MICRO CRYSTAL SWITZERLAND

OV-0100-C7

Low Power Clock Oscillator 100.000 kHz

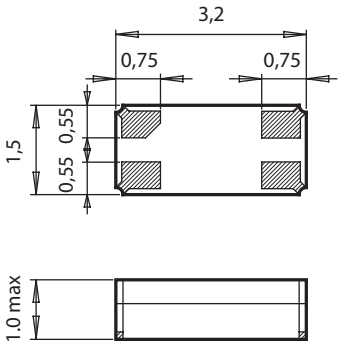


lead-free

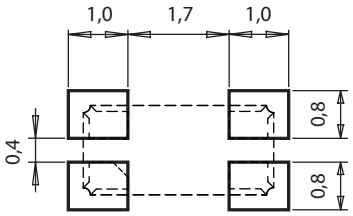
RoHS COMPLIANT

DIMENSIONS

Package:



Recommended Solder Pad:



All dimensions in mm typical

APPLICATIONS

Metering
Industrial
Automotive
Health Care
Medical Implantable

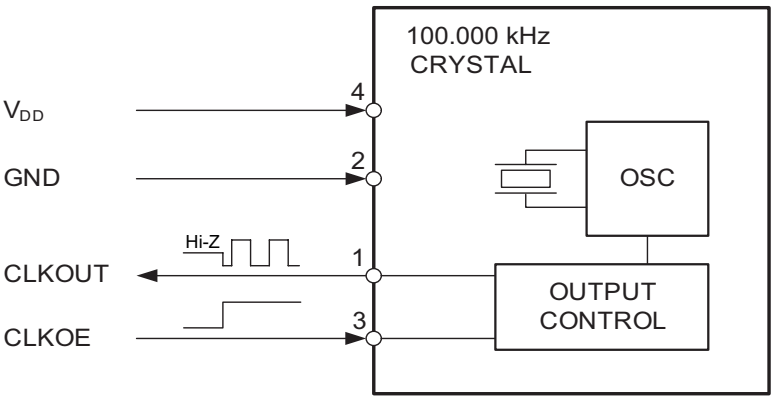
DESCRIPTION

The OV-0100-C7 is a Low Frequency SMT Oscillator that incorporates an integrated CMOS circuit together with an XTAL. It operates under vacuum in a hermetically sealed ceramic package with ceramic lid.

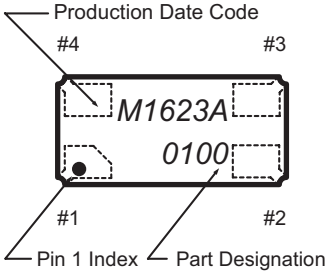
FEATURES

Wide supply voltage range.
Very low power consumption.
CLKOUT enable/disable.
Small size, low profile, lightweight (12.4 mg).
High shock and vibration resistant.
100% Pb-free, RoHS-compliant.
Automotive qualification according to AEC-Q200 available.

BLOCK DIAGRAM



PIN CONNECTIONS
TOP VIEW



Pin	Connection	
1	CLKOUT	Frequency output
2	GND	Ground
3	CLKOE	CLK output enable
4	V_{DD}	Power Supply Voltage

ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

Output Frequency	F	100.000	kHz
Frequency tolerance 1)	ΔF/F	±20	ppm
Supply voltage	V_{DD}	1.2 – 5.5	V
Current consumption (typ./max.) 2)	I_{DD}	0.65 / 0.85	µA
Duty cycle (min./max.)		40 / 60	%
Start up time (max.)	t_{start}	0.5	s
Voltage coefficient (max.)		±1.5	ppm/V
Aging first year max. @ 25°C	ΔF/F	±3	ppm
Turnover temperature (typ.)	T_0	18 ±5	°C
Frequency vs. temperature	$\Delta F/F_0$	$-0.035\ ^{ppm}/_{°C^2}\ (T - T_0)^2 \pm 10\%$	ppm

1) Tighter tolerances on request. 2) V_{DD} = 3.0 V, CLKOE = LOW.

ENVIRONMENTAL CHARACTERISTICS

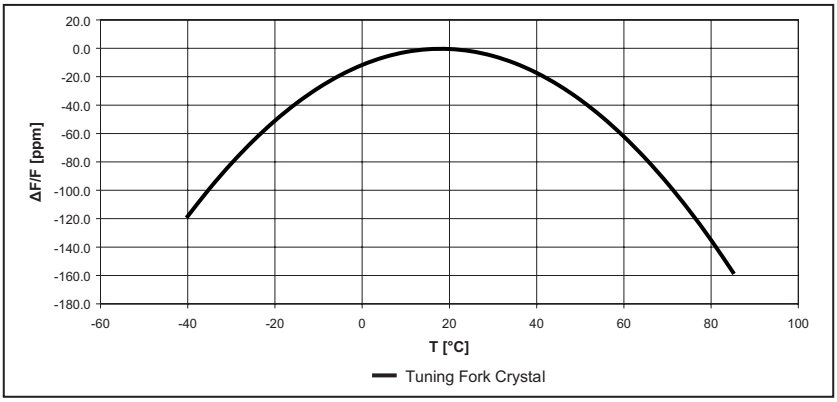
		Conditions	Max. Dev.
Storage temp. range		–55 to +125°C	
TA Operating temperature range		–40 to +85°C	
Shock resistance	ΔF/F	5000 g, 0.3 ms, ½ sine	±5 ppm
Vibration resistance	ΔF/F	20 g / 10–2000 Hz	±5 ppm

TERMINATIONS AND PROCESSING

Type	Termination	Processing
OV-0100-C7	Au flashed pads 3)	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

3) Other pad finishing available on request.

FREQUENCY TEMPERATURE CHARACTERISTICS



ORDERING INFORMATION

O V - 0100 - C7 ±20 ppm TA QC

Oscillator

Ceramic lid

Frequency
0100 = 100.000 kHz

Package size
C7 = 3.2 x 1.5 x 1.0 mm

Frequency tolerance

Temperature range
TA = -40 to +85°C (Standard)

Qualification
QC = Commercial Grade (Standard)
QA = Automotive Grade AEC-Q200
QM = Medical Grade

A unique part number will be generated for each product specification, i.e:	
20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)

All specifications subject to change without notice.

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