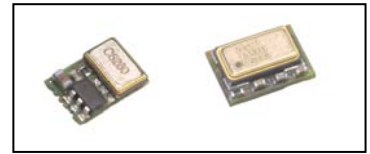


Typical Applications

Base Stations
 Test Equipment
 Switching
 Portable Equipment

Features

Surface Mount FR4 based Package
 Reflow Process Compatible
 AT-Cut Crystal
 Low Phasenoise
 Tight Stability



Frequency range

1 MHz – 175 MHz

Standard frequencies

16.384; 30.720; 32.768; 38.880 MHz;
 51.840; 52.00; 68.736; 77.760; 100; 155,52; 175 MHz

Frequency stabilities¹

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	Vs ± 5%	
vs. load change	-1.0		+1.0	ppm	Load ± 10%	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (following Years)	-1.0		+1.0	ppm		

Frequency stabilities¹

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	Vs ± 5%	
vs. load change	-2.0		+2.0	ppm	Load ± 10%	
vs. aging /1. Year	-3.0		+3.0	ppm		
vs. aging / year (following Years)	-1.0		+1.0	ppm		

Supply voltage

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Supply voltage (Vs)	4.75	5.0	5.25	VDC		SV050
Current consumption			40	mA	@ HCMOS	
Current consumption			90	mA	@ PECL	
Supply voltage (Vs)	3.135	3.3	3.465	VDC		SV033
Current consumption			30	mA	@ LVHCMOS	
Current consumption			80	mA	@ LVPECL	
Current consumption			25	mA	@ LVDS	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code ⁵
Signal		HCMOS				RFH
Load		15.0		pF		
Rise and Fall time			5	ns	@ 15 pF 10 to 90 %	
Duty cycle	40		60	%	@ Vs/2	
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	%		

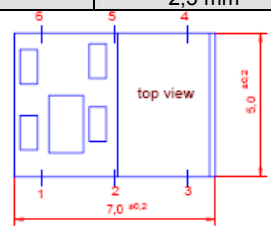
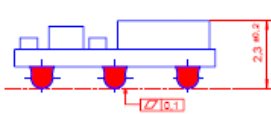
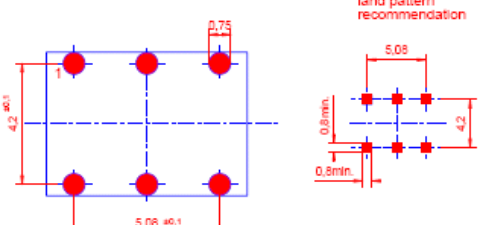
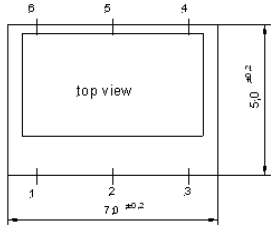
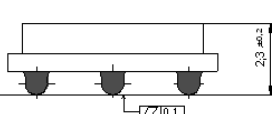
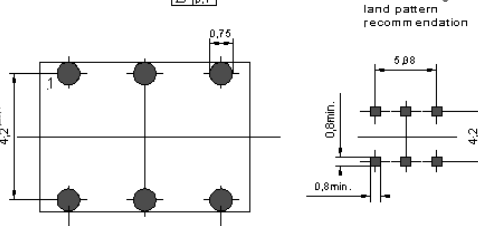
Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition
Tuning Range	±75.0 ±100.0	±90.0 ±140.0	+200.0 ±200.0	ppm ppm	Frequency > 53MHz Frequency <53MHz
Linearity			10	%	
Tuning Slope	Positive				
Control Voltage Range	0.0 0.5	1.65 2.5	3.3 4.5	VDC VDC	with Vs=3.3VDC with Vs=5.0VDC
Frequency control input impedance	10			k Ω	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
Phase Noise		-90		dBc/Hz	10 Hz @52 MHz
		-115		dBc/Hz	100 Hz HCMOS
		-135		dBc/Hz	1 kHz 3,3V
		-150		dBc/Hz	10 kHz
		-153		dBc/Hz	100 kHz
Jitter		0,2		ps RMS	@ 12 kHz to 20 MHz
Phase Noise		-80		dBc/Hz	10 Hz @155,52 MHz
		-105		dBc/Hz	100 Hz PECL
		-135		dBc/Hz	1 kHz 3,3V
		-145		dBc/Hz	10 kHz
		-145		dBc/Hz	100 kHz
Jitter		0,6		ps RMS	@ 12 kHz to 20 MHz
Weight			2	g	
Processing & Packing	handling&processing note				

Enclosures

Type G241 < 53 MHz			Type G251 > 1 MHz		
Package Codes:			Package Codes:		
Code A1	Height "H" 2,3 mm		Code B1	Height "H" 2,3 mm	
 <p style="text-align: center;">top view</p> <p style="text-align: right;">G 241</p>  <p>The four stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p> <p>Padvorschlag land pattern recommendation</p>  <p style="text-align: right;">Dimensions: mm</p>			 <p style="text-align: center;">top view</p> <p style="text-align: right;">G 251</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 style="text-align: right;">Dimensions: mm</p>		

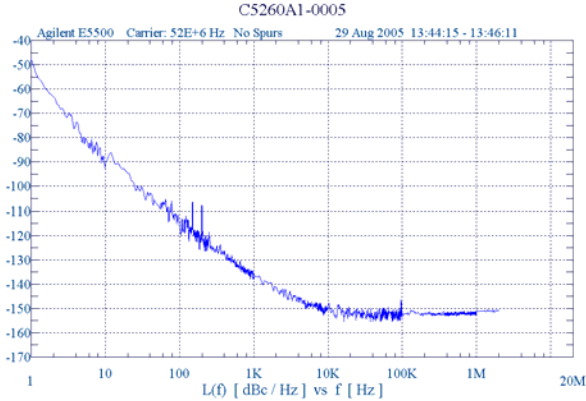
Pin Connections		Pin Connections				
1 Control Voltage (Vc)		1 Control Voltage (Vc)				
2 N/C / Enable (optional)		2 N/C / Enable (optional)				
3 Ground		3 Ground				
4 RF Output		4 RF Output				
5 N/C		5 Complementary RF Output / (N/C: HCMOS only)				
6 Supply Voltage Input (Vs)		6 Supply Voltage Input (Vs)				
		true table	HCMOS		LVPECL + LVDS	
		Pin 2	Pin 4	Pin 5	Pin 4	Pin 5
		High	Data	N/C	No Data	No Data
		Open	Data	N/C	Data	compl. Data
		Low	High Tristate	N/C	Data	compl. Data
Marking						
5A1-xxx frequency * VI AYYWW						

Absolute Maximum Ratings

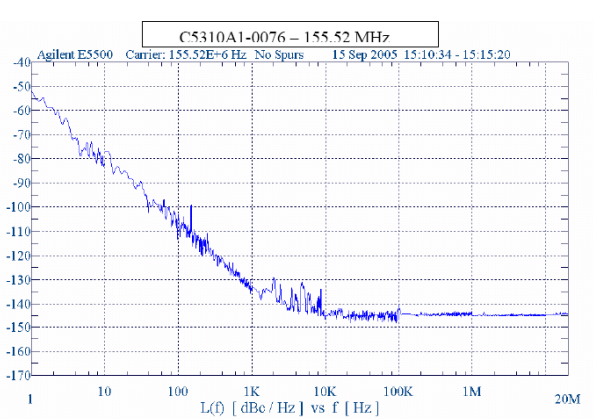
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7	V	
Operable temperature range	-30		+80	°C	
Storage temperature range	-40		+90	°C	

Typical Phase Noise and Jitter

(52 MHz; HCMOS output)

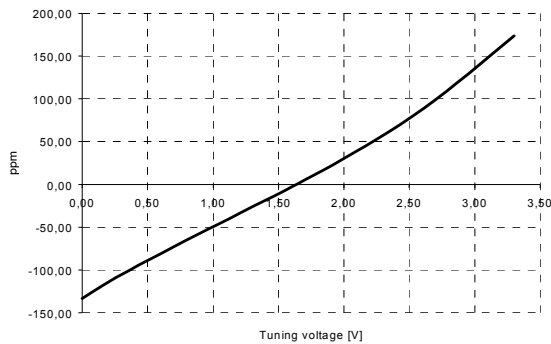


(155,52 MHz; PECL output)

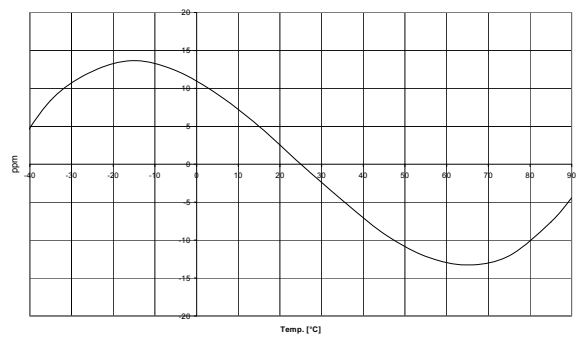


Frequency range [Hz]	S ϕ (f) [dB]	Jitter [ps rms]	Frequency range [Hz]	S ϕ (f) [dB]	Jitter [ps rms]
100Hz to 1.5MHz	-81dB	0.26ps	500Hz to 1.5MHz	-73.96dB	0.205ps
50kHz to 1.5MHz	-87dB	0.14ps	65kHz to 1.5MHz	-75.87dB	0.165ps
12kHz to 20MHz	-85dB	0.16ps	12kHz to 20MHz	-65.34dB	0.553ps

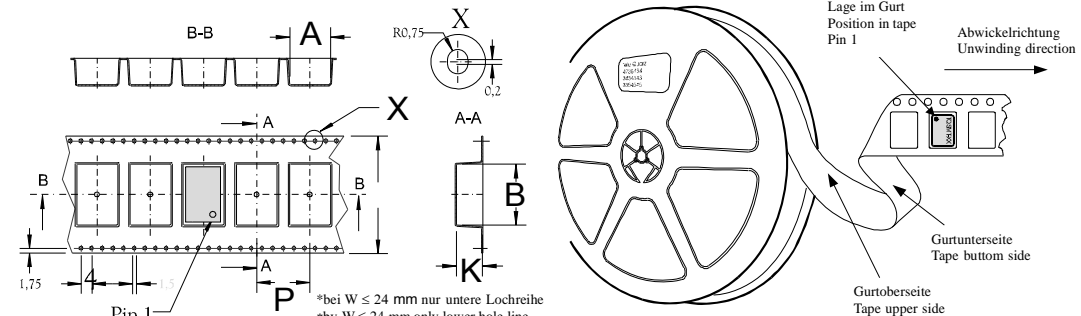
Typical tuning slope



Typical frequency stability vs temperature



Standard Shipping Method



Lage im Gurt
Position in tape
Pin 1

Abwickelrichtung
Unwinding direction

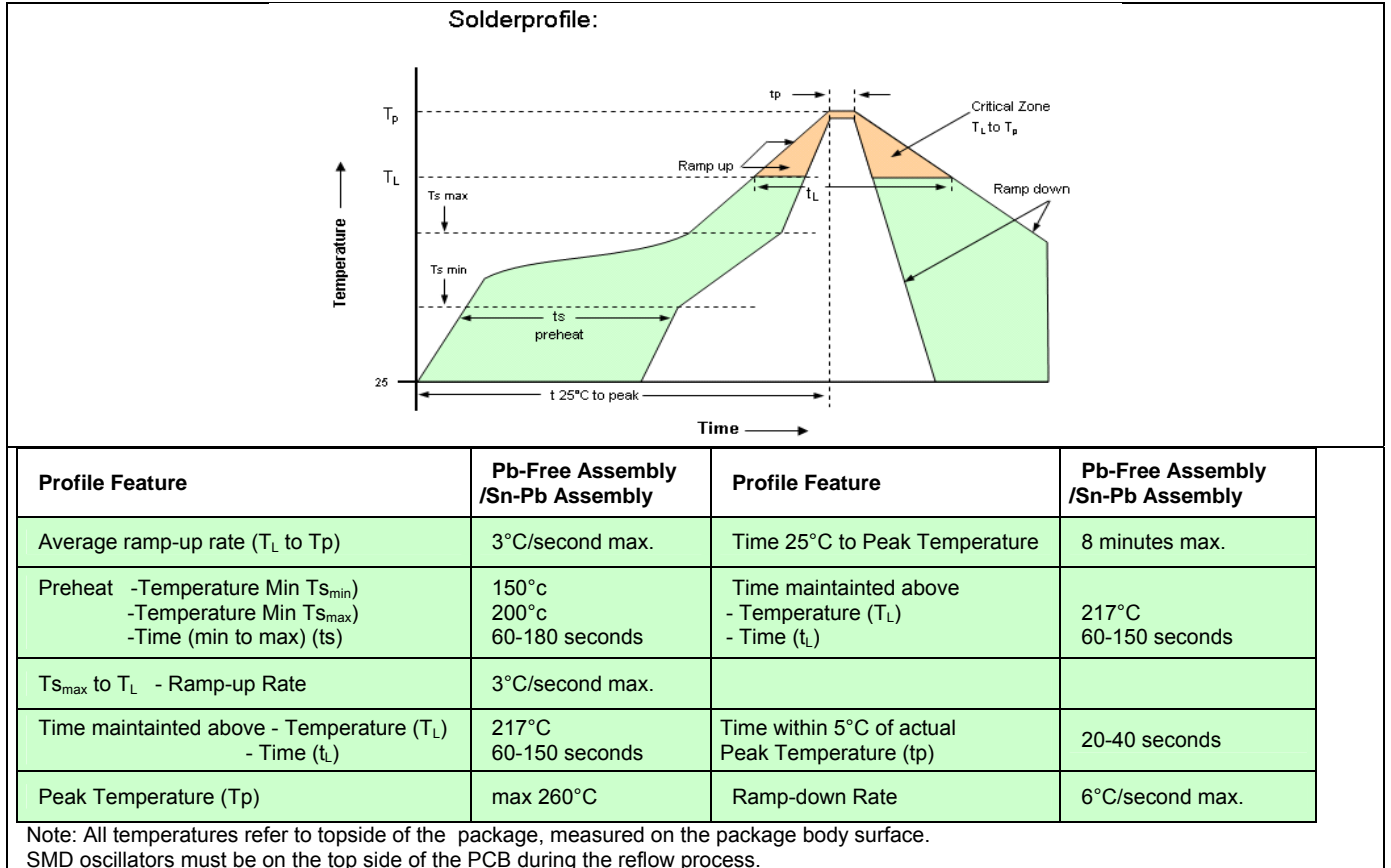
Gurtunterseite
Tape bottom side

Gurtoberseite
Tape upper side

*bei $W \leq 24$ mm nur untere Lochreihe
*by $W \leq 24$ mm only lower hole line

Enclosure Type	Tape width W [mm]	Quantity per meter	Quantity per reel	Dimension P	Production tolerance complying DIN IEC 286-3
G241 / G251	12	125	tbd	8	

Recommended Reflow Profile



How to Order this Product:

Model	Stability Code	Supply Voltage Code	RF Output Code	Package Code	Frequency Control / Enable	Frequency
C5260	D105	SV050	RFH	A1		

vs.operat. temp. range:

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

Supply:

SV050: 5V
 SV033: 3.3V

Signal:

RFH: HCMOS
 RFP: PECL
 RFL: LVDS

Enclosures:

A1: H: 2.3
 B1: H: 2.3

Dimension: mm

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