

**Nominal frequency (f0)**

**20 MHz**

### Frequency stabilities

Parameter	Frequency stability	Operating temp. range
Over all (df/f0) vs. operating temp. range (df/f@25 °C)	-4.6 to 4.6 ppm -0.28 to 0.28 ppm	-20 ... 70 °C
Additional information Hold over incl.: df vs temp. -20..+70°C, dVs ±5%, aging 24h: <=±0.32ppm		
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 %
vs. aging / 15 years (df/f)	<± 2.5 ppm	@ 40 °C
Holdover 24 h	± 0.32 ppm	
Overall incl: initial, temp. -20..+70°C, supply±5%, load var.±5%, aging 20 years		

### 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	
Enable function	Enable Function	output
	Pin 8	Pin 5
	high	data
	open	data
	low	no data
I.C.: Internal Connected / N.C.: Not Connected		

### Supply voltage

Parameter	Value	Condition
Supply voltage (Vs)	3.3 V ± 5 %	
Current consumption steady state	< 6 mA	@ Vsnom & 25 °C

### Additional Parameters

Parameter	Typ.	Max.	Condition
Phase Noise		-85	dBc/Hz@10Hz
		-110	dBc/Hz@100Hz
		-125	dBc/Hz@1000Hz
		-135	dBc/Hz@10kHz
Parameter	Value		Condition
Additional information This SMD oscillator is designed only for pick and place/reflow soldering process. Manual soldering may damage the part and therefore not recommended for the mounting of this oscillator.			
Processing & Packing	handling&processing note		

### Additional environmental conditions

Vibration IEC 60068-2-6, Test Fc
Shock IEC 60068-2-27, Test Ea
Sealing test A nicht dicht (not hermetically sealed)
Solderability DIN IEC 68 T2-20 (Ta)

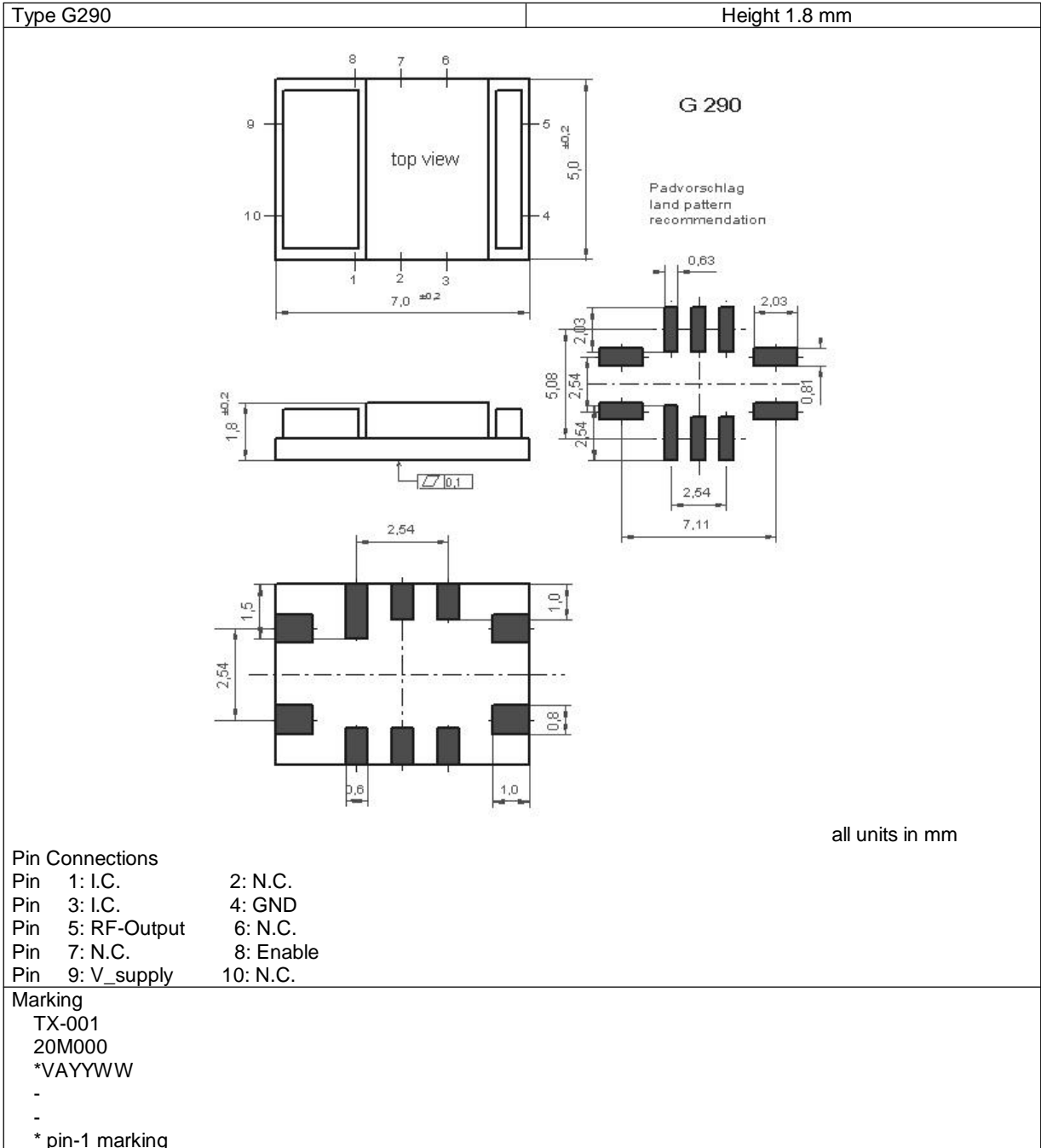
### Additional environmental conditions

Solderability 100% RoHS 6 compliant
Solvent resistance EN 60068-2-45, Test xA non-washable device

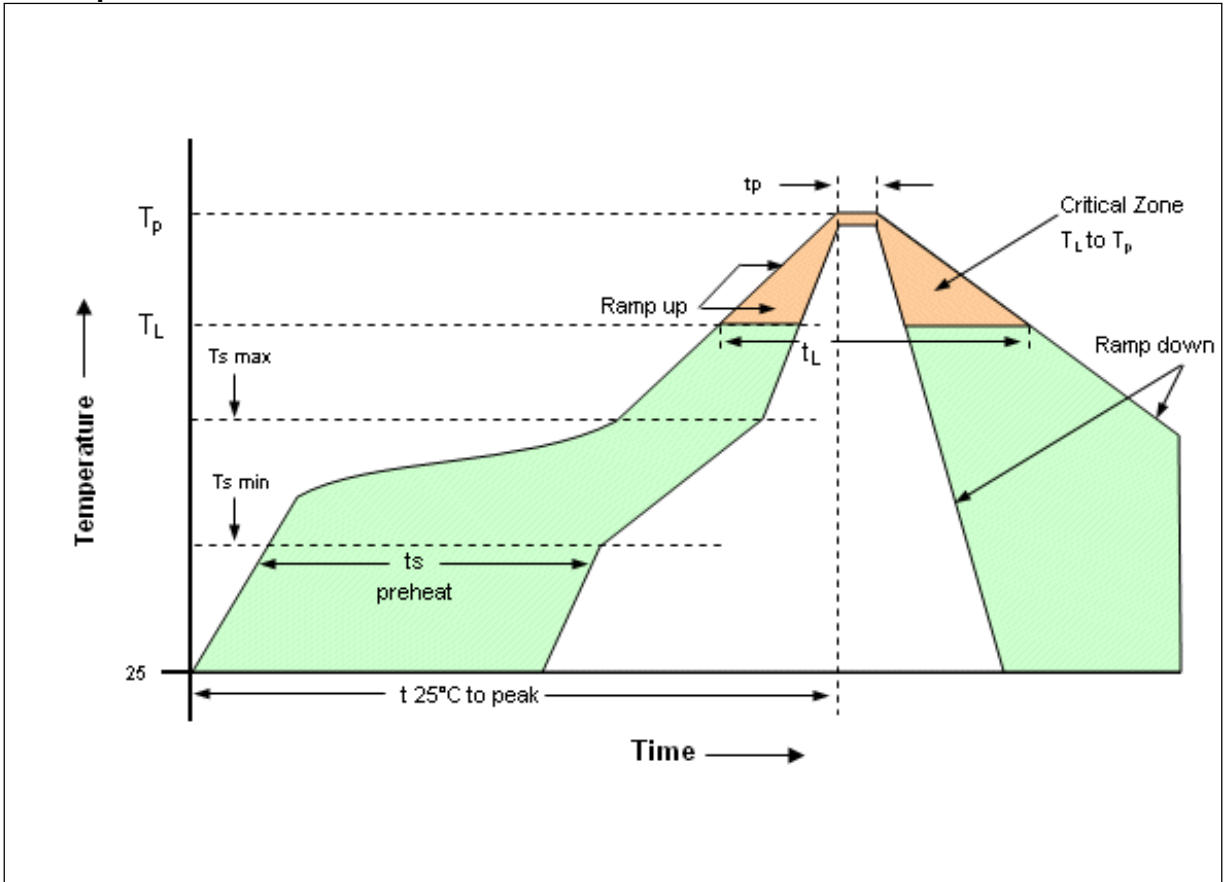
### Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Operable temperature range	-40		85	°C	
Storage temperature range	-55		125	°C	

**Enclosure**

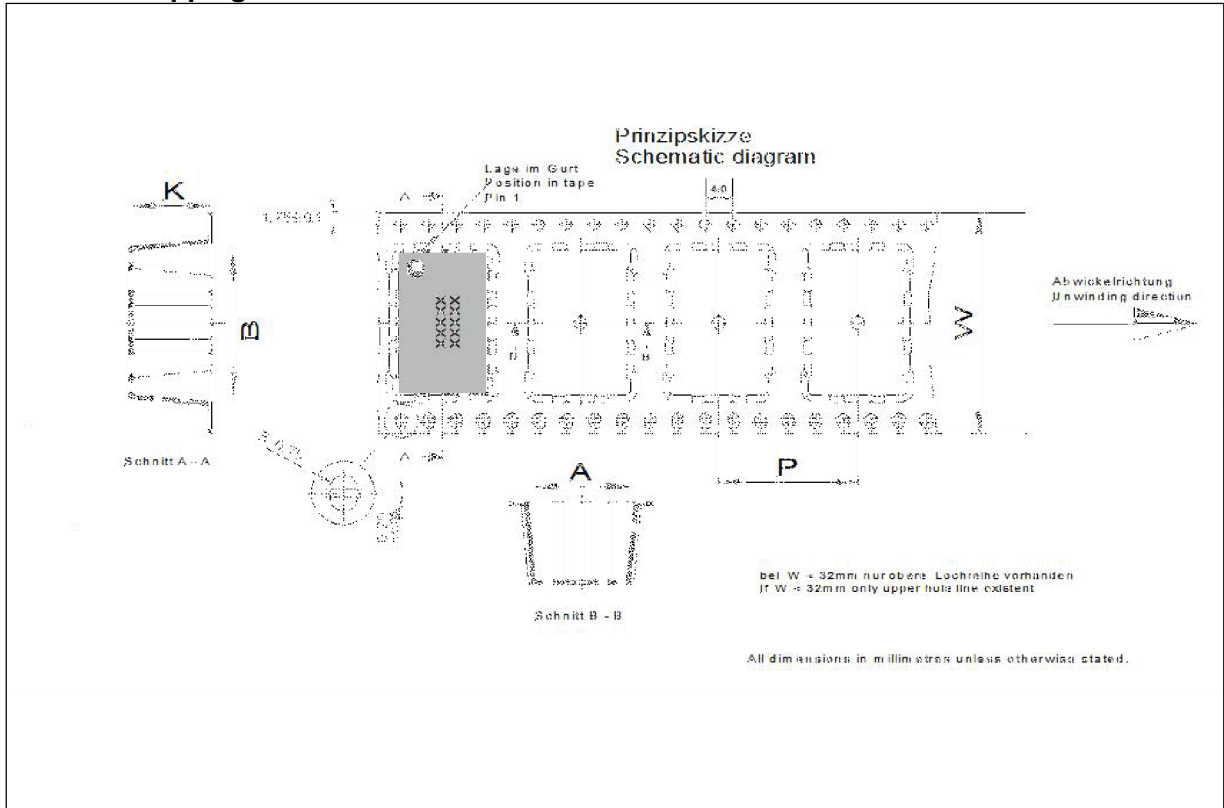


**Reflow profile**



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 maintainted 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**



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**

<p><b>USA:</b> Vectron International 267 Lowell Road Hudson, NH 03051 Tel: 1.888.328.7661 Fax: 1.888.329.8328</p>	<p><b>Europe:</b> Vectron International Landstrasse, D-74924 Neckarbischofsheim, Germany Tel: +49 (0) 7268.801.100 Fax: +49 (0) 7268.801.282</p>	<p><b>Asia:</b> Vectron International 1589 Century Avenue, the 19th Floor Chamtime International Financial Center Shanghai, China Tel: 86.21.6081.2888 Fax: 86.21.6163.3598</p>
---	--	---

**Disclaimer**

Vectron International reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.