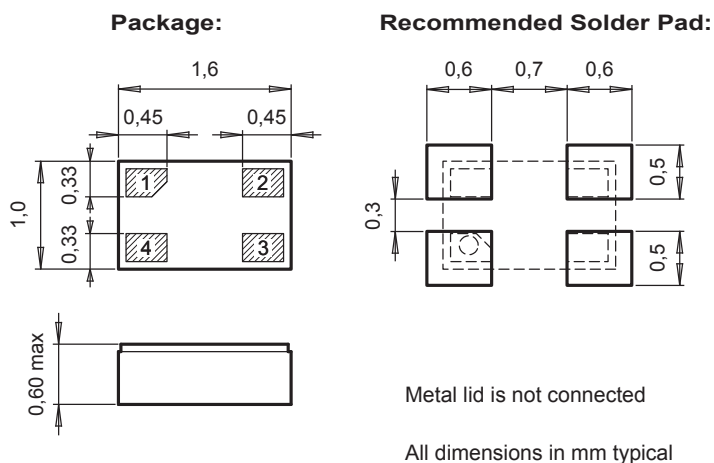


# OM-7605-C9

Low Power Clock Oscillator 32.768 kHz



## DIMENSIONS



## APPLICATIONS

IoT  
Metering  
Industrial  
Automotive  
Health Care  
Wearables, Portables

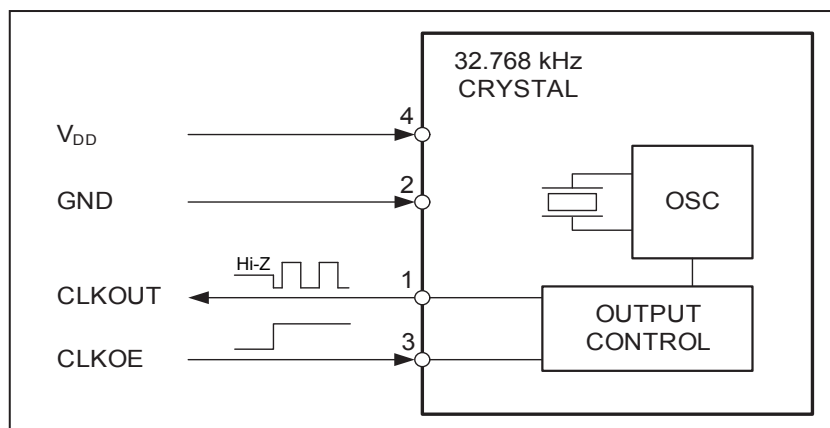
## DESCRIPTION

The OM-7605-C9 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 metal lid.

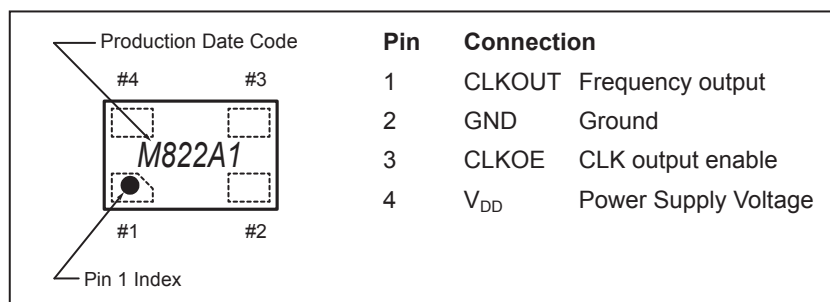
## FEATURES

Wide supply voltage range.  
Very low power consumption.  
CLKOUT enable/disable.  
Ultra small size, low profile, lightweight (3.1 mg).  
High shock and vibration resistant.  
100% Pb-free, RoHS-compliant.  
Automotive qualification according to AEC-Q200 available.

## BLOCK DIAGRAM



## PIN CONNECTIONS TOP VIEW



## ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

|                                 |                               |                                                              |       |
|---------------------------------|-------------------------------|--------------------------------------------------------------|-------|
| Output Frequency                | F                             | 32.768                                                       | kHz   |
| Frequency tolerance             | <sup>1)</sup> $\Delta F/F$    | ±20                                                          | ppm   |
| Supply voltage                  | V <sub>DD</sub>               | 1.6 – 5.5                                                    | V     |
| Current consumption (typ./max.) | <sup>2)</sup> I <sub>DD</sub> | 0.45 / 0.65                                                  | µA    |
| Duty cycle (min./max.)          |                               | 40 / 60                                                      | %     |
| Start up time (max.)            | t <sub>start</sub>            | 0.5                                                          | s     |
| Voltage coefficient (max.)      |                               | ±3                                                           | ppm/V |
| Aging first year max. @ 25°C    | $\Delta F/F$                  | ±3                                                           | ppm   |
| Turnover temperature (typ.)     | T <sub>0</sub>                | 25 ±5                                                        | °C    |
| Frequency vs. temperature       | $\Delta F/F_0$                | $-0.035 \text{ ppm}/^{\circ}\text{C}^2 (T - T_0)^2 \pm 10\%$ | ppm   |

1) Tighter tolerances on request.

2) V<sub>DD</sub> = 3.0 V, CLKOE = LOW.

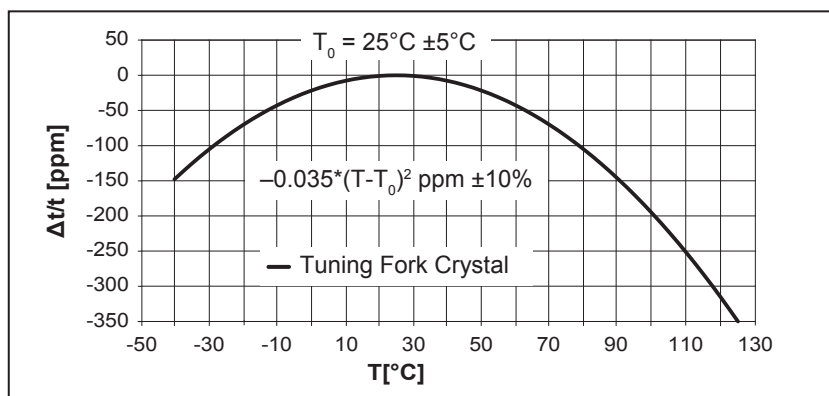
## ENVIRONMENTAL CHARACTERISTICS

|                                |              | Conditions             | Max. Dev. |
|--------------------------------|--------------|------------------------|-----------|
| Storage temp. range            |              | –55 to +125°C          |           |
| TA Operating temperature range |              | –40 to +85°C           |           |
| TB Extended oper. temp. range  |              | –40 to +125°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                                |
|------------|-----------------|-------------------------------------------|
| OM-7605-C9 | Au flashed pads | IPC/JEDEC J-STD-020C<br>260°C / 20 - 40 s |

## FREQUENCY TEMPERATURE CHARACTERISTICS



## ORDERING INFORMATION

|                                                                             |                                                                                  |
|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>O M - 7605 - C9 ±20 ppm TA QC</b>                                        |                                                                                  |
| <b>Oscillator</b>                                                           | <b>Qualification</b>                                                             |
| <b>Metal lid</b>                                                            | <b>QC</b> = Commercial Grade (Standard)<br><b>QA</b> = Automotive Grade AEC-Q200 |
| <b>Frequency</b>                                                            | <b>Temperature range</b>                                                         |
| <b>7605</b> = 32.768 kHz                                                    | <b>TA</b> = –40 to +85°C (Standard)<br><b>TB</b> = –40 to +125°C                 |
| <b>Package size</b>                                                         | <b>Frequency tolerance</b>                                                       |
| <b>C9</b> = 1.6 x 1.0 x 0.60 mm                                             |                                                                                  |
| A unique part number will be generated for each product specification, i.e: |                                                                                  |
| 20xxxx-MC01                                                                 | 1'000 pcs (in 8 mm tape on 7" reel)                                              |
| 20xxxx-MC03                                                                 | 3'000 pcs (in 8 mm tape on 7" reel)                                              |

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  
Fax +41 32 655 82 83  
sales@microcrystal.com  
www.microcrystal.com

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Micro Crystal:](#)

[OM-7605-C9-32.768kHz-20PPM-TA-QC](#) [OM-7605-C9-32.768kHz-20PPM-TB-QC](#) [OM-7605-C9-EVALUATION-BOARD](#)