

Nominal frequency (f0)**16.384 MHz****Frequency stabilities**

Parameter	Frequency stability	Operating temp. range
Over all (df/f0)	-4.6 to 4.6 ppm	0 ... 50 °C
vs. operating temp. range (df/f@25 °C)	-0.28 to 0.28 ppm	
Parameter	Value	Condition
initial tolerance (df/f0)	-1 to 1 ppm	@Vc = 2.5 V; 25 °C
vs. supply voltage change (df/f)	-0.1 to 0.1 ppm	static; 5 V ±5 %
vs. load change (df/f)	-0.1 to 0.1 ppm	static; Load ± 10 %
aging first year	<± 0.8 ppm	@ 40 °C
vs. aging / 20 years (df/f)	±± 2.5 ppm	
Holdover 24 h	± 0.37 ppb	
over all: <+/-4.6ppm for all causes @20years aging		temp. stability, aging, supply volt. change

Frequency tuning

Parameter	Value	Condition
Electrical frequency control (EFC) (df/f0)	-20 to -9.2 ppm 9.2 to 20 ppm	ext. tuning voltage @ 0.5 V ext. tuning voltage @ 4.5 V
Frequency control input impedance	> 100 kOhm	

RF output

Parameter	Value	Condition
Signal	LVC MOS	@ 10 to 90 %Vout @ 90 to 10 %Vout @ 2.5 V
Load	15 pF ±10 %	
Fan out	3	
Rise Time	< 9 ns	
Fall Time	< 9 ns	
Duty cycle	45 / 55 %	
V Low	x < 0.5 V	
V High	x > 4.5 V	
Sub Harmonics	<- 80 dBc	
Spurious	<- 80 dBc	

Supply voltage

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

Additional Parameters

Additional Parameters			
Parameter	Value	Condition	
Phase Noise	< -94 dBc/Hz	10 Hz	typ values
	< -120 dBc/Hz	100 Hz	
	< -146 dBc/Hz	1000 Hz	
	< -153 dBc/Hz	10 kHz	
	< -154 dBc/Hz	100 kHz	
Short term stability	<± 1000.0 E-12	1 sec	
Start-up time	< 10 ms		
Processing & Packing	handling&processing note		

Additional environmental conditions

Tensile strength of leads DIN IEC 68 T2-21 (Ua 1)
Flexibility of leads DIN IEC 68 T2-21 (Ub)
Sealing test A nicht dicht (not hermetically sealed)

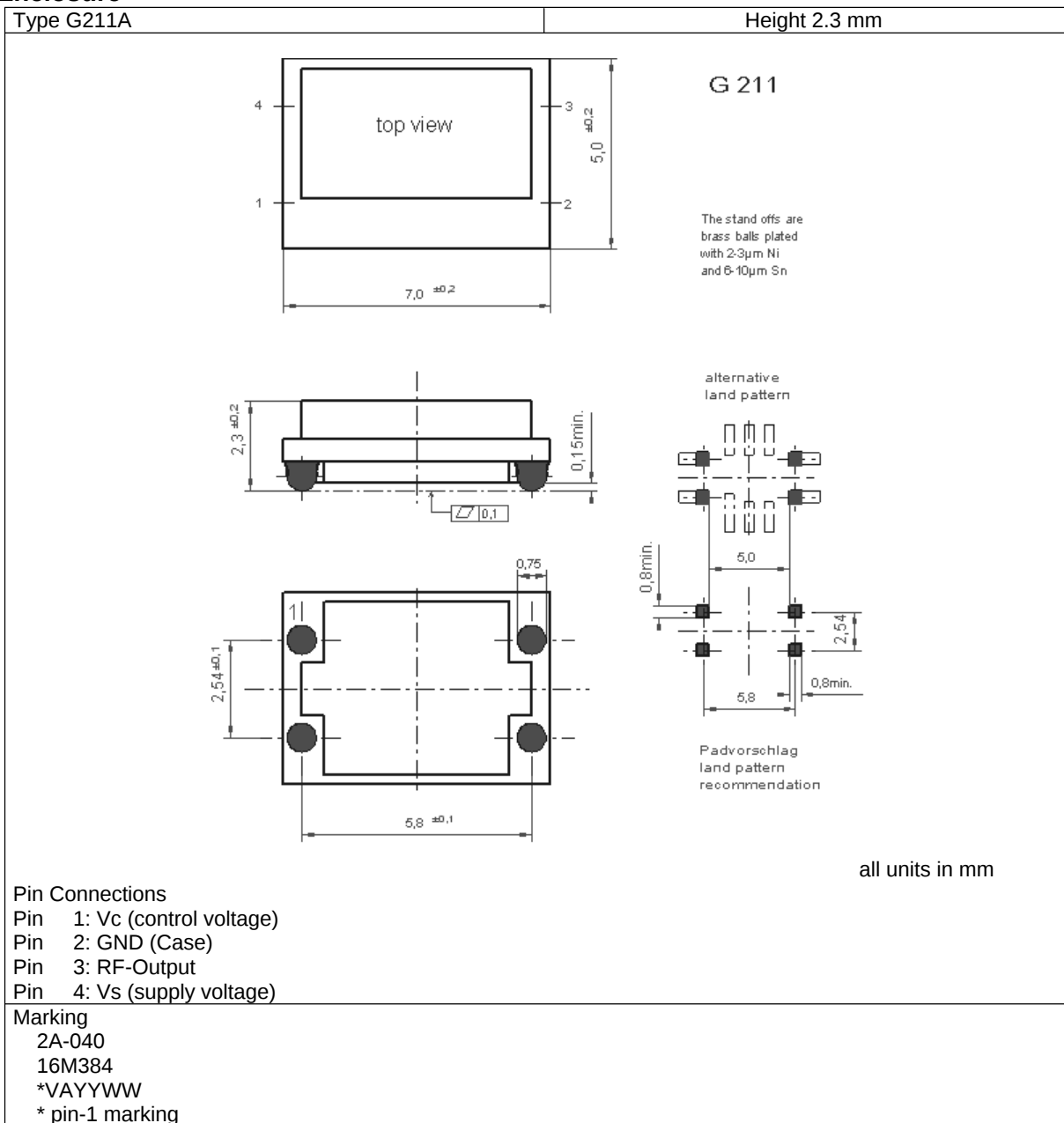
Additional environmental conditions

Solderability DIN IEC 68 T2-20 (Ta) 100% RoHS compliant
Solvent resistance EN 60068-2-45, Test xA washable device

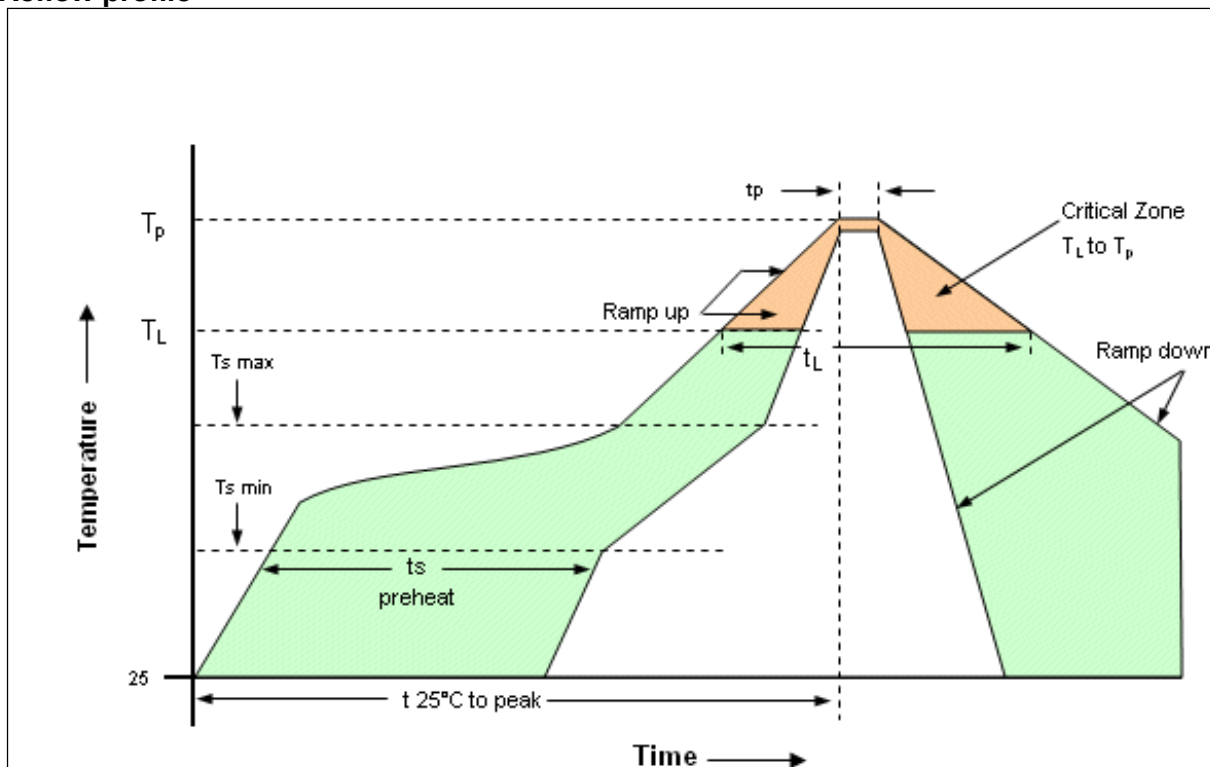
Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Operable temperature range	-30		85	°C	
Storage temperature range	-55		105	°C	

Enclosure

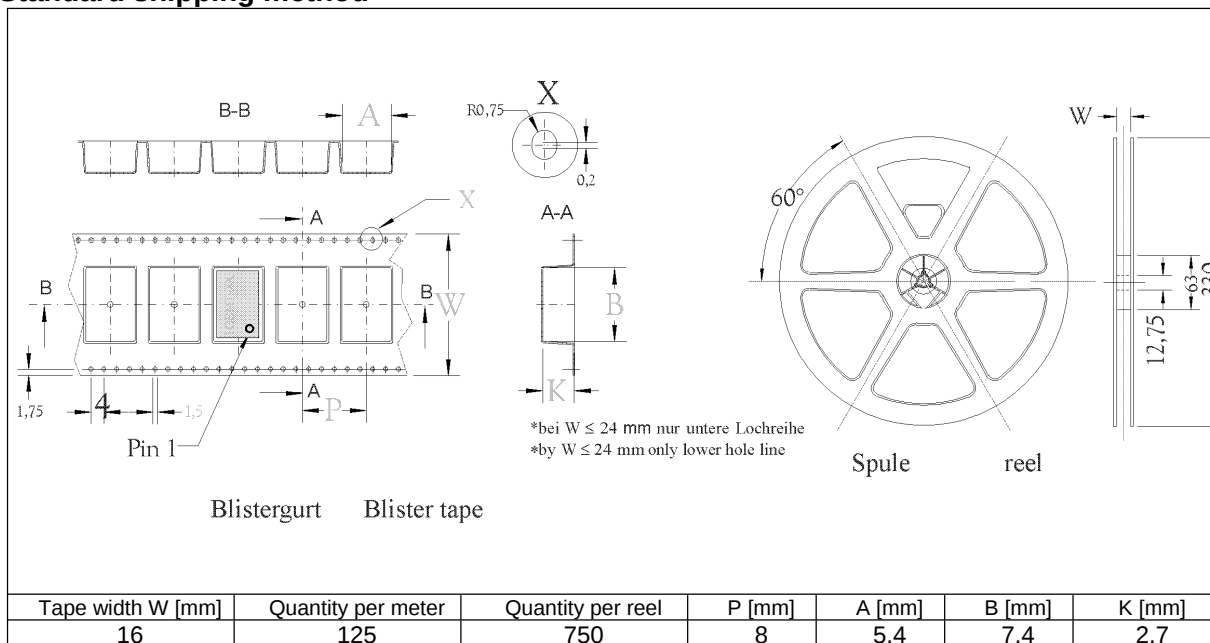


Reflow profile



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

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.

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