


OX-601
Features

- 4-Pin SMD package
- Fast warm-up
- Frequency Range, 10 MHz to 40 MHz
- Standard freq: 10, 20, 38.4 MHz,
- High Reliability (based on fully intergrated Design)
- Low Power

Applications

- Base stations
- Test equipment
- Small Cell
- Military communication equipment
- Stratium 3
- SyncE; 1588

Performance Specifications

Frequency Stabilities ¹ 10 to 40 MHz						
Parameter	Min	Typical	Max	Units	Condition	Options ⁵
vs. operating temperature range (referenced to +25°C)	-20		+20	ppb	-40 to +85°C	
	-10		+10	ppb	-40 to +85°C	
slope	-2		+2	ppb/°C	@ Temp stab. +10ppb	
Initial tolerance	-0.5	±20	+0.5	ppm	at time of shipment, nominal EFC	
vs. supply voltage change		±10		ppb	V _s ±5% static	
vs. load change	-20	±2	+20	ppb	Load ±5% static	
vs. aging / day	-5		+5	ppb	after 30 days of operation	
vs. aging / year	500		+500	ppb	after 30 days of operation	
vs. aging / 10 years	-3		3	ppm	after 30 days of operation	
Holdover drift			5	ppb	over 24 hours, constant temperature (<±1°C) ; after 30 days continous operation	
Start up time			200	msec		
Warm-up time			3	minutes	to ±20ppb of final frequency (1 hour reading) @ +25°C	
Loop bandwidth for wander generation compliance	3			mHz	MTIE compliant with GR-1244 Fig 5-5 TDEV compliant with GR- 1244 Fig 5-4 ; measurement setup: oscillator stabilized 24 hours at Constant Temperature (±1°C, still air), data collected over 100,000 seconds at 1 second intervals (-3dB cutoff, 1st order high pass loop filter)	
Adev		7E-11			tau= 1.0 sec	

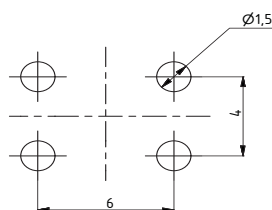
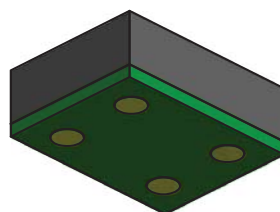
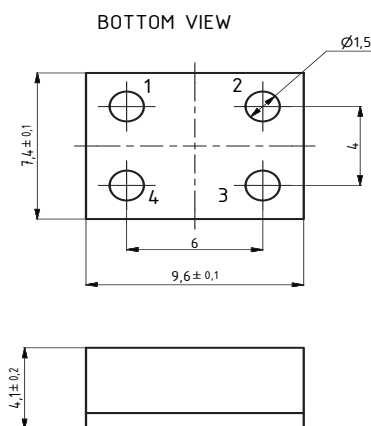
Performance Specifications

Supply Voltage (Vs)						
Parameter	Min	Typical	Max	Units	Condition	
Supply voltage (standard)	3.135	3.3	3.465	VDC		
Power consumption		1.3	1.5	Watts	during warm-up	
		0.4	0.5	Watts	steady state @ +25°C	
RF Output						
Signal [standard]	HCMOS					
Load		15		pF		
Signal Level (Vol)			0.4	VDC	with Vs=3.3V and 15pF Load	
Signal Level (Voh)	2.4			VDC	with Vs=3.3V and 15pF Load	
Duty Cycle	45		55	%	@ (Voh-Vol)/2	
Frequency Tuning (EFC)						
Tuning Range	Fixed OCXO; No adjust				Opti- on ^s	
Tuning Range	±5		±12	ppm		
Linearity			10%			
Tuning Slope	Positive					
Control Voltage Range	0.0	1.4	2.8	V		
Additional Parameters						
Phase Noise ³		-99	-90	dBc/Hz	10 Hz	@ 20MHz
		-125	-120	dBc/Hz	100 Hz	
		-145	-140	dBc/Hz	1 kHz	
		-155	150	dBc/Hz	10 kHz	
		-160	-155	dBc/Hz	100kHz	
Weight			1.0	g		
Processing & Packing	Handling & Processing Note					
Absolute Maximum Ratings						
Supply voltage (Vs)			3.8	V	with Vs=3.3 VDC	
Output Load			50	pF		
Operable Temperature Range	-40		+95	°C		
Storage Temperature Range	-40		+125	°C		

Outline Drawing / Enclosure

G349

Dimensions in mm



Recommended Pad
Layout

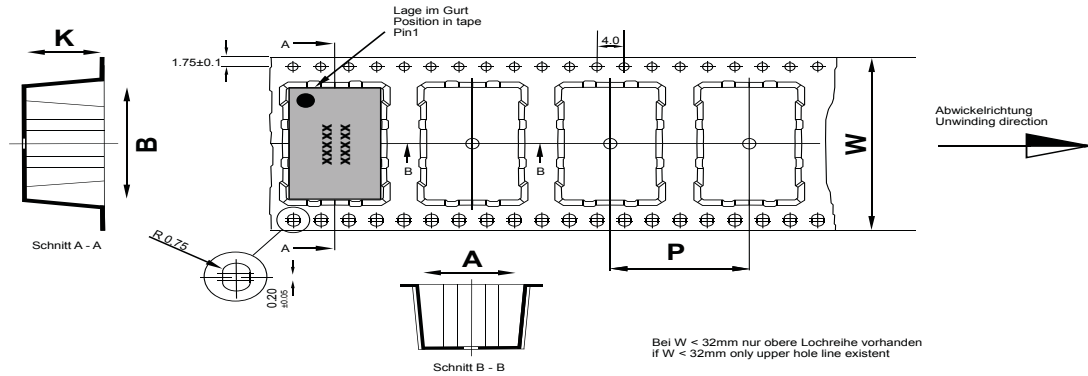
OX-601

Height "H"	cover material
4.1	plastic

Pin Connections

1	I.C (Do not connect) / EFC (option)
2	Ground (Case)
3	RF Output
4	Supply Voltage Input

Standard Shipping Method (OX-601)



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
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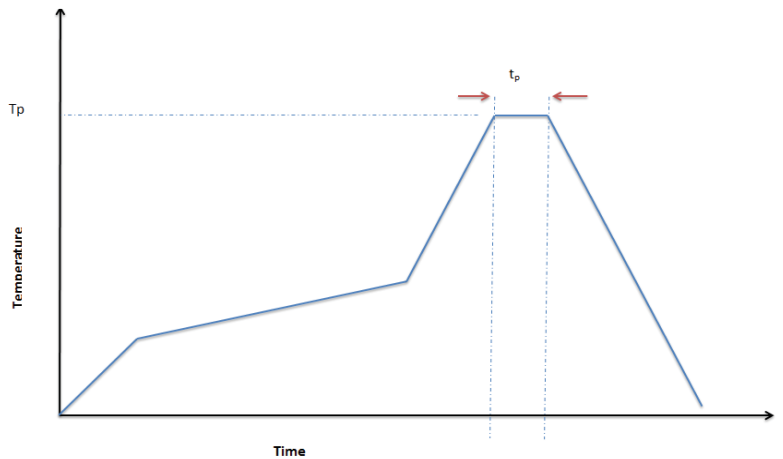
All dimensions in millimeters unless otherwise stated

Enclosure Type	Tape Width W (mm)	Quantity per meter	Quantity per reel	Dimension P
OX-601 (4.1 mm)	24	83.3	850	12

Reflow Profile

TP: max 250°C (@ solder joint, customer board level)
 Tp: max: 10...40 sec

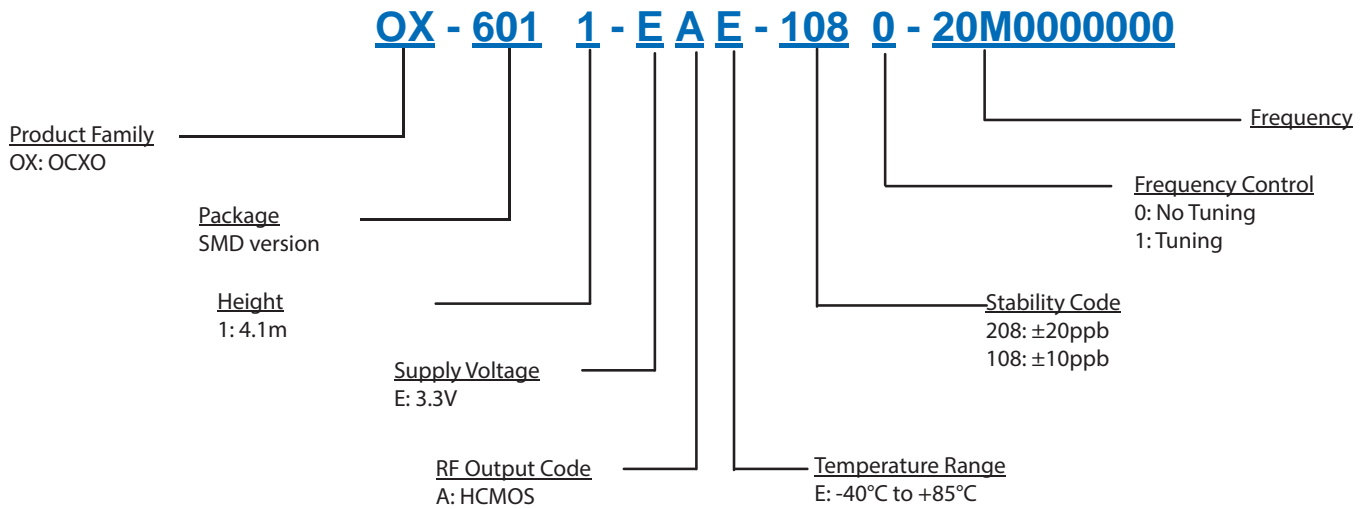
Additional Information:
 This SMD oscillator has been designed for pick and place
 reflow soldering



Additional Environmental Conditions

Parameter	Description
Temperature Cycling	JESD22-A104-D Cond.G - 500cycles -40/+125C;cycle time 30min
Vibration, Sine	MIL-STD-883 Meth 2007 Cond A - 20g 20-2000Hz 4x in each 3 axis 4min sweep time
Mechanical Shock	MIL-STD-202 Meth 213B Cond. F - 1500g 0,5ms 6 shocks in each direction
Solderability	J-STD-002C Cond. A, Trough hole device; Cond.B, SMD (correspond to MIL-STD-883 Meth 2003) - 255C (diving Time 5 0,5sec.) Dip&Look with 8h damp pre-treatment: solder wetting >95%
Solvent resistance	MIL-STD-883 Meth 2003) - 255C (diving Time 5 0,5sec.) Dip&Look with
ESD	8h damp pre-treatment: solder wetting >95%
Moisture Sensit.	JESD22-A113-B - only if > MSL 1
RoHS compliance	100% RoHS 6 compliant
Washable	non-washable device
High temp operating life(HTOL)	MIL-STD-202 Meth108A Cond C - 1000h @ 105C power on
Low temp operating life(LTOL)	IEC 60068-2-1 Cond. Ae - 1000h @ -40C power on

Ordering Information



Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Unless other stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C).
3. Phase noise degrades with increasing output frequency.
4. Subject to technical modification.
5. Contact factory for availability.



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