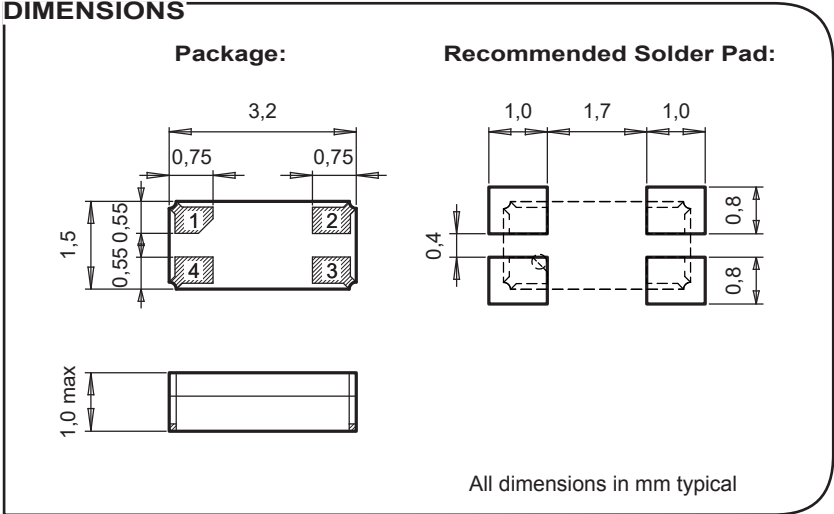


OV-7604-C7 Medical

Low Power Clock Oscillator 32.768 kHz



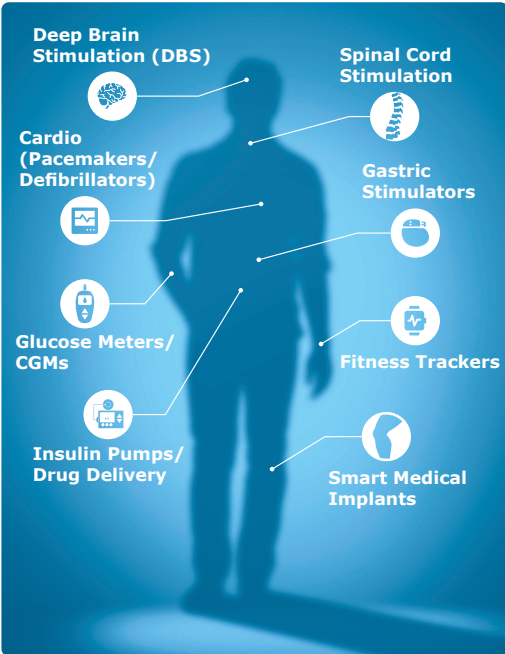
APPLICATIONS

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

DESCRIPTION

The OV-7604-C7 Medical Low Frequency Oscillator is manufactured specifically for use in implantable medical devices. It incorporates a CMOS circuit and built in 32.768 kHz crystal.

Micro Crystal's long history in supplying medical grade timing devices ensures that the OV-7604-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.



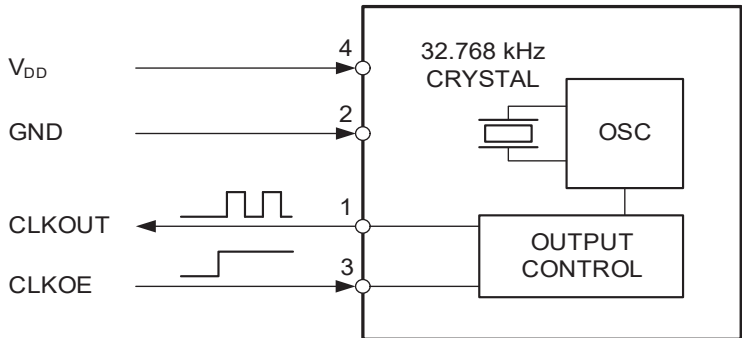
MEDICAL IMPLANTABLE KEY FEATURES

- 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
- Extended operating temperature range: -40°C to +125°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: 300 nA @ 3 V
- Wide operating voltage range: 1.2 V to 5.5 V
- Synchronized CLKOUT enable/disable

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

Output Frequency	F	32.768	kHz
Frequency tolerance	¹⁾ ΔF/F	±20	ppm
Supply voltage	V _{DD}	1.2 – 5.5	V
Current consumption (typ./max.)	²⁾ I _{DD}	0.3 / 0.5	μA
Start up time (max.)	t _{start}	0.5	s
Aging first year max. @ 25°C	ΔF/F	±2	ppm
Turnover temperature (typ.)	T ₀	25 ±5	°C
Frequency vs. temperature	ΔF/F ₀	-0.035 ppm/°C (T-T ₀) ² ±10%	ppm

1) Other tolerances on request.

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

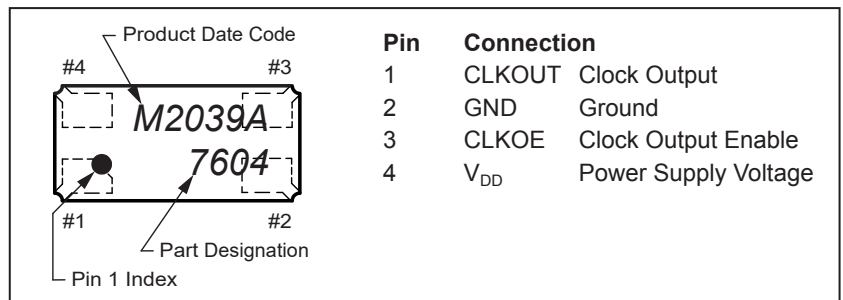
ENVIRONMENTAL CHARACTERISTICS

	Conditions	Max. Dev.
Storage temperature range	-55 to +125°C	
TA Operating temperature range	-40 to +85°C	
TB Extended oper. temp. range	-40 to +125°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

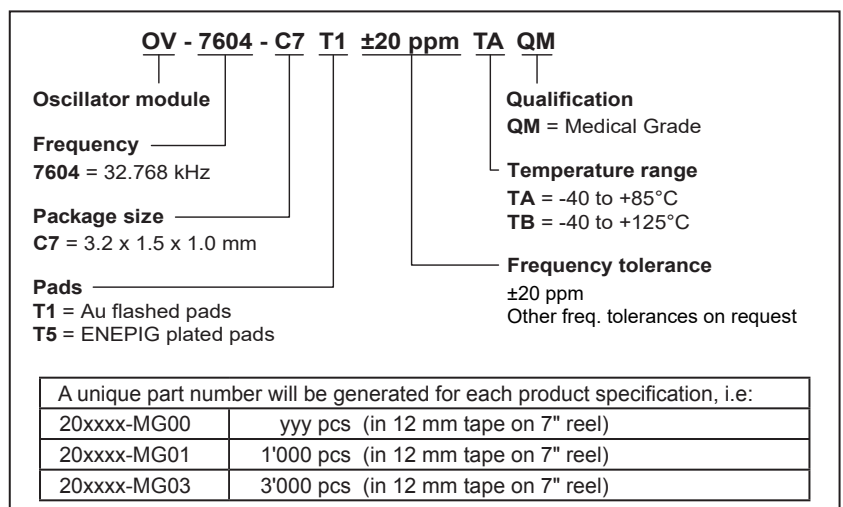
TERMINATIONS AND PROCESSING

Type	Termination	Processing
OV-7604-C7 T1	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s
OV-7604-C7 T5	ENEPIG plated pads	

PIN CONNECTIONS TOP VIEW



ORDERING INFORMATION



All specifications subject to change without notice.



MICRO CRYSTAL SWITZERLAND

A COMPANY OF THE SWATCH GROUP

Micro Crystal AG
Muehlestrasse 14
CH-2540 Grenchen
Switzerland

Phone +41 32 655 82 82
sales@microcrystal.com
www.microcrystal.com