Nominal frequency (f0) 20 MHz

Frequency stabilities

Parameter	Frequency stability	Operating temp. range
Over all (df/f0) vs. operating temp. range (df/f@25 ℃)	-4.6 to 4.6 ppm -10 to 10 ppb	 -40 ... 85 ℃
Additional information Drift 24 Hr and ±2.8℃ temp. change < ±1ppb over all include: Temp. Stab, supply, load stab, inital, 20 years aging S3E compliant according GR1244		
Parameter	Value	Condition
initial tolerance (df/f0) vs. supply voltage change (df/f) vs. load change (df/f) vs. aging / daily (df/f) vs. aging / month (df/f) vs. aging / year (df/f) vs. aging / 10 years (df/f) Holdover 24 h	-500 to 500 ppb -10 to 10 ppb -10 to 10 ppb <± 1 ppb <± 25 ppb <± 100 ppb <± 1 ppm ± 10 ppb	@25 ℃ static; 3.3 V ±5 % static; Load ± 5 % after 30 days ; @ 25 °C after 30 days ; @ 25 °C after 30 days ; @ 25 °C after 30 days ; @ 25 °C incl. Drift and -40...85℃ temperature stability

RF output

Parameter	Value	Condition
Signal	LVCMOS	
Load	15 pF ±10 %	
Fan out	3	
Rise Time	< 10 ns	@ 10 to 90 %Vout
Fall Time	< 10 ns	@ 90 to 10 %Vout
Duty cycle	45 / 55 %	@ 1.65 V
V Low	x < 0.4 V	
V High	x > 2.4 V	

Supply voltage

Parameter	Value	Condition
Supply voltage (Vs)	3.3 V ± 5 %	
Current consumption steady state	< 330 mA	@ Vsnom & 25 ℃
Current consumption during warm up	< 757 mA	@ Vs

Additional Parameters

Parameter	Typ.	Max.	Condition
Phase Noise	-85 -110 -130 -143 -150	-60 -90 -115 -130 -145	dBc/Hz@1Hz dBc/Hz@10Hz dBc/Hz@100Hz dBc/Hz@1kHz dBc/Hz@10kHz
MTIE	0.5 ns 3.0 ns 5.0 ns 20.0 ns 30.0 ns		1 sec 10 sec 100 sec 1000 sec 10000 sec
Parameter	Value		Condition
Jitter	< 1.000 psec (RMS)		@ 12 kHz to 20 MHz
TDEV	0.015 ns		1 s
TDEV	0.12 ns		10 s
TDEV	0.5 ns		100 s
TDEV	2 ns		1000 s
Warm-up time	< 3 min		@ 25 ℃ to final frequency
Additional information TDEV:Typical Wander Generation performance when locked through a 1mHz system loop bandwidth Holdover 10ppb peak-peak: incl. of 24 h aging and a 40℃ temperature change			
Processing & Packing	handling&processing note		

Additional environmental conditions

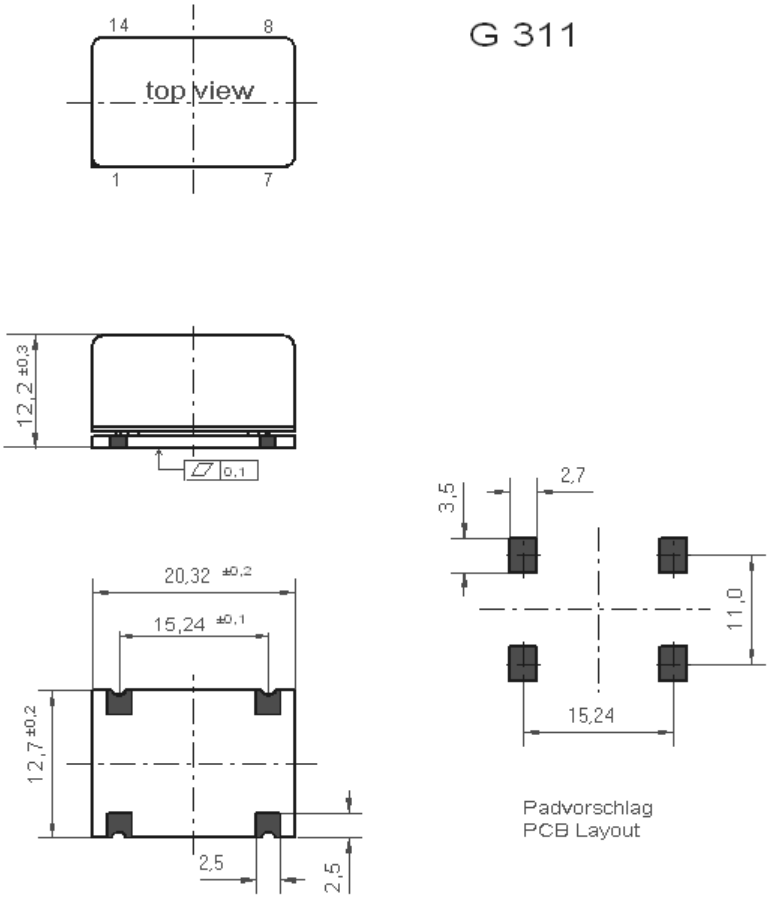
Rapid temperature changes MIL-883-1010 Cond B 1000 cycles -55/125℃
Vibration MIL-STD-883 Meth 2007 Cond A 20G 20-2000Hz 4x in each 3axis 4 min Fine/Gross Leakage MIL-883-1014 A1/C4
Shock MIL-STD-202 Meth 213 Cond.C 100G 6ms 6 shocks in each direction
Solderability J_STD_002C Cond A, Through hole device/ Cond. B, SMD 255℃ (diving time 5±0,5sec.) Dip+Look with 8h damp pre-treatment: solder wetting >95%
Solvent resistance MIL-STD-883 Meth 2015 Solv. 1,3,4

Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Operable temperature range	-40		85	℃	
Storage temperature range	-50		85	℃	

Enclosure

Type G311	Height 12.2 mm

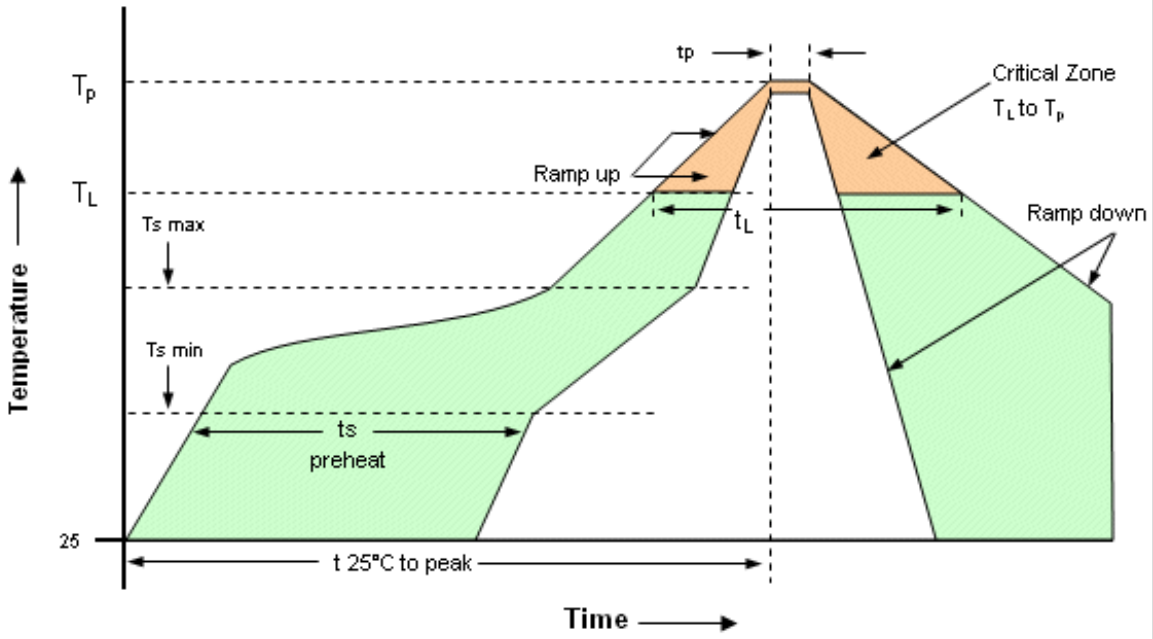


all units in mm

Pin Connections
Pin 1: N.C.
Pin 7: GND(Case)
Pin 8: RF-Output
Pin 14: Vs (supply voltage)

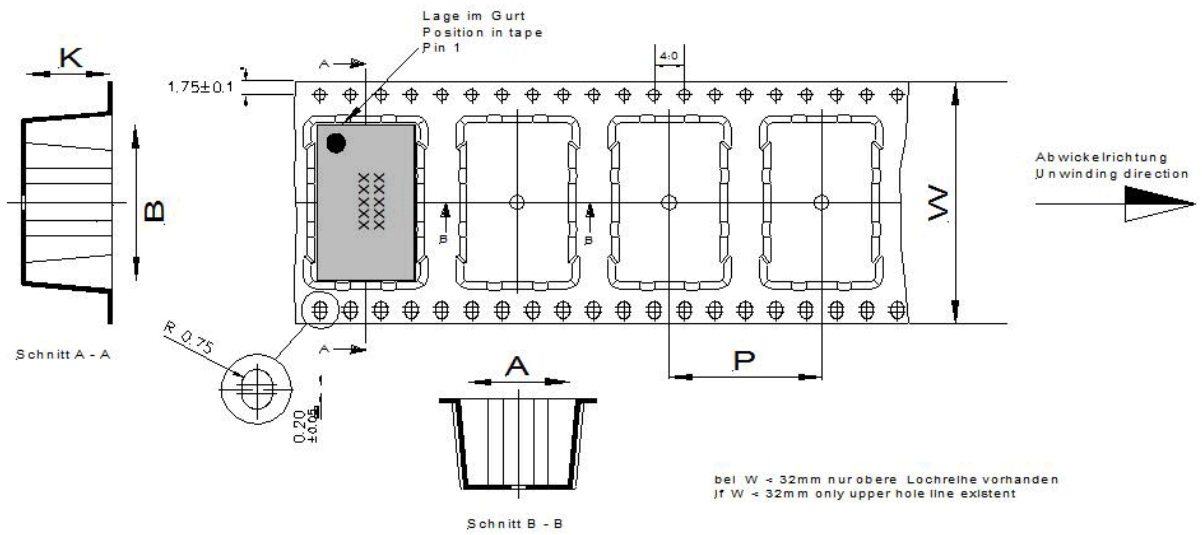
Marking
OX-4033-EAE-1080
20M000
* VI AYYWW
* pin-1 marking

Reflow profile



Profile Feature	Pb-Free Assembly/Sn-Pb Assembly
Average ramp-up rate (TL to Tp)	3℃/second max.
Preheat -Temperature Min (Tsmin) -Temperature Min (Tsmax) -Time (min to max) (ts)	150℃ 200℃ 60-180 seconds
Tsmax to TL - Ramp-up Rate	3℃/second max.
Time maintainted above - Temperature (TL) - Time (tL)	217℃ 60-150 seconds
Peak Temperature (Tp)	max 260℃
Time within 5℃ of actual Peak Temperature (tp)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ 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. SMD oscillators must be on the top side of the PCB during the reflow process.	

Standard shipping method



Maßangaben in mm:	Dimension in mm:
A, B und K Maße vom Bauelement abhängig, Fertigungstoleranzen entsprechen der DIN IEC 286-3	A, B and K are dependent upon component dimensions, production tolerance complying DIN IEC 286-3

All dimensions in millimetres unless otherwise stated.

Tape width W [mm]	Quantity per meter	Quantity per reel	P [mm]	A [mm]	B [mm]	K [mm]
44	41	180	24	13.65	21.25	12.7

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℃) .
Subject to technical modification.

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