

Nominal frequency (f0)

90 MHz

Frequency stabilities

Parameter	Frequency stability	Operating temp. range
vs. operating temp. range (df/f@25 °C)	-0.28 to 0.28 ppm	-20 ... 70 °C
Parameter	Value	Condition
initial tolerance (df/f0)	-2 to 2 ppm	@Vc = 1.65 V; 25 °C
vs. supply voltage change (df/f)	-0.2 to 0.2 ppm	static; 3.3 V ±5 %
vs. load change (df/f)	-0.1 to 0.1 ppm	static; Load ± 10 %
aging first year	<± 1 ppm	
vs. aging / 15 years (df/f)	<± 2.4 ppm	@ 40 °C
APR >±5ppm incl.: initial, temp. stab. -20..+70°C, load, supply var. and aging 15 years		

Frequency tuning

Parameter	Value	Condition
Absolute pulling range (APR) (df/f0)	±5 ppm	ext. tuning voltage @ 0.3 to 3 V
Linearity	< 10 %	
slope (pos./neg.)	positiv	
Frequency control input impedance	> 50 kOhm	

RF output

Parameter	Value	Condition
Signal	LVC MOS	
Load	15 pF ±10 %	
Fan out	3	
Rise Time	< 3 ns	@ 10 to 90 %Vout
Fall Time	< 3 ns	@ 90 to 10 %Vout
Duty cycle	40 / 60 %	@ 1.65 V
V Low	x < 0.33 V	
V High	x > 2.97 V	
Sub Harmonics	<- 70 dBc	
Rise/fall time typical: 1ns		

Supply voltage

Parameter	Value	Condition
Supply voltage (Vs)	3.3 V ± 5 %	
Current consumption steady state	< 20 mA	@ Vsnom & 25 °C
Current consumption typ. 14.2mA @25°C		

Additional Parameters

Additional Parameters			
Parameter	Value	Condition	
Phase Noise	< -70 dBc/Hz	10 Hz	max values
	< -105 dBc/Hz	100 Hz	
	< -125 dBc/Hz	1000 Hz	
	< -143 dBc/Hz	10 kHz	
	< -152 dBc/Hz	100 kHz	
	< -155 dBc/Hz	1000 kHz	
Additional information			
Typ. phase noise: -85dBc@10Hz, -115dBc@100Hz, -133dBc@1kHz, -147dBc@10kHz, -155dBc@100kHz and -158dBc@1MHz			
Operating temperature range			
Processing & Packing		handling&processing note	

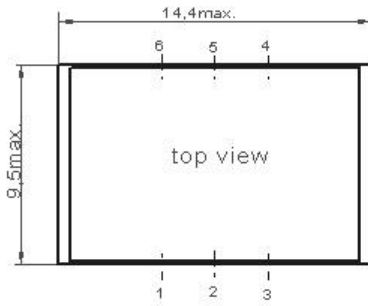
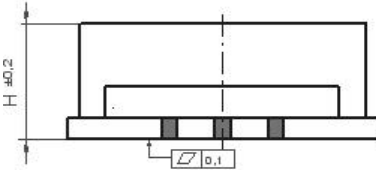
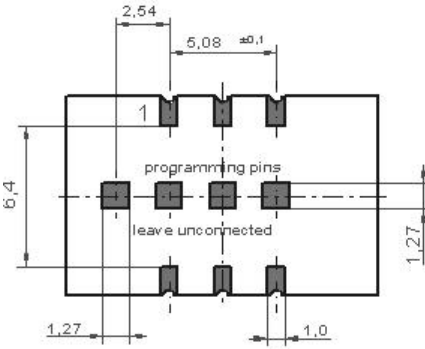
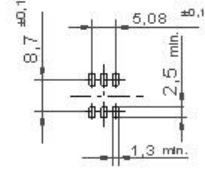
Additional environmental conditions

Sealing test A nicht dicht (not hermetically sealed)
Solderability DIN IEC 68 T2-20 (Ta) 100% RoHS compliant
Solvent resistance EN 60068-2-45, Test xA non-washable device

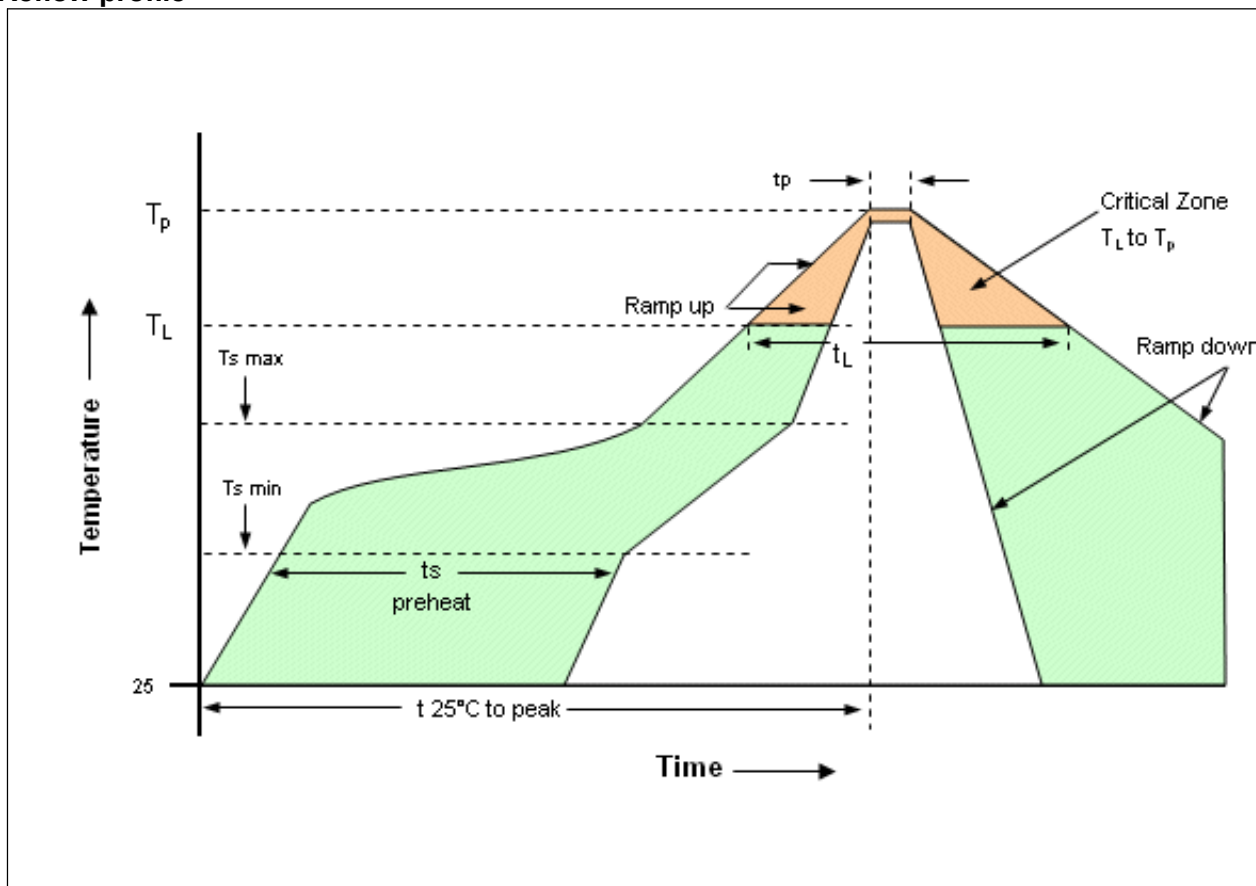
Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Operable temperature range	-45		90	°C	
Storage temperature range	-55		105	°C	

Enclosure

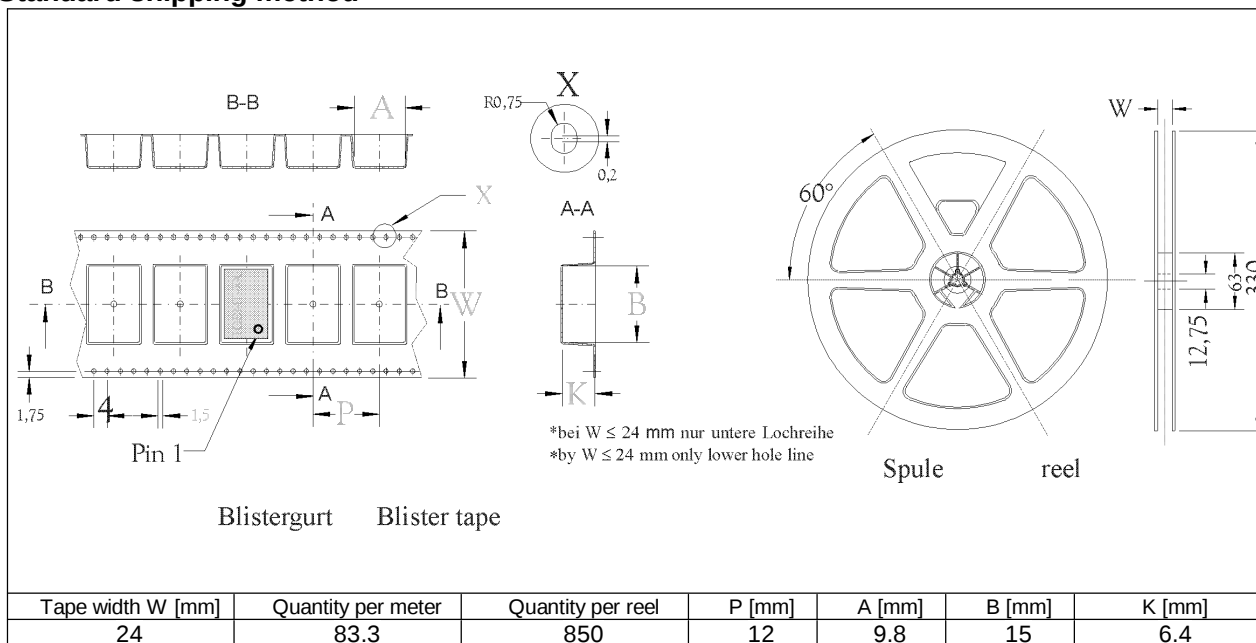
Type G214B	Height 5.9 mm
 top view G 214   programming pins leave unconnected  Padvorschlag land pattern recommendation all units in mm	
Pin Connections Pin 1: Vc (control voltage) Pin 2: N.C. Pin 3: GND(Case) Pin 4: RF-Output Pin 5: N.C. Pin 6: Vs (supply voltage)	
Marking C2310A1-0307 90M000 * VI AYYWW * pin-1 marking	

Reflow profile



Profile Feature	Pb-Free Assembly/Sn-Pb Assembly
Average ramp-up rate (TL to Tp)	3°C/second max.
Preheat -Temperature Min (Tsmin)	150°C
-Temperature Min (Tsmax)	200°C
-Time (min to max) (ts)	60-180 seconds
Tsmax to TL - Ramp-up Rate	3°C/second max.
Time maintained above - Temperature (TL)	217°C
- Time (tL)	60-150 seconds
Peak Temperature (Tp)	max 260°C
Time within 5°C of actual Peak Temperature (tp)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.
Note: All temperatures refer to topside of the package, measured on the package body surface.	
Additional Information	
This SMD oscillator has been designed for pick and place reflow soldering. SMD oscillators must be on the top side of the PCB during the reflow process.	

Standard shipping method



Notes:

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).
Subject to technical modification.