C3430

FCXO

Typical Applications
Base Stations

Features
Surface Mount Package
Reflow Process Compatible
Low Phase Noise
Build in PLL-Circuit

Output Frequency range
10 MHz – 700 MHz

Standard frequencies
10; 25; 26; 39.3216; 52; 56; 61.44;77.76; 104 MHz
122.88; 153.6; 155.52; 160; 184.32; 311.04 MHz
491.52; 622.08 MHz

Reference Frequency

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Input frequency	1		300	MHz	± 2 ppm	
Standard input frequencies		10 13 26 32,768		MHz MHz MHz MHz		X106 X136 X266 X326
Parameter	**Min**	**Typ**	**Max.**	**Units**	**Condition**	
Signal		HCMOS				IFH
Reference Level Reference Input Impedance	0.5 2		4	V_{pp} kΩ	HCMOS / similar sinewave	
Signal		PECL				IFP
Reference Level Min Reference Level Max Reference Input Impedance	1.355 2.155	 50	1.68 2.42	V V Ω	LVPECL	
Signal		LVDS				IFL
Reference Level Min Reference Level Max Reference Input Impedance	-0.45 0.25	 100	-0.25 0.45	V V Ω	LVDS	

Output Frequency

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
output frequency	10		700	MHz		
Signal		HCMOS				RFH
Load Rise and Fall time Duty cycle	 40	15.0 	 5 60	pF ns %	 @ 15 pF 10 to 90 % @ Vs/2	
Signal		PECL				RFP
Load Rise and Fall time Duty cycle	 45	50 	 1 55	Ω ns %	Vs - 2V 20 to 80 %	
Signal		LVDS				RFL
Load Rise and Fall time Duty cycle	 40	100 	 1 60	Ω ns %	 10 to 90 %	

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			50	mA	steady state @ +25°C & 3.3VDC	

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Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise[3]		-95		dBc/Hz	10 Hz	@ 10 MHz
		-125		dBc/Hz	100 Hz	HCMOS
		-142		dBc/Hz	1 kHz	
		-155		dBc/Hz	10 kHz	
		-160		dBc/Hz	100 kHz	
Jitter		0.7		Ps RMS	@ 10Hz .. 100kHz	
Phase Noise[3]		-75		dBc/Hz	10 Hz	@ 311.04 MHz
		-105		dBc/Hz	100 Hz	PECL
		-130		dBc/Hz	1 kHz	
		-140		dBc/Hz	10 kHz	
		-142		dBc/Hz	100 kHz	
Jitter		0.2		Ps RMS	@ 12kHz .. 20MHz	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
VCXO Control PIN 7	0.5		2.5	V	
Weight			9	g	
Processing & Packing	Handling & processing note				
Operating temperature range	-20		+70	°C	
Operable temperature range	-30		+85		
Storage temperature range	-55		+125	°C	

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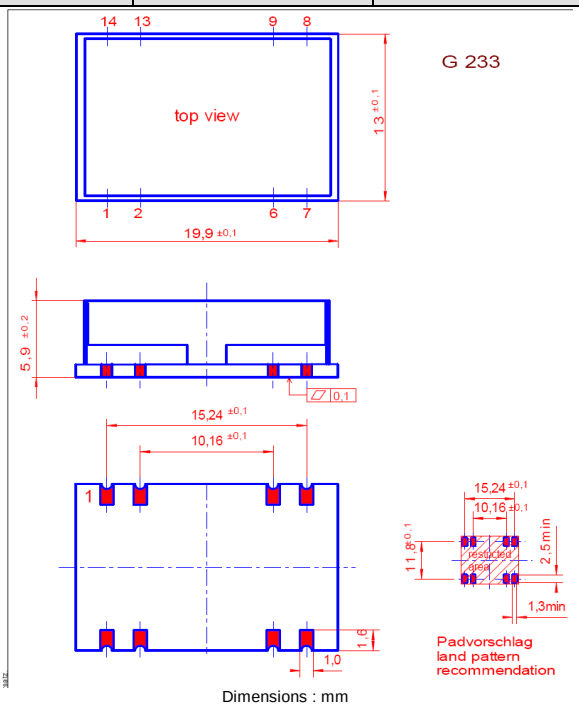
Type G233
Input : Single ended (HCMOS or Sinewave)
Output : 1x HCMOS or PECL or LVDS

Package Codes :

Code	Height "H"	Pin Length "L"
A1	5.9	NA

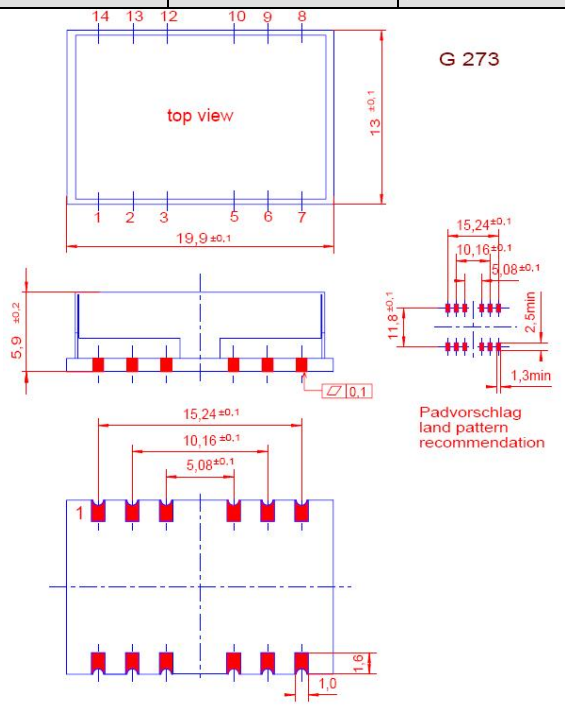


Dimensions : mm

Pin Connections		Description
1	VCXO Control	**Test output** of the control voltage for the VCXO Only for modul test or observance
2	Lock Detector Output	**Test output** signal for PLL lock detected. High signal **à** PLL in lock Low signal **à** PLL out of lock Only for modul test or observance
6;7	GND	Ground connection. Keep traces physically short and connect immediately to ground plane for best performance
8	RF-OUT	RF syncronised output.
9	RF-Out complementary / (GND: Single ended input only)	RF syncronised output. Ground connection: Single Ended Input only
13	Ref. Frequency in	High stable input frequency for syncronisation
14	Vs	Power supply pin

Type G273
Input : Complementary (PECL or LVDS)
Output : 1x PECL or LVDS

Code	Height "H"	Pin Length "L"
B1	5.9	NA



Dimensions : mm

Pin Connections		Description
1	VCXO Control	**Test output** of the control voltage for the VCXO Only for modul test or observance
2	Lock Detector Output	**Test output** signal for PLL lock detected. High signal **à** PLL in lock Low signal **à** PLL out of lock Only for modul test or observance
3	N.C.	
5	GND	
6;7	GND	Ground connection. Keep traces physically short and connect immediately to ground plane for best performance
8	RF-OUT	RF syncronised output.
9	RF-Out complementary	RF syncronised output.
10	GND	
12	Ref. Frequency Complementary in	High stable complementary input frequency for syncronisation
13	Ref. Frequency in	High stable input frequency for syncronisation
14	Vs	Power supply pin

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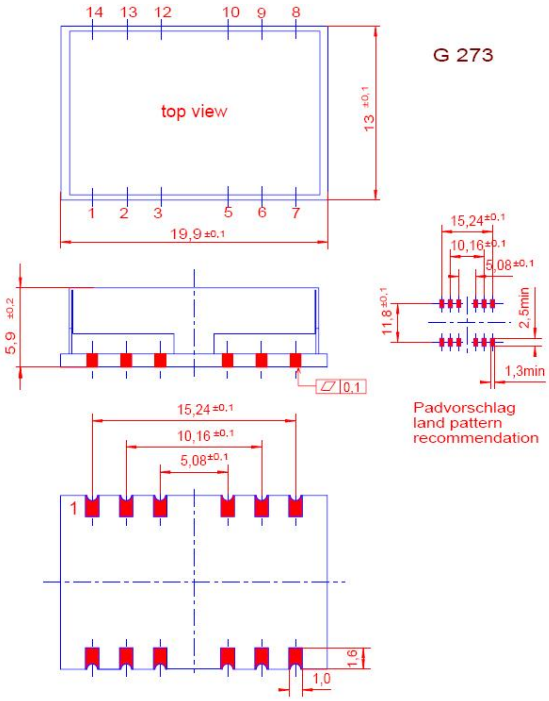
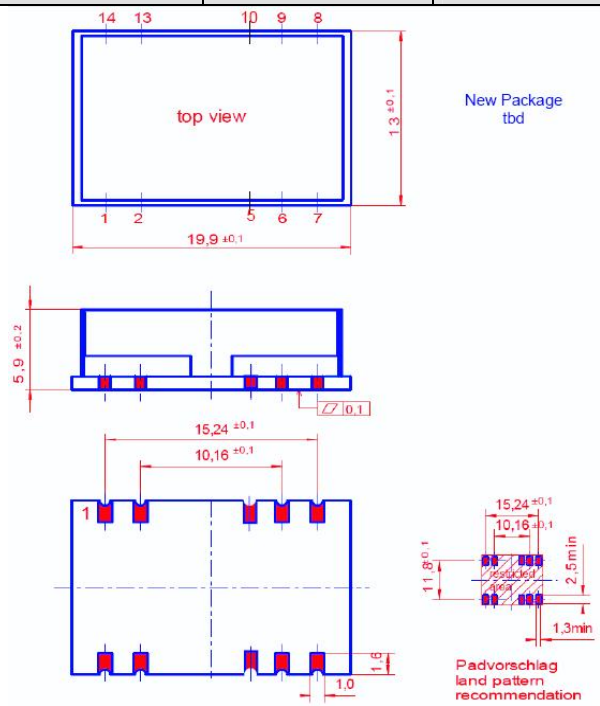
Type G273 Input : Single ended (HCMOS or Sinewave) Output : 2x PECL or LVDS			Type G267 Input : Single ended (HCMOS or Sinewave) Output : 4x HCMOS (same frequency)		
Package Codes :					
Code C1	Height "H" 5.9	Pin Length "L" NA	Code D1	Height "H" 5.9	Pin Length "L" NA



Dimensions : mm



Dimensions : mm

	Pin Connections	Description
1	VCXO Control	**Test output** of the control voltage for the VCXO Only for modul test or observance
2	Lock Detector Output	**Test output** signal for PLL lock detected. High signal **à** PLL in lock Low signal **à** PLL out of lock Only for modul test or observance
3	N.C.	
5	GND	
6	RF-OUT 1	RF output frequency 1
7	Compl. RF-OUT 1	Complimentary RF output frequency 1
8	RF-OUT 2	RF output frequency 2
9	Compl. RF-OUT 2	Complimentary RF output frequency 2
10	GND	
12	N.C.	
13	Ref. Frequency in	High stable input frequency for syncronisation
14	Vs	Power supply pin

	Pin Connections	Description
1	VCXO Control	**Test output** of the control voltage for the VCXO Only for modul test or observance
2	Lock Detector Output	**Test output** signal for PLL lock detected. High signal **à** PLL in lock Low signal **à** PLL out of lock Only for modul test or observance
5	RF-OUT 1	4 independent RF syncronised outputs
6	GND	Ground connection. Keep traces physically short and connect immediately to ground plane for best performance
7	RF-OUT 2	4 independent RF syncronised outputs
8	RF-OUT 3	4 independent RF syncronised outputs
9	GND	
10	RF-OUT 4	4 independent RF syncronised outputs
13	Ref. Frequency in	High stable input frequency for syncronisation
14	Vs	Power supply pin

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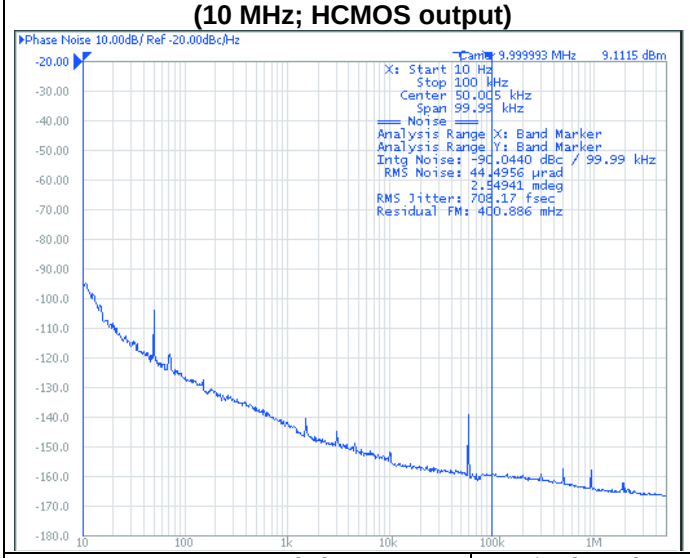
Marking
C3430A1-xxxx Frequency * YI AYYWW

Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			**6.0**	V	
Maximum output load @ CMOS			40	pF	

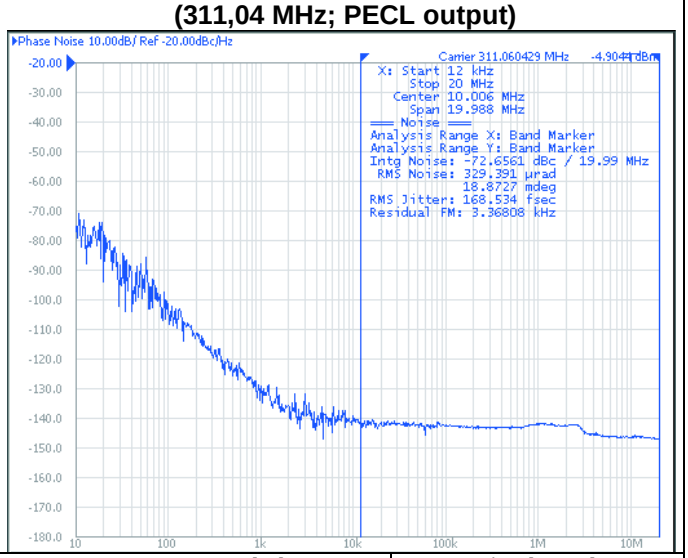
Typical Phase Noise and Jitter

(10 MHz; HCMOS output)



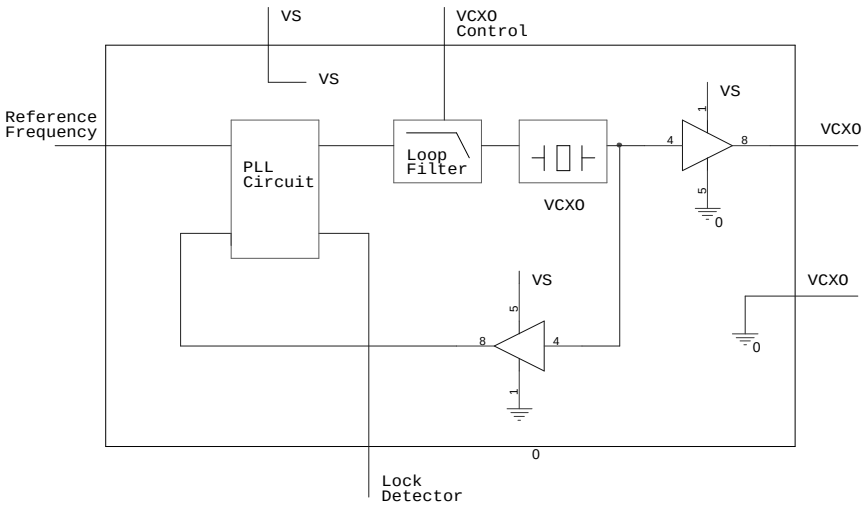
Frequency range [Hz]	Jitter [ps rms]
10Hz to 100kHz	0.708ps

(311,04 MHz; PECL output)



Frequency range [Hz]	Jitter [ps rms]
12kHz to 20MHz	0.168ps

Block Diagramm



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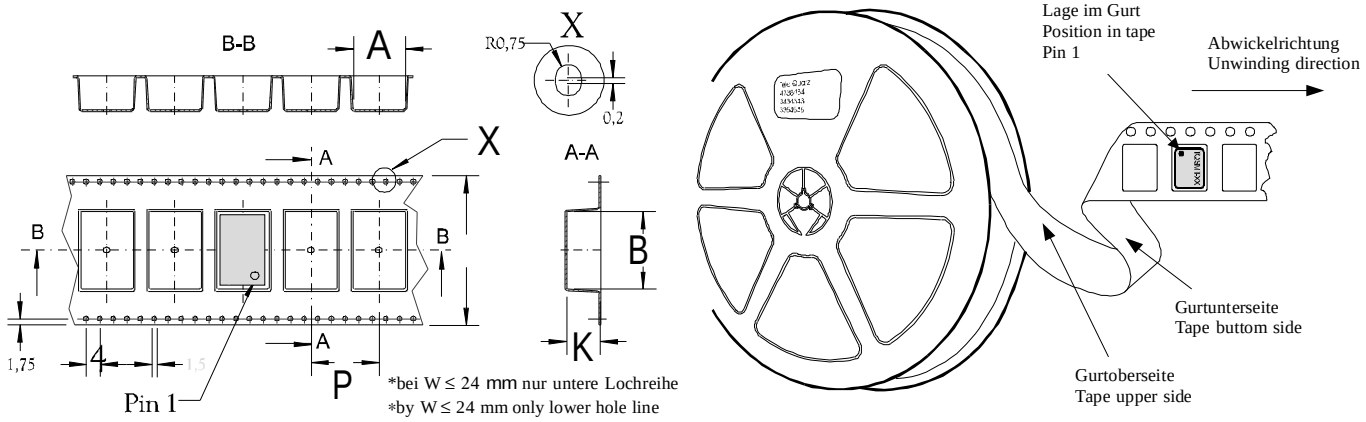
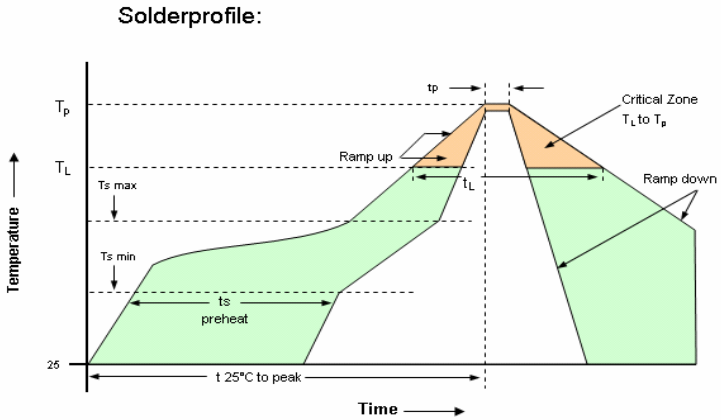
Standard Shipping Method



Production tolerance complying DIN IEC 286-3

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P	
G194B	tbd	tbd	tbd	tbd	

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 Tp)	3°C/second max.	Time 25°C to Peak Temperature	8 minutes max.
Preheat -Temperature Min Ts_{min}) -Temperature Min Ts_{max}) -Time (min to max) (ts)	150°c 200°c 60-180 seconds	Time maintainted above - Temperature (T_L) - Time (t_L)	 217°C 60-150 seconds
Ts_{max} to T_L - Ramp-up Rate	3°C/second max.		
Time maintainted above - Temperature (T_L) - Time (t_L)	217°C 60-150 seconds	Time within 5°C of actual Peak Temperature (tp)	20-40 seconds
Peak Temperature (Tp)	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.
SMD oscillators must be on the top side of the PCB during the reflow process.

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How to Order this Product:

Model	Ref. Freq	Freq out	Supply Voltage Code	RF Output Code	Package Code
C3430			SV033	RFH	A1

Supply:

SV033: 3.3V

Signal:

RFH: HCMOS
RFP: PECL

Enclosures:

A1: H: 5.9 L: NA

Dimension: mm

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