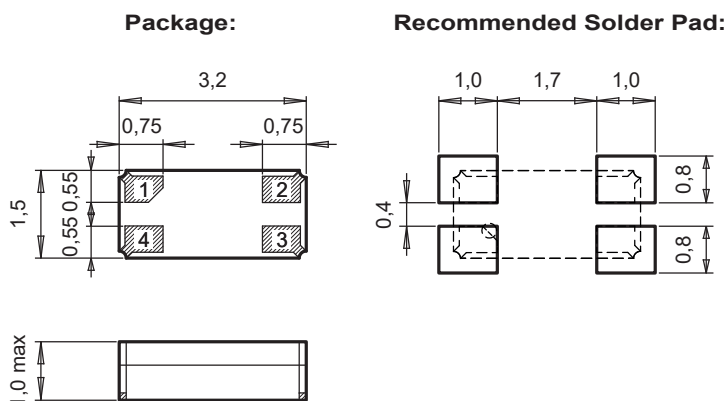


OV-0100-C7 Medical

Low Power Clock Oscillator 100.000 kHz



DIMENSIONS



All dimensions in mm typical

APPLICATIONS

Pacemakers
Defibrillators
Neurostimulators
Cardiac Monitoring Devices
Implantable Drug Delivery Pumps
Infusion Pumps
Cochlear Implants
Smart Orthopedic Implants

DESCRIPTION

The OV-0100-C7 Medical Low Frequency Oscillator is manufactured specifically for use in implantable medical devices. It incorporates a CMOS circuit and built in 100.000 kHz crystal. Micro Crystal's long history in supplying medical grade timing devices ensures that the OV-0100-C7 Medical is produced in accordance with the highest quality production technologies. Long-term reliability is of utmost importance (Class III Implantable) and a hallmark of Micro Crystal's entire medical implantable grade portfolio.

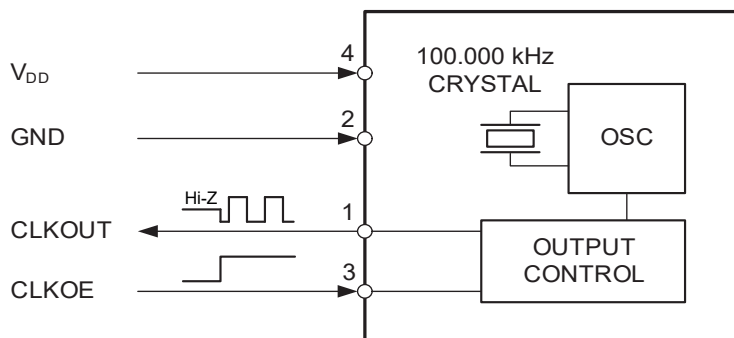
MEDICAL IMPLANTABLE KEY FEATURES

- Safe for Helium environment: Ceramic lid with gold-tin preform-seal for best long-term hermeticity and stability
- Proprietary manufacturing and testing processes
- Long-term aging stability
- Wide operating temperature range: -40°C to +85°C
- Customer specific testing/screening on request
- Components and manufacturing traceability records retained
- Small size, low profile, lightweight (12.4 mg)

FEATURES

- Very low power consumption: 650 nA @ 3 V
- Wide operating voltage range: 1.2 V to 5.5 V
- CLKOUT enable/disable

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

Output Frequency	F	100.000	kHz
Frequency tolerance	¹⁾ $\Delta F/F$	±20	ppm
Supply voltage	V _{DD}	1.2 – 5.5	V
Current consumption (typ./max.)	²⁾ I _{DD}	0.65 / 0.85	µA
Start up time (max.)	t _{start}	0.5	s
Aging first year max. @ 25°C	$\Delta F/F$	±2	ppm
Turnover temperature (typ.)	T ₀	18 ±5	°C
Frequency vs. temperature	$\Delta F/F_0$	$-0.035 \frac{\text{ppm}}{^\circ\text{C}^2} (T-T_0)^2 \pm 10\%$	ppm

1) Other tolerances on request.

2) V_{DD} = 3.0 V, CLKOE = LOW.

ENVIRONMENTAL CHARACTERISTICS

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

TERMINATIONS AND PROCESSING

Type	Termination	Processing
OV-0100-C7 T1	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s
OV-0100-C7 T5	ENEPIG plated pads	

PIN CONNECTIONS TOP VIEW

		Pin	Connection
		1	CLKOUT Clock Output
		2	GND Ground
		3	CLKOE Clock Output Enable
		4	V _{DD} Power Supply Voltage

ORDERING INFORMATION

OV - 0100 - C7 T1 ±20 ppm TA QM Oscillator module Frequency _____ 0100 = 100.000 kHz Package size _____ C7 = 3.2 x 1.5 x 1.0 mm Pads _____ T1 = Au flashed pads T5 = ENEPIG plated pads		Qualification QM = Medical Grade Temperature range TA = -40 to +85°C Frequency tolerance ±20 ppm Other freq. tolerances on request
A unique part number will be generated for each product specification, i.e.:		
20xxxx-MG00	yyy pcs (in 12 mm tape on 7" reel)	
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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