

**Nominal frequency (f0)**

**20 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	-40 ... 85 °C
Parameter	Value	Condition
initial tolerance (df/f0)	-1 to 1 ppm	@ 25 °C
vs. supply voltage change (df/f)	-0.2 to 0.2 ppm	static; 3.3 V ±5 %
vs. load change (df/f)	-0.2 to 0.2 ppm	static; Load ± 10 %
aging first year	±0.8 ppm	
vs. aging / 15 years (df/f)	±2.5 ppm	@ 40 °C
Holdover 24 h	± 0.32 ppm	incl. temp. stab. and supply voltage
total freq. stab.: <±4,6ppm for all causes @ 20 years aging meet GR1244		

**RF output**

Parameter	Value	Condition
Signal	LVC MOS	
Load	15 pF ±10 %	
Fan out	3	
Rise Time	< 5 ns	@ 10 to 90 %Vout
Fall Time	< 5 ns	@ 90 to 10 %Vout
Duty cycle	45 / 55 %	@ 1.65 V
V Low	x < 0.33 V	
V High	x > 2.97 V	
Sub Harmonics	<- 80 dBc	
Spurious	<- 80 dBc	
Enable function	Enable Function	output
	Pin 1	Pin 3
	high	data
	open	data
	low	high tristate

**Supply voltage**

Parameter	Value	Condition
Supply voltage (Vs)	3.3 V ± 5 %	
Current consumption steady state	< 15 mA	@ Vsnom & 25 °C

**Additional Parameters**

Parameter	Typ.	Max.	Condition
Phase Noise		-85 -110 -125 -135 -145	dBc/Hz@10Hz dBc/Hz@100Hz dBc/Hz@1000Hz dBc/Hz@10kHz dBc/Hz@100kHz
ADEV		1000.0 E-12 s	1 sec
Parameter	Value		Condition
Start-up time	< 10 ms		
Additional information 24 hour drift: ±0.04ppm			
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)
Solderability DIN IEC 68 T2-20 (Ta) 100% RoHS compliant
Solvent resistance EN 60068-2-45, Test xA

**Additional environmental conditions**

Solvent resistance  
washable device

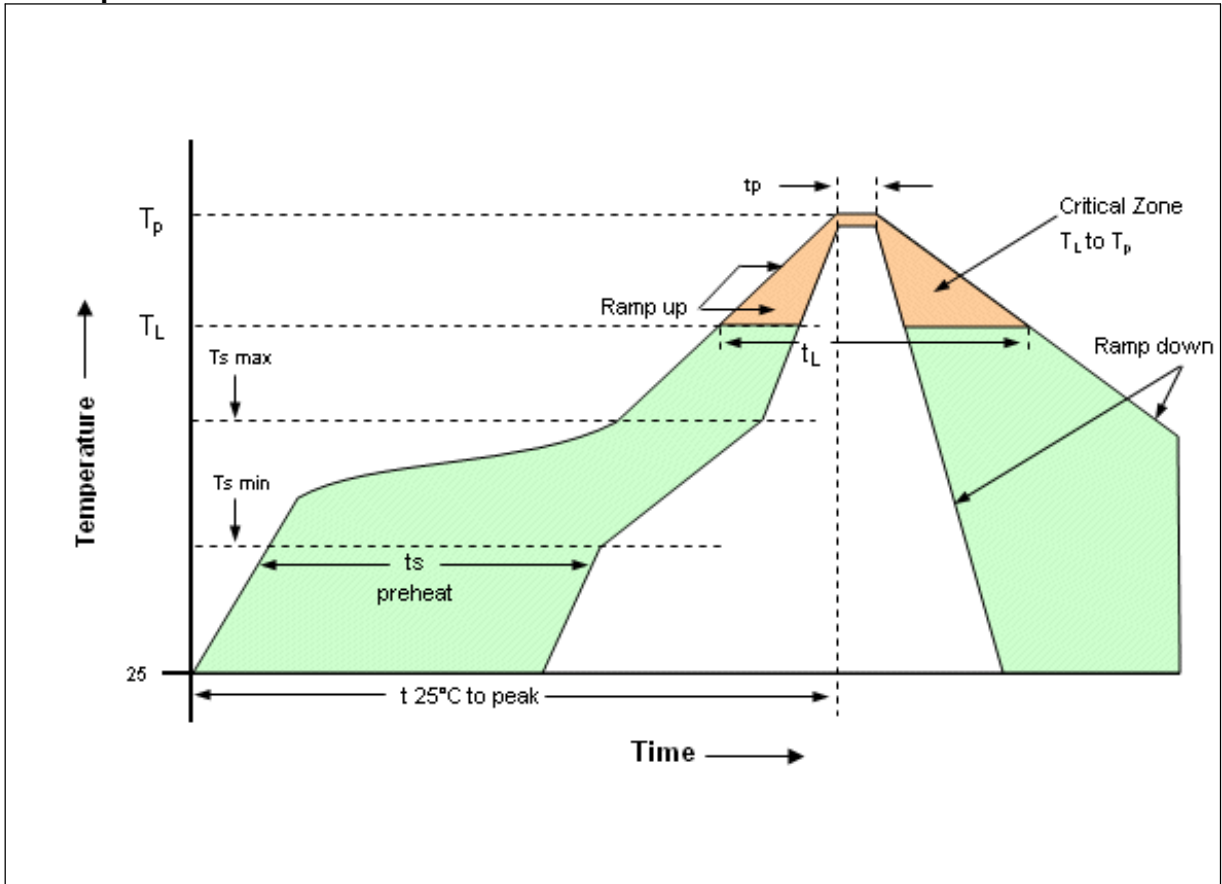
**Absolute Maximum Ratings**

Parameter	Min	Typ	Max	Units	Condition
Operable temperature range	-40		85	°C	
Storage temperature range	-55		105	°C	

**Enclosure**

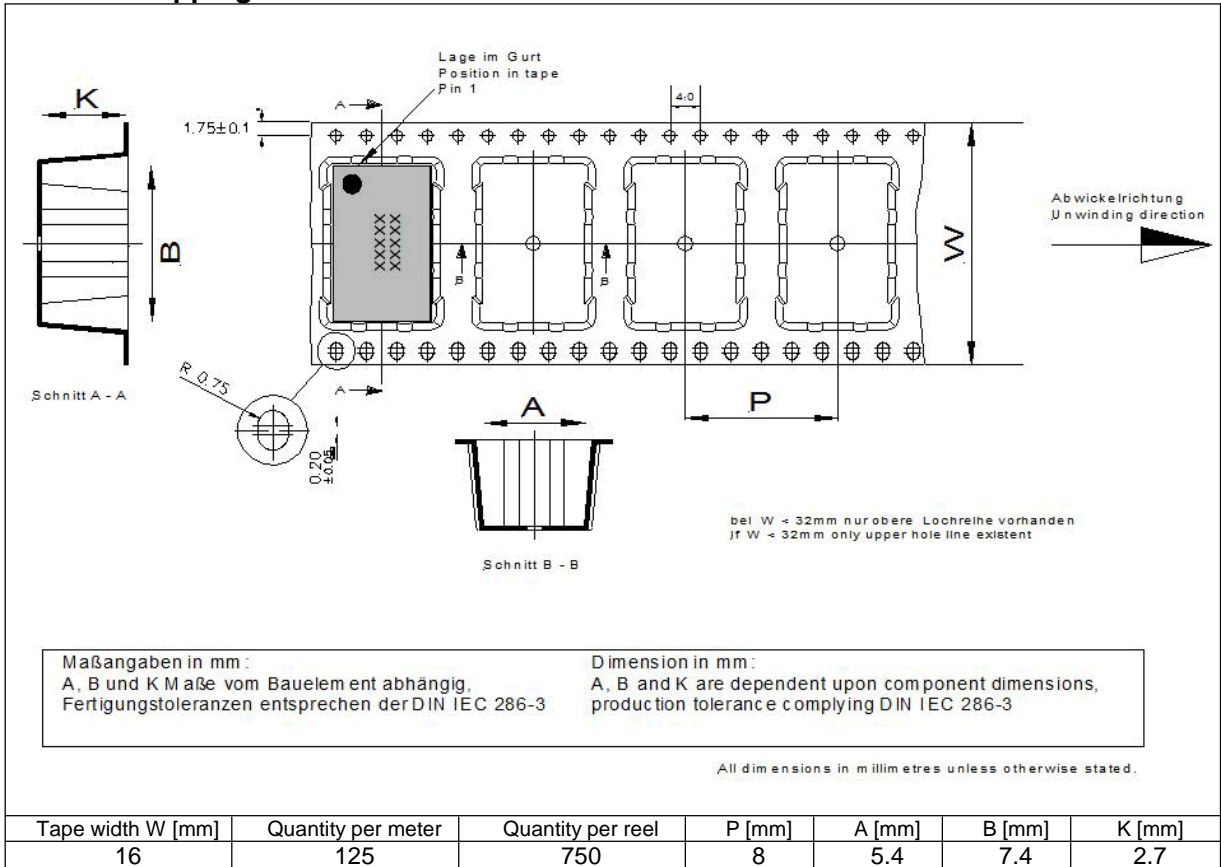
Type G211A	Height 2.3 mm
<p style="text-align: right;"><b>G 211</b></p> <p>The stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p> <p style="text-align: right;">alternative land pattern</p> <p style="text-align: right;">Padvorschlag land pattern recommendation</p> <p style="text-align: right;">all units in mm</p>	
<p><b>Pin Connections</b></p> <p>Pin 1: Enable Pin 2: GND (Case) Pin 3: RF-Output Pin 4: Vs (supply voltage)</p>	
<p><b>Marking</b></p> <p>2A-103 20M000 *VAYYWW - - * pin-1 marking</p>	

**Reflow profile**



Profile Feature	Pb-Free Assembly/Sn-Pb Assembly
Average ramp-up rate (TL to Tp)	3°C/second max.
Preheat -Temperature Min (T <sub>smin</sub> )	150°C
-Temperature Min (T <sub>smax</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>smax</sub> to TL - Ramp-up Rate	3°C/second max.
Time maintained above - Temperature (TL)	217°C
- Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>p</sub> )	max 260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	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.

**For Additional Information, Please Contact**

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