

Nominal frequency (f0)

12.8 MHz

Frequency stabilities

Parameter	Frequency stability	Operating temp. range
Over all (df/f0)	-20 to 20 ppm	
vs. operating temp. range (df/f@25 °C)	-4.2 to 4.2 ppm	-40 ... 85 °C
Parameter	Value	Condition
initial tolerance (df/f0)	-2 to 2 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 %
vs. aging / 20 years (df/f)	<± 10 ppm	@ 40 °C
Holdover 24 h	± 4.6 ppm	temp. -40..85°C, supply volt.
overall stab.: initial, temp., supply var. load var. reflow sold. and aging 20 years		var. ageing 24 h

RF output

Parameter	Value	Condition
Signal	LVC MOS	
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 %	@ 1.65 V
V Low	x < 0.33 V	
V High	x > 2.97 V	
Sub Harmonics	<- 80 dBc	
Spurious	<- 80 dBc	

Supply voltage

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

Additional Parameters

Parameter	Value	Condition	
Phase Noise	< -85 dBc/Hz	10 Hz	max values
	< -115 dBc/Hz	100 Hz	
	< -127 dBc/Hz	1000 Hz	
	< -140 dBc/Hz	10 kHz	
	< -145 dBc/Hz	100 kHz	
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)
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	

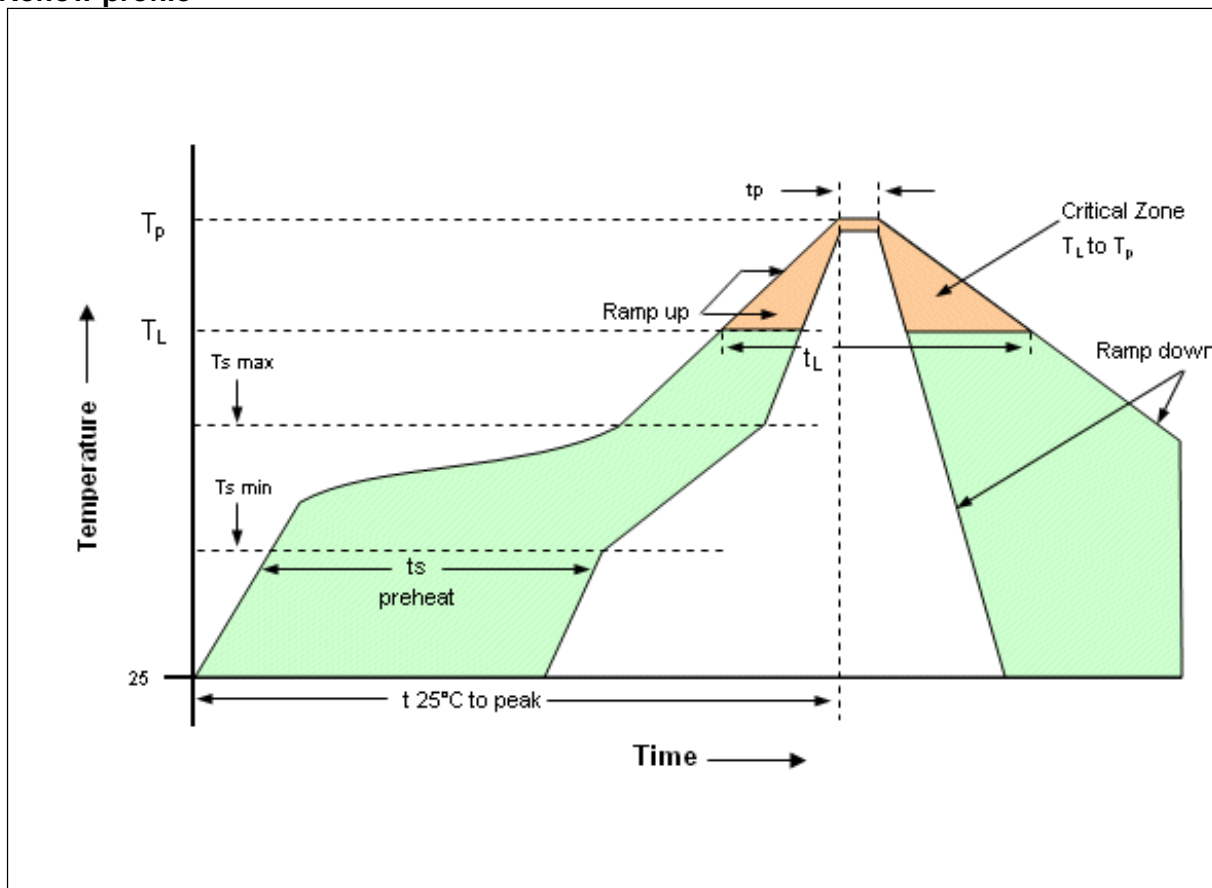
Absolute Maximum Ratings

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

Enclosure

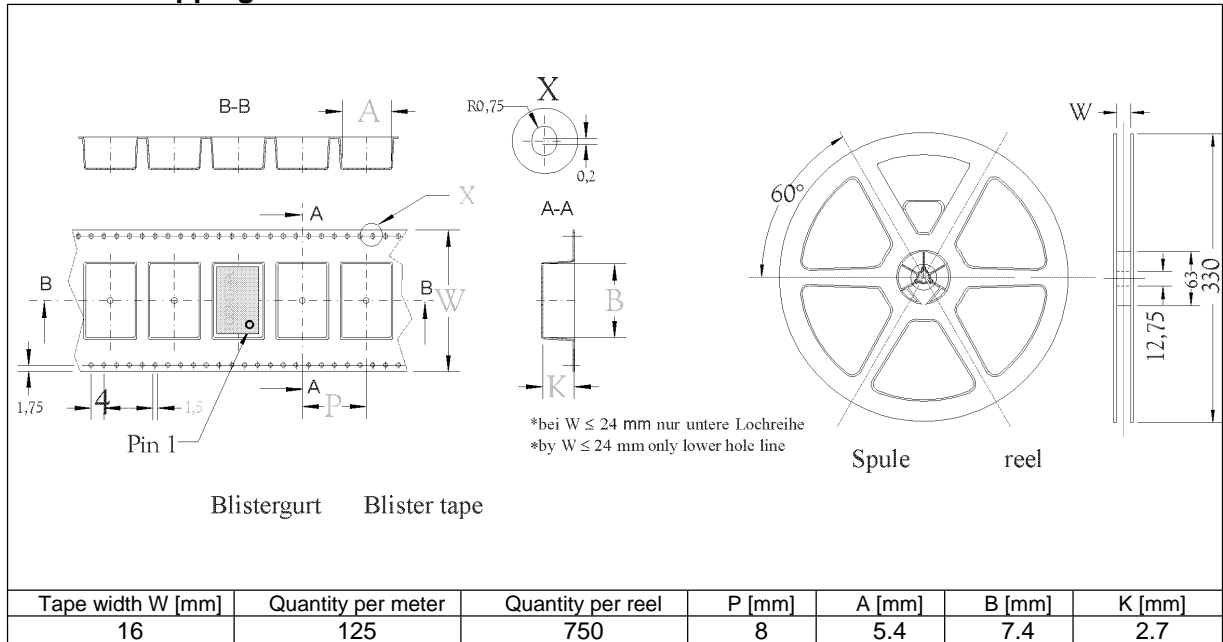
Type G211A	Height 2.3 mm
<p style="text-align: right;">G 211</p> <p>The stand offs are brass balls plated with 2-3µm Ni and 6-10µm Sn</p>	
<p style="text-align: right;">all units in mm</p>	
<p>Pin Connections</p> <p>Pin 1: N.C. Pin 2: GND(Case) Pin 3: RF-Output Pin 4: Vs (supply voltage)</p>	
<p>Marking</p> <p>2A-029 12M800 *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 _{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



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.