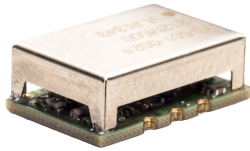


Helping Customers Innovate, Improve & Grow



VX-501-0253-125M0

Nominal frequency (f0)

125 MHz

Performance Specifications

Frequency stabilities					
Parameter	Min	Typical	Max	Units	Condition
Over all (df/f0)	-50		+50	ppm	-40...85°C
vs. operating temp. range (df/f@25°C)	-20		+20	ppm	-40...85°C
initial tolerance (df/f0)	-20		+20	ppm	@Vc = 1.65 V; 25 °C
vs. supply voltage change (df/f)	-3		+3	ppm	static; 3.3 V ±6.06 %
vs. load change (df/f)	-1		+1	ppm	static; Load +10 % -10 %
aging first year	-3		+3	ppm	@ 40 °C
Additional information	APR ≥±0.05ppm incl.: 15 years aging, temp. stab. -40...+85°C, load and supply changes				

Frequency Tuning					
Parameter	Min	Typical	Max	Units	Condition
Absolute pulling range (APR) (df/f0)	0.05			ppm	ext. tuning voltage@0.3 to 3V
Linearity			10	%	
slope	35		80	ppm/V	
slope (pos./neg.)	positiv				
Frequency control input impedance	1000			kOhm	
Modulation bandwidth	1000			Hz	@ -3 dB
Additional information	Tuning voltage for stable oscillation: 0V to 3.5V Modulation bandwidth: >1kHz @modulator source impedance 1kOhm Input capacitance: <50pF				

RF output					
Parameter	Min	Typical	Max	Units	Condition
Signal	LVCMOS				
Load	13.5	15	16.5	pF	
Fan out	3				
Rise Time			2	ns	@10 to 90 %Vout
Fall Time			2	ns	@90 to 10 %Vout
Duty cycle	45		55	%	@50 %
V Low			0.33	V	
V High	2.97			V	
Harmonics			-20	dBc	
Sub Harmonics			-100	dBc	
Enable	Enable Function Pin2			Output Pin4	
	high			data	
	open			data	
	low			no data	
Additional information	Load option: 200 Ohm AC coupled to GND				

Supply voltage					
Parameter	Min	Typical	Max	Units	Condition
Supply voltage (Vs)	3.1	3.3	3.5	V	
Current consumption steady state			24	mA	@ Vsnom & 25 °C
Additional information	Load 15pF: typical current 19.5mA; max 24mA____ Minimal current 12mA				

Additional Parameters					
Parameter	Min	Typical	Max	Units	Condition
Phase Noise			-70	dBc/Hz	@10Hz
			-100	dBc/Hz	@100Hz
			-125	dBc/Hz	@1kHz
			-145	dBc/Hz	@10kHz
			-150	dBc/Hz	@100kHz
			-150	dBc/Hz	@1MHz
			-150	dBc/Hz	@10MHz
Additional information	Mechanical tolerances: DIN/ISO 2768N Failure rate Lambda <200 FIT				
Processing & Packing	handling&processing note				

Additional Environmental Conditions	
Parameter	Description
Bumping	Random vibr. 20Hz..20kHz; PSD=0.06g ² /Hz; 5Hz,3mm -20dBc; 10Hz,1g: -26;20Hz,1g: -32; 50Hz,1g:-40; 100Hz,1g: -45; 200Hz,1g: -50dBc
Damp heat	25°C@90%; 37°C@98%; 8°C@83%; Reference: IEC 60068-2-30 MSL=1
Flexibility of leads	mech. tol.: DIN/ISO 2768N
RoHS compliance	100% RoHS 6 compliant
Washable	non-washable device
ESD HBM	JESD22-A114F Class 1B - 10x1000V

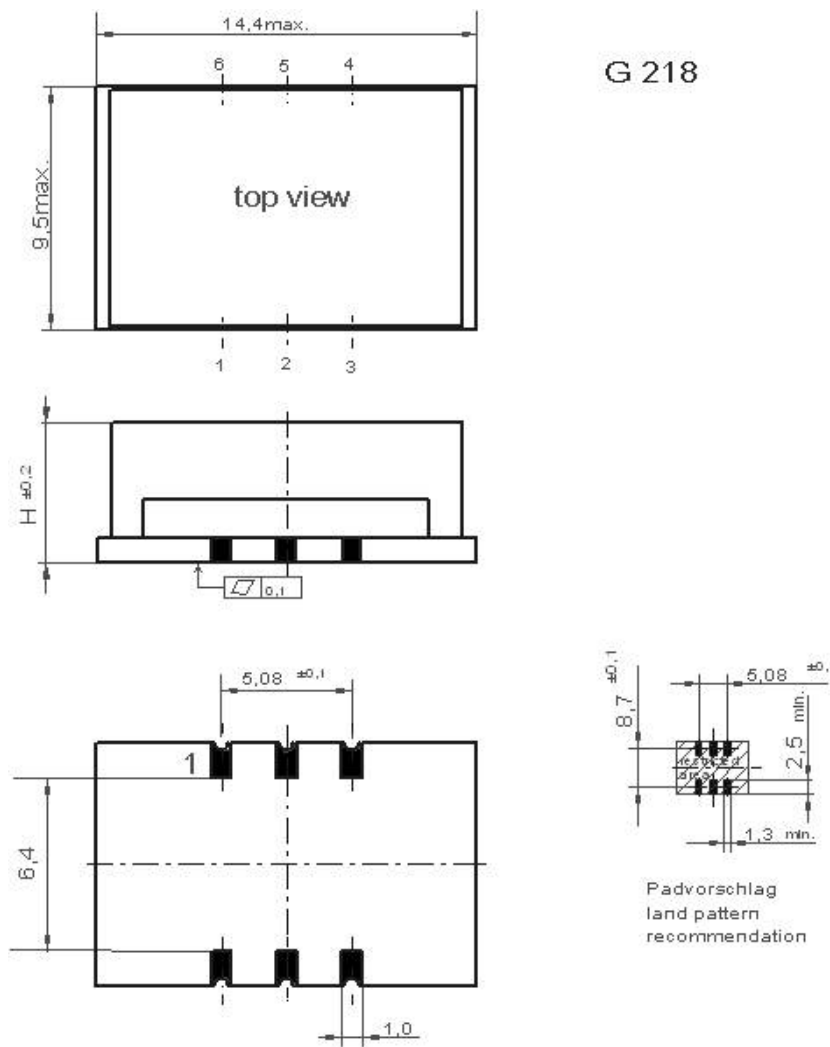
Additional Environmental Conditions

Parameter	Description
Mechanical Shock	MIL-STD-202 Meth 213B Cond. E - 1000g 0,5ms 6 shocks in each direction
Vibration, Sine	MIL-STD-883 Meth 2007 Cond A - 20g 20-2000Hz 4x in each 3 axis 4min sweep time
Moisture Sen. Level	JESD22-A113-B - only if > MSL 1
Solderability	J-STD-002C Cond. A, Trough hole device; Cond.B, SMD (correspond to MIL-STD-883 Meth 2003) - 255°C (dipping Time 5 ±0,5sec.) Dip&Look with 8h damp pre-treatment: solder wetting >95%
High temp operating life(HTOL)	MIL-STD-202 Meth108A Cond C - 1000h @ 105°C under voltage
Low temp operating life(LTOL)	IEC 60068-2-1 Cond. Ae - Ta= -40°C, >1000 hours with bias for OCXO
Reflow Simulation Test	J-STD-020D - Total 3x Lead free profile (for SMD)

Absolute Maximum Ratings

Parameter	Min	Typical	Max	Units	Condition
Operable temperature range	-40		+85	°C	
Storage temperature range	-40		+90	°C	

Enclosure



all units in mm

Enclosure Info	
Parameter	Description
Type	G218C
Height	2.8 mm
Pin Connections	1: Vc (control voltage) 2: Enable, Pull-up resist. $\geq 100\text{k}\Omega$ 3: GND(Case) 4: RF-Output 5: N.C. 6: Vs (supply voltage)
Marking	VX-501-0253 125M000 * VI AYYWW * pin-1 marking
Package cover material	Metal
Package base material	FR4

Solder profile

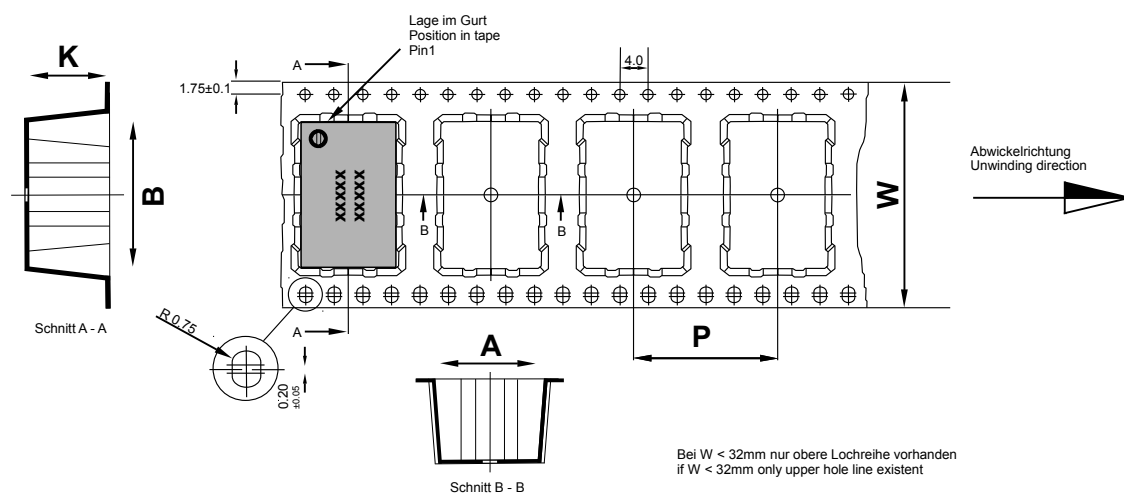
Recommended reflow solder profile according IPC/JEDEC J-STD-020 (latest revision)

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:

A, B und K Maße von Bauelement abhängig

Fertigungstoleranzen entsprechen der DIN IEC 286-3

Dimension in mm:

A, B und K are dependent upon component dimensions

production tolerance complying DIN IEC 286-3

All dimensions in millimeters unless otherwise stated

Reel Info						
Tape width W [mm]	Quantity per meter	Quantity per reel	P [mm]	A [mm]	B [mm]	K [mm]
24	83.3	1700	12	9.8	15	3.2

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.

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