

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	-20 ... 70 °C
Additional information operating temperature range: -20 to +70°C @±0.2 8ppm		
Parameter	Value	Condition
initial tolerance (df/f0)	-1 to 1 ppm	@25 °C
vs. supply voltage change (df/f)	-0.3 to 0.3 ppm	static; 3.3 V ±5 %
vs. load change (df/f)	-0.1 to 0.1 ppm	static; Load ± 10 %
vs. aging / 20 years (df/f)	<± 3 ppm	@ 40 °C
Holdover 24 h	± 0.37 ppm	Full temp. range @ Vs+/-0.5%
Stratum 3 per GR-1244-CORE: <+/-4.6ppm for all causes @ 20 years aging		

RF output

Parameter	Value	Condition
Signal	LVC MOS	
Load	15 pF ±10 %	
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	
Enable function	Enable Function Pin 1	output Pin 3
	high	data
	open	data
	low	no data

Supply voltage

Parameter	Value	Condition
Supply voltage (Vs)	3.3 V ± 5 %	
Current consumption steady state	< 10 mA	@ Vsnom & 25 °C

Additional Parameters

Parameter	Typ.	Max.	Condition
Phase Noise	-88		dBc/Hz@10Hz dBc/Hz@100Hz dBc/Hz@1000Hz dBc/Hz@10kHz
	-115		
	-140		
	-155		
Parameter	Value		Condition
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 washable device

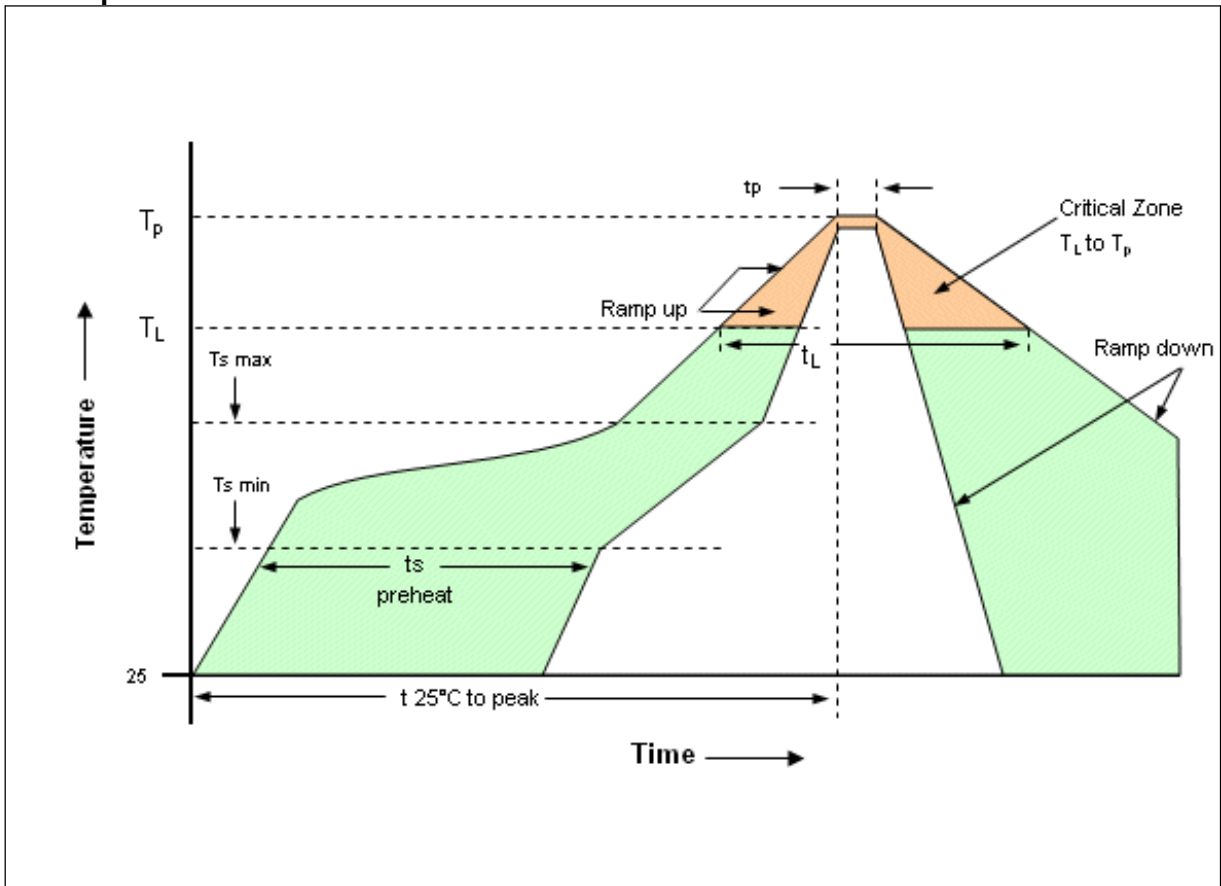
Absolute Maximum Ratings

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

Enclosure

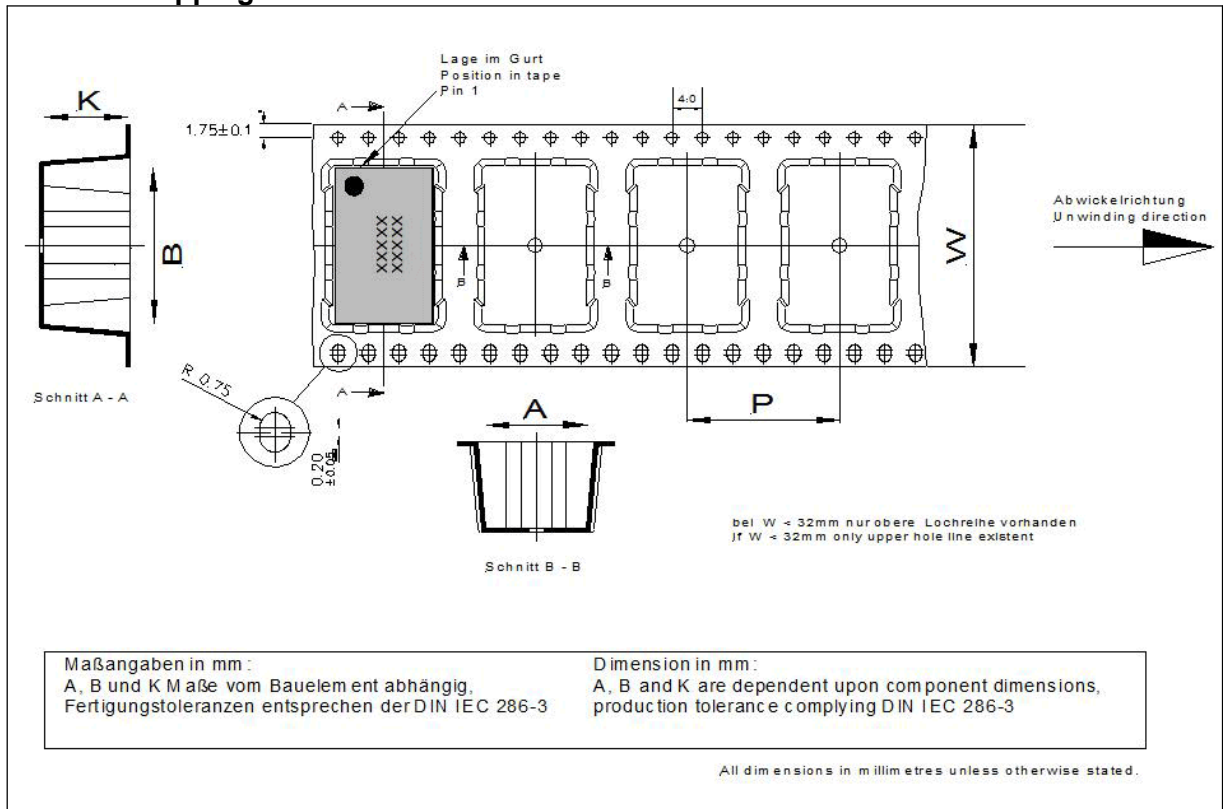
Type G211A	Height 2.3 mm
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">top view</p> </div> <div style="width: 50%;"> <p style="text-align: center;">G 211</p> <p>The stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="width: 45%;"> </div> <div style="width: 45%;"> <p style="text-align: center;">alternative land pattern</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="width: 45%;"> </div> <div style="width: 45%;"> <p style="text-align: center;">Padvorschlag land pattern recommendation</p> </div> </div> <p style="text-align: right; margin-top: 20px;">all units in mm</p>	
<p>Pin Connections</p> <p>Pin 1: Enable</p> <p>Pin 2: GND (Case)</p> <p>Pin 3: RF-Output</p> <p>Pin 4: Vs (supply voltage)</p>	
<p>Marking</p> <p>2A-021</p> <p>20M000</p> <p>*VAYYWW</p> <p>-</p> <p>-</p> <p>* 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 _{smin})	150°C
-Temperature Min (T _{smax})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{smax} to TL - Ramp-up Rate	3°C/second max.
Time maintained above - Temperature (TL)	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



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.

For Additional Information, Please Contact

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