
G204 /G211	12	150.	Tbd.	8

Recommended Reflow Profile



Profile Feature	Pb-Free Assembly /Sn-Pb Assembly	Profile Feature	Pb-Free Assembly /Sn-Pb Assembly
Average ramp-up rate (T_L to T_p)	3°C/second max.	Time 25°C to Peak Temperature	8 minutes max.
Preheat -Temperature Min (T_{smin}) -Temperature Min (T_{smax}) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds	Time maintained above - Temperature (T_L) - Time (t_L)	217°C 60-150 seconds
T_{smax} to T_L - Ramp-up Rate	3°C/second max.		
Time maintained above - Temperature (T_L) - Time (t_L)	217°C 60-150 seconds	Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Peak Temperature (T_p)	max 260°C	Ramp-down Rate	6°C/second max.

Note: All temperatures refer to topside of the package, measured on the package body surface.

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
	C2260					

Example: C2260 D106 SV033 RFC A1 12.8MHz

Step 2	The factory representative will then respond with a Vectron Model Number in the following Configuration:			
	Model	Package Code	Dash	Dash Number
	C2260	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N = C2260A1-0001

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.