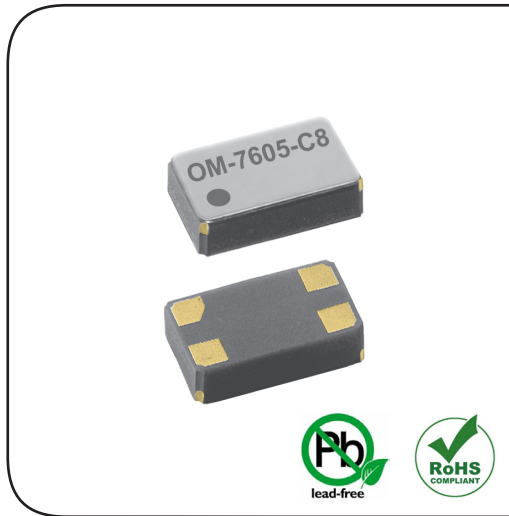
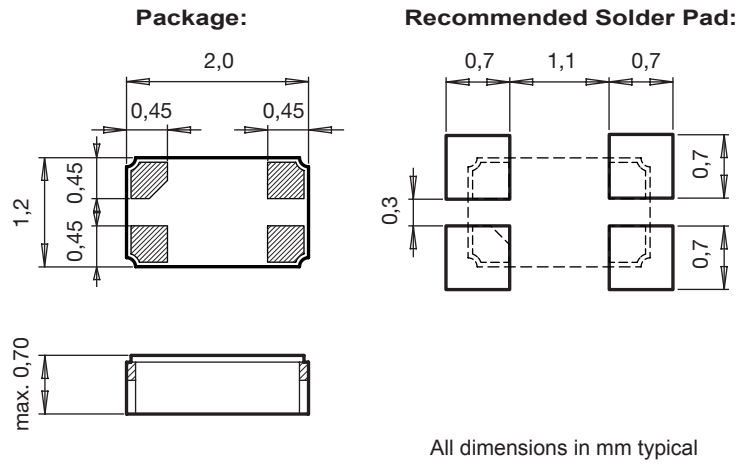


# OM-7605-C8

Low Power Clock Oscillator 32.768 kHz



## DIMENSIONS



## APPLICATIONS

lot  
 Metering  
 Industrial  
 Automotive  
 Health Care  
 Wearables, Portables

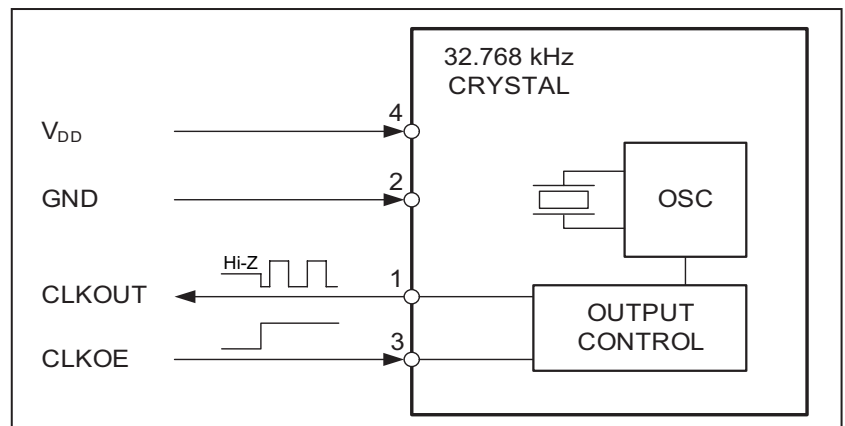
## DESCRIPTION

The OM-7605-C8 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.

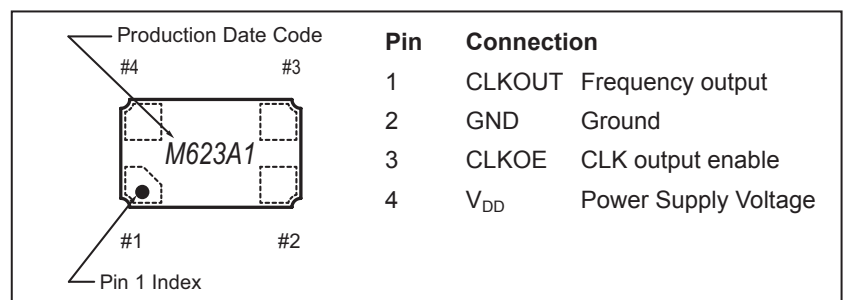
## FEATURES

Wide supply voltage range.  
 Very low power consumption.  
 CLKOUT enable/disable.  
 Small size, low profile, lightweight (5.1 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> $\Delta F/F$ | $\pm 20$   | ppm     |
| Supply voltage                  | $V_{DD}$                   | 1.6 – 5.5  | V       |
| Current consumption (typ./max.) | <sup>2)</sup> $I_{DD}$     | 0.45 / 0.65  | $\mu A$ |
| Duty cycle (min./max.)          |                            | 40 / 60  | %       |
| Start up time (max.)            | $t_{start}$                | 0.5  | s       |
| Voltage coefficient (max.)      |                            | $\pm 3$  | ppm/V   |
| Aging first year max. @ 25°C    | $\Delta F/F$               | $\pm 3$  | ppm     |
| Turnover temperature (typ.)     | $T_0$                      | 25 $\pm$ 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)  $V_{DD} = 3.0 \text{ V}$ , CLKOE = LOW.

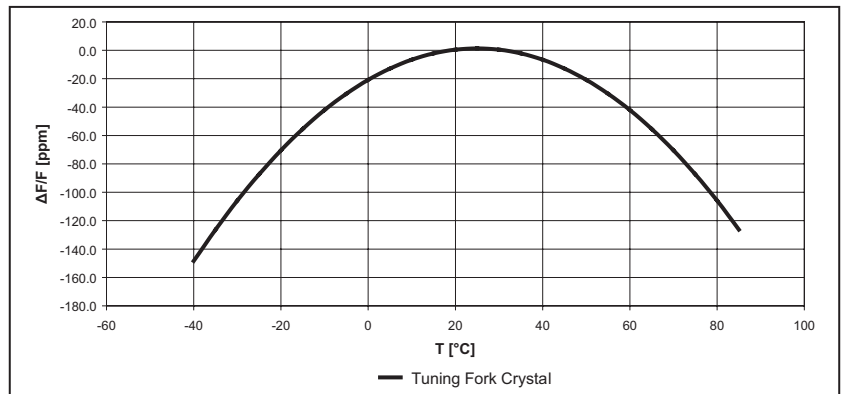
## ENVIRONMENTAL CHARACTERISTICS

|                                |              | Conditions               | Max. Dev.   |
|--------------------------------|--------------|--------------------------|-------------|
| Storage temp. range            |              | -55 to +125°C            |             |
| TA Operating temperature range |              | -40 to +85°C             |             |
| Shock resistance               | $\Delta F/F$ | 5000 g, 0.3 ms, 1/2 sine | $\pm 5$ ppm |
| Vibration resistance           | $\Delta F/F$ | 20 g / 10–2000 Hz        | $\pm 5$ ppm |

## TERMINATIONS AND PROCESSING

| Type       | Termination                         | Processing                                |
|------------|-------------------------------------|---|
| OM-7605-C8 | For SMT mounting<br>Au flashed pads | IPC/JEDEC J-STD-020C<br>260°C / 20 - 40 s |

## FREQUENCY TEMPERATURE CHARACTERISTICS



## ORDERING INFORMATION

**OM - 7605 - C8 ±20 ppm TA QC**

**Oscillator**  
**Metal lid**  
**Frequency**  
 7605 = 32.768 kHz  
**Package size**  
 C8 = 2.0 x 1.2 x 0.7 mm

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

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

**Frequency tolerance**

|   |                                     |
|---|-------------------------------------|
| 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.



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