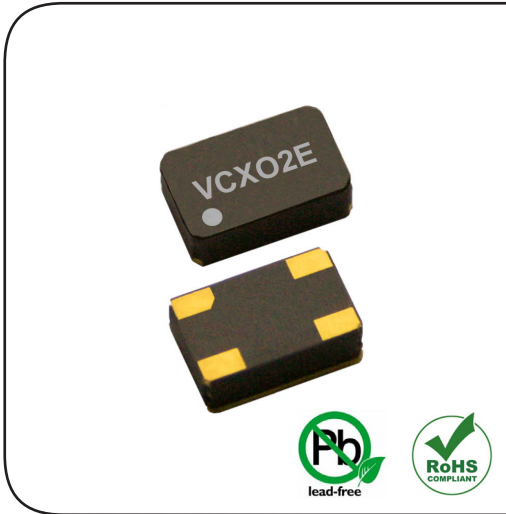
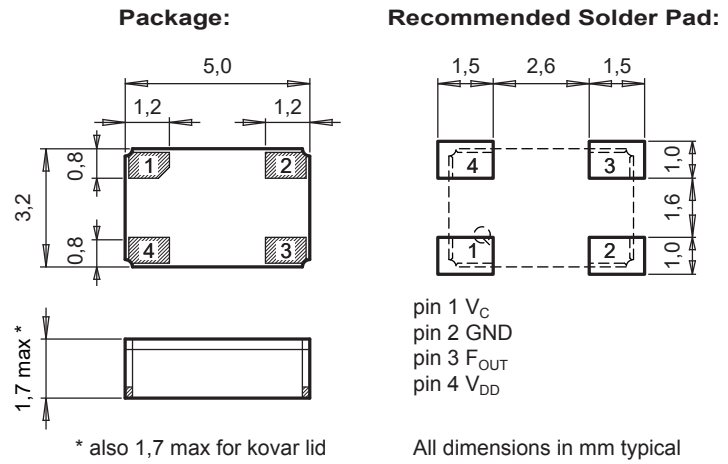


VCXO2E

High Temperature VCXO 5 MHz – 40 MHz



DIMENSIONS



APPLICATIONS

Security / Safety
Avionics / Aerospace
Radio Communication
Geothermal Equipment
Remote Control / Telemetry
Down Hole and Well Drilling

DESCRIPTION

The VCXO2E is a High Temperature, Voltage Controlled SMD Oscillator that incorporates an integrated HCMOS circuit together with an XTAL. It operates under vacuum in a hermetically sealed ceramic package.

FEATURES

Outstanding hermetic sealing with gold-tin preform.
High stability and low aging guaranteed by hermetic sealing.
Wide frequency pulling range APR.
Very fast start-up.
Operates in fundamental mode.
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.

ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Value	Unit
Minimum Absolute Pull Range APR ¹⁾	$\Delta F/F$	± 130 ± 110 ± 90 ± 50 ± 30	ppm
For temperature range			
B = -40 to +85°C			
C = -55 to +125°C			
R = -10 to +150°C			
S = -10 to +175°C			
T = -10 to +210°C			
Supply voltage $\pm 5\%$ ²⁾	V_{DD}	3.3	V
Input current	I_{DD}	See I_{DD} table	
Output signal		HCMOS compatible	
F_{OUT} duty cycle @ $V_{DD}/2$ (min./max.)	δ_{FOUT}	40 / 60	%
Rise & fall time ($C_L = 15$ pF, 20% to 80% V_{DD})	t_r / t_f	≤ 5	ns
Output level V_{OL} / V_{OH}		$< 0.4 / > V_{DD} - 0.5$	V
Start-up time	t_{START}	< 5	ms
Capacitive load min. / max.	C_L	3 / 47	pF

1) Including adjustment at +25°C, long term aging 1 year, V_{DD} variations $\pm 5\%$, C_L variations min. to max. and frequency stability over temperature range
2) A 47 nF decoupling capacitor has to be connected between V_{DD} and GND

INPUT CURRENT: I_{DD} (no load)

Frequency	≤ 10 MHz	≤ 20 MHz	≤ 40 MHz
V _{DD} = 3.3 V (V)	< 4 mA	< 5 mA	< 20 mA

FREQUENCY CONTROL RANGE

Control voltage range	V _C	0 to 3.3	V
Slope polarity	positive		
Control voltage bandwidth @ -3 dB	V _{CBW}	≥ 10	kHz
V _C input impedance	Z _{VC}	≥ 100	kΩ

STANDARD FREQUENCIES

Frequencies			
10.0000 MHz	12.2880 MHz	12.8000 MHz	20.0000 MHz
24.0000 MHz	24.5760 MHz	25.6000 MHz	
Other frequencies from 5 MHz to 40 MHz on request			

ENVIRONMENTAL CHARACTERISTICS

	Conditions
Storage temperature range	-65 to +125°C
Shock resistance (survival)	10000 g, 0.3 ms, ½ sine
Vibration resistance (survival)	80 g / 10 – 2000 Hz

TERMINATIONS AND PROCESSING, OPTION 2

Reflow per IPC/JEDEC J-STD-020C	260°C / 20 - 40 s
Package	Ceramic
Lid	Ceramic Lid (Kovar Lid on T range version)
Terminations (Option 2) (T3 not available for T range)	SnAgCu solder dipped pads (T3) Au flashed pads (Blank)

ORDERING INFORMATION

VCXO2E	V - S	20.000 MHz	T3	XXX
Supply voltage V = V _{DD} = 3.3 V		Frequency	Option 2 T3 = SnAgCu solder dipped pads ** Blank = Au flashed pads	Customer specification N°
Temperature range B = -40 to +85°C C = -55 to +125°C R = -10 to +150°C S = -10 to +175°C T = -10 to +210°C * X = Custom				
			* Kovar Lid on T range version. ** T3 not available for T range version.	
A unique part number will be generated for each product specification, i.e:				
20xxxx-MG00	≥250 pcs (in 12 mm tape on 7" reel)			
20xxxx-EA00	yyy pcs (in ESD plastic tray)			

All specifications subject to change without notice.



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