C5430-DUAL

VCXO

Typical Applications
Base Stations
Test Equipment
Switching
Portable Equipment

Features
Surface Mount Package
Reflow Process Compatible
AT-Cut Crystal
Low Phase Noise
Tight Stability



Frequency range
50 MHz – 800 MHz (Dual Frequency)

Standard frequencies
61.44; 68.736; 77.760; 76.8 MHz
81.92; 92.16; 100; 112; 122.88; 125; 134.4; 153.6; 155,52 MHz
156.25; 160; 179.2; 184.32; 245.76; 312.5; 320; 368.64 MHz
400; 448; 471,8592; 491.52; 622.08; 672; 737,28 MHz

Frequency stabilities[1]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code[5]
vs. operating temperature range (Referenced to +25°C)	-15.0		+15.0	ppm	-20 … +70°C	D105
Parameter	**Min**	**Typ**	**Max.**	**Units**	**Condition**	
Initial tolerance	-10.0		+10.0	ppm	@vc=Vs/2	
vs. supply voltage change	-3.0		+3.0	ppm	V_S ± 5%	
vs. load change	-1.0		+1.0	ppm	Load ± 10%	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (followingYears)	-1.0		+1.0	ppm		

Frequency stabilities[1]

Parameter	Min	Typ	Max.	Units	Operating temp range	Ordering Code[5]
vs. operating temperature range (Referenced to +25°C)	-30.0		+30.0	ppm	-40 … +85°C	F305
Parameter	**Min**	**Typ**	**Max.**	**Units**	**Condition**	
Initial tolerance	-15.0		+15.0	ppm	@vc=Vs/2	
vs. supply voltage change	-3.0		+3.0	ppm	V_S ± 5%	
vs. load change	-2,0		+2.0	ppm	Load ± 10%	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (followingYears)	-1.0		+1.0	ppm		

Supply voltage

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Supply voltage (Vs)	3.135	3.3	3.465	VDC		SV033
Current consumption			100	mA	@ LVPECL	
Current consumption			100	mA	@ LVDS	

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RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Signal		PECL				RFP
Load		50		Ω	Vs - 2V	
Rise and Fall time			1	ns	20 to 80 %	
Duty cycle	45		55	%		
Signal		LVDS				RFL
Load		100		Ω		
Rise and Fall time			1	ns	10 to 90 %	
Duty cycle	40		60	%		

Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±75.0	±90.0	+250.0	ppm	
Linearity			10	%	
Tuning Slope		Positive			
Control Voltage Range	0.0	1.65	3.3	VDC	with Vs=3.3VDC
Frequency control input impedance	10			k Ω	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise		-80		dBc/Hz	10 Hz	@155,52 MHz
		-105		dBc/Hz	100 Hz	PECL
		-135		dBc/Hz	1 kHz	3,3V
		-143		dBc/Hz	10 kHz	
		-143		dBc/Hz	100 kHz	
Jitter		0,2		ps RMS	@ 12 kHz to 20 MHz	
Phase Noise		-80		dBc/Hz	10 Hz	@155,52 MHz
		-112		dBc/Hz	100 Hz	LVDS
		-130		dBc/Hz	1 kHz	3,3V
		-150		dBc/Hz	10 kHz	
		-155		dBc/Hz	100 kHz	
Jitter		0,2		ps RMS	@ 12 kHz to 20 MHz	
Phase Noise		-55		dBc/Hz	10 Hz	@622,08 MHz
		-85		dBc/Hz	100 Hz	PECL
		-115		dBc/Hz	1 kHz	3,3V
		-140		dBc/Hz	10 kHz	
		-150		dBc/Hz	100 kHz	
Jitter		0,05		ps RMS	@ 12 kHz to 20 MHz	
Weight			2	g		
Processing & Packing		handling&processing note				

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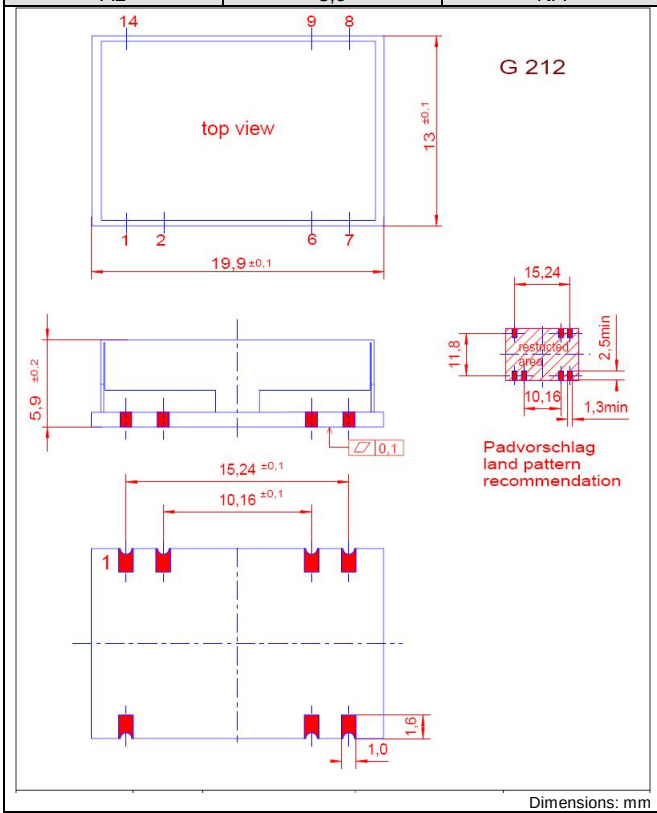
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Enclosures

Type G212 PECL; LVPECL and LVDS Version					
Package Codes:					
Code A1	Height "H" 5,9	Pin Length "L" NA			



Dimensions: mm

Pin Connections	
1 Control Voltage (Vc)	
2 Frequency Select	
6 Enable	
7 Ground (Case)	
8 RF Output	
9 RF Output complementary	
14 Supply Voltage Input (Vs)	
Outline Drawing: G212	

Marking
C5430A1-xxxx frequency * VI AYYWW

Absolute Maximum Ratings

Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-40		+85	°C	
Storage temperature range	-55		+105	°C	

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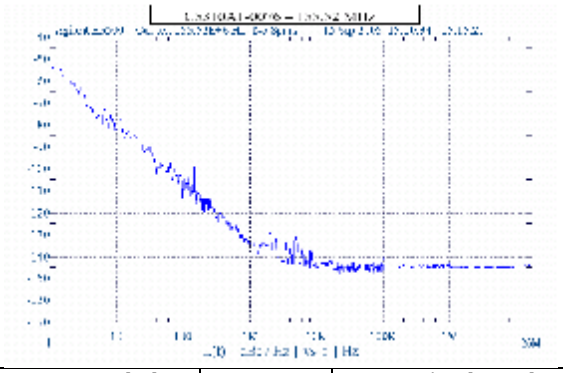
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Typical Phase Noise and Jitter

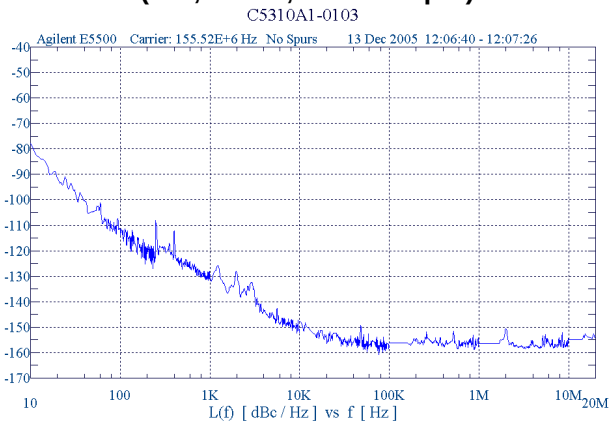
(155,52 MHz; PECL output)



			Frequency range [Hz]	Sϕ(f) [dB]	Jitter [ps rms]
			12kHz to 20MHz	-65.34dB	0.2ps

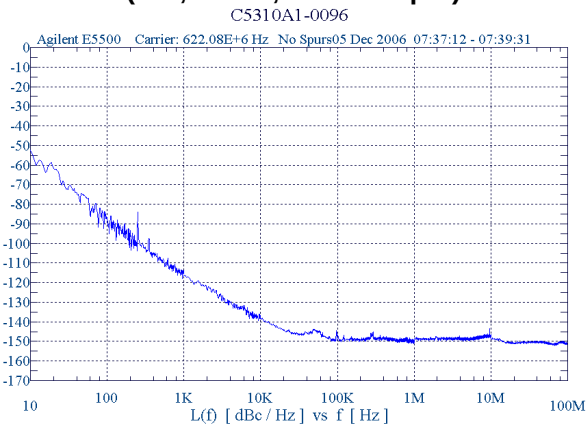
Typical Phase Noise and Jitter

(155,52MHz; LVDS output)



Frequency range [Hz]	Sϕ(f) [dB]	Jitter [ps rms]
12kHz to 20MHz	-76dB	0.162ps

(622,08MHz; PECL output)



Frequency range [Hz]	Sϕ(f) [dB]	Jitter [ps rms]
12kHz to 20MHz	-70dB	0.05ps

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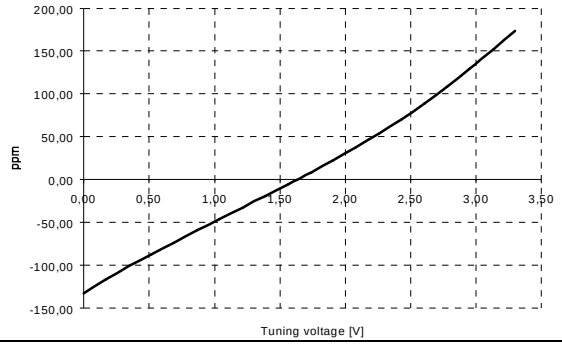
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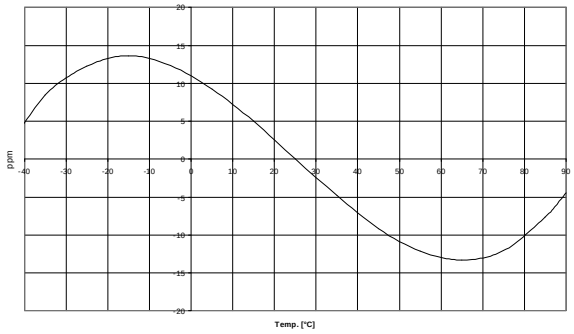
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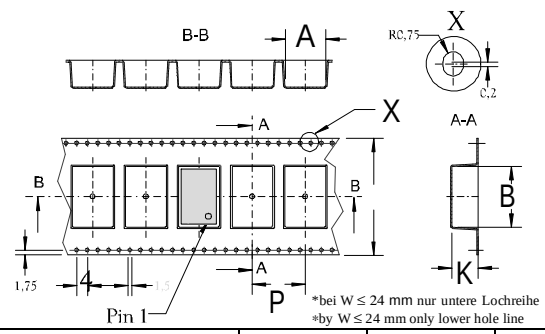
Typical tuning slope

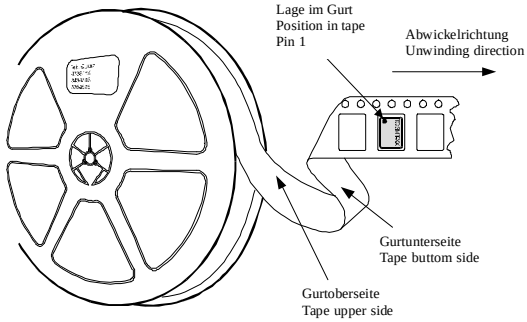


Typical frequency stability vs tp



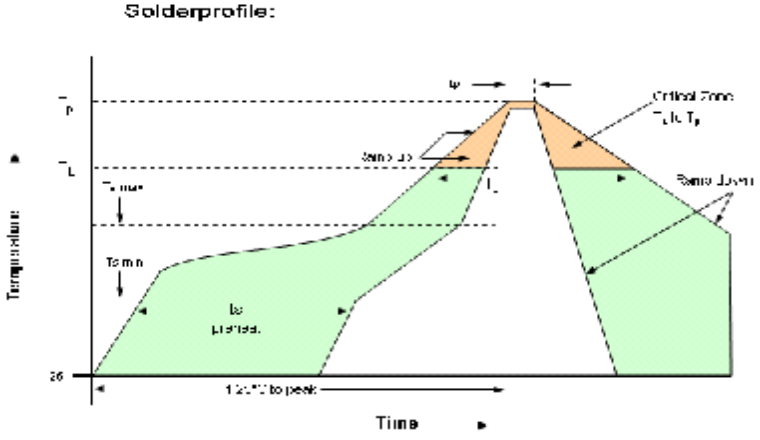
Standard Shipping Method





Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P	Production tolerance complying DIN IEC 286-3
G212	24	83,3	500	12	

Recommended Reflow Profile



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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 maintained 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 maintained 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.

How to Order this Product:

Model	Stability Code	Supply Voltage Code	RF Output Code	Package Code	Frequency 1	Frequency 2
C5430	D105	SV033	RFP	A1		

vs.operat. temp. range:

D105: ±15ppm -20 … +70°C
F305: ±30ppm -40 … +85°C

Supply:

SV033: 3.3V

Signal:

RFP: PECL
RFL: LVDS

Enclosures:

A1: H: 5.9

Dimension: mm

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