Nominal frequency (f0) **16.384 MHz**

Frequency stabilities

Parameter	Frequency stability	Operating temp. range
Over all (df/f0)	-4.6 to 4.6 ppm	
vs. operating temp. range (df/f@25 °C)	-0.28 to 0.28 ppm	0 ... 50 °C
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	
vs. aging / 20 years (df/f)	<± 2.5 ppm	@ 40 °C
Holdover 24 h	± 0.37 ppb	temp. stability, aging, supply
over all: <+/-4,6ppm for all causes @20years aging		volt. change

Frequency tuning

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

RF output

Parameter	Value	Condition
Signal	LVCMOS	
Load	15 pF ±10 %	
Fan out	3	
Rise Time	< 9 ns	@ 10 to 90 %Vout
Fall Time	< 9 ns	@ 90 to 10 %Vout
Duty cycle	45 / 55 %	@ 2.5 V
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 %	
Current consumption steady state	< 25 mA	@ Vsnom & 25 °C

Additional Parameters

Parameter	Value	Condition	
Phase Noise	< -94 dBc/Hz	10 Hz	typ
	< -120 dBc/Hz	100 Hz	values
	< -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)

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Germany
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www.vectron.com

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	

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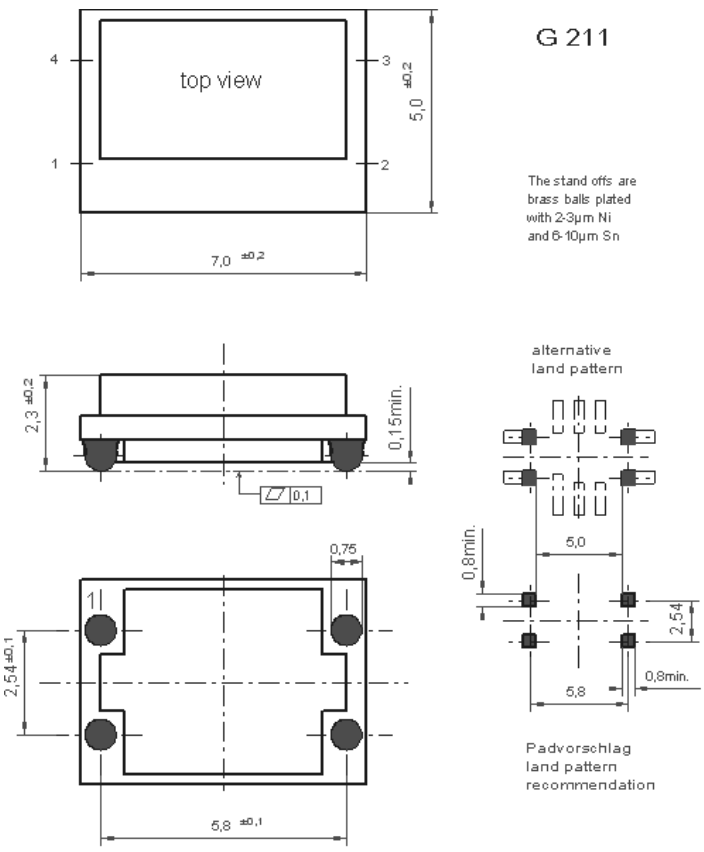
Enclosure

Type G211A	Height 2.3 mm



all units in mm

Pin Connections
Pin 1: Vc (control voltage)
Pin 2: GND (Case)
Pin 3: RF-Output
Pin 4: Vs (supply voltage)

Marking
2A-040
16M384
*VAYYWW
* pin-1 marking

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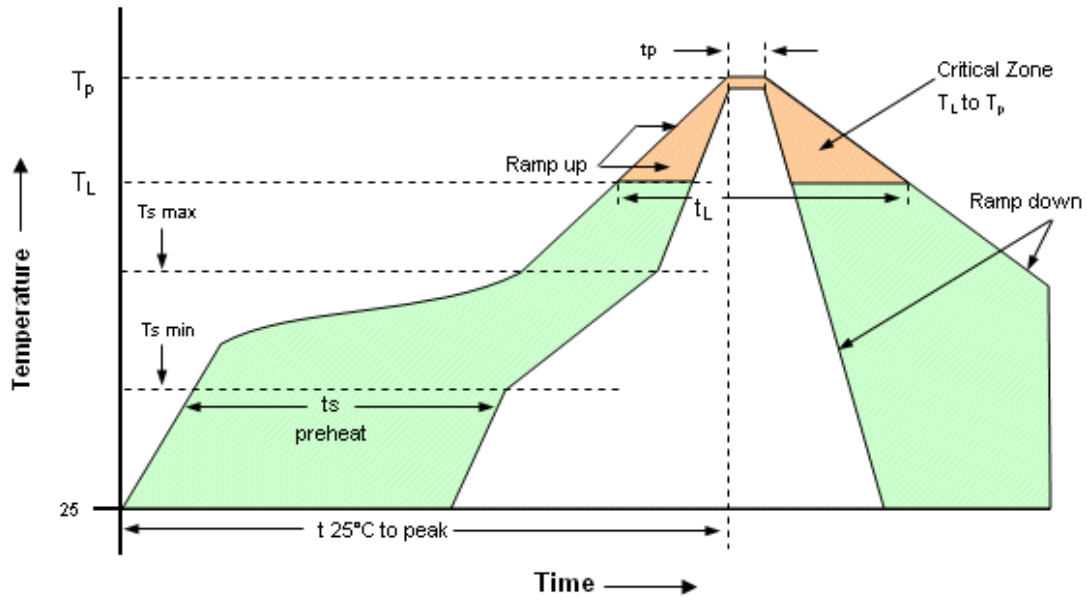
Reflow profile



Profile Feature	Pb-Free Assembly/Sn-Pb Assembly
Average ramp-up rate (TL to Tp)	3°C/second max.
Preheat -Temperature Min (Tsmin) -Temperature Min (Tsmax) -Time (min to max) (ts)	150°c 200°c 60-180 seconds
Tsmax to TL - Ramp-up Rate	3°C/second max.
Time maintainted above - Temperature (TL) - Time (tL)	217°C 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.	

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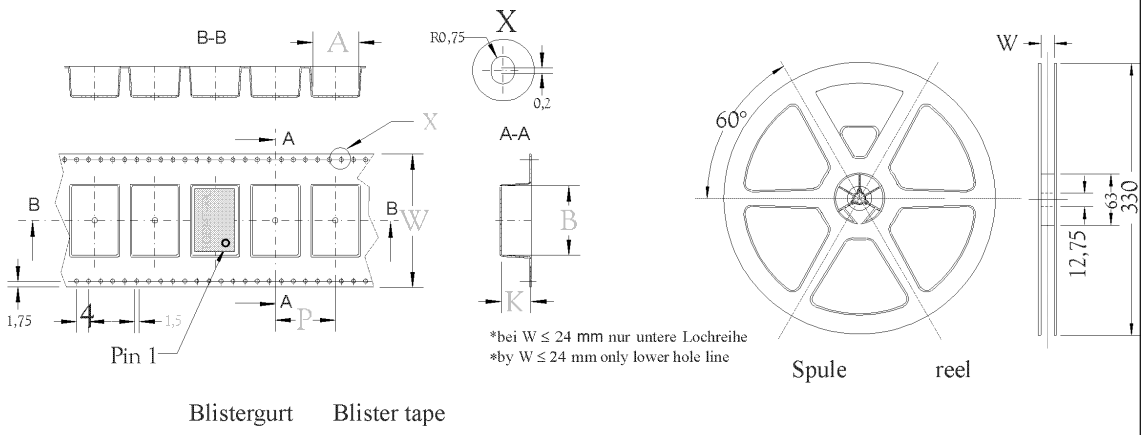
Standard shipping method



Tape width W [mm]	Quantity per meter	Quantity per reel	P [mm]	A [mm]	B [mm]	K [mm]
16	125	750	8	5.4	7.4	2.7

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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