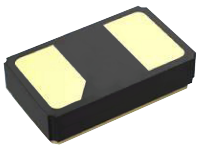
## kHz Range Crystal Unit

# DP1610



Ultra-small size 32.768kHz crystal unit, can support 6pF, 7pF and 12.5pF, used for most electronics devices.

## Features:

- Frequency range: 32.768KHz
- External dimensions: 1.65x1.05x0.5 mm
- Oscillation mode : fundamental

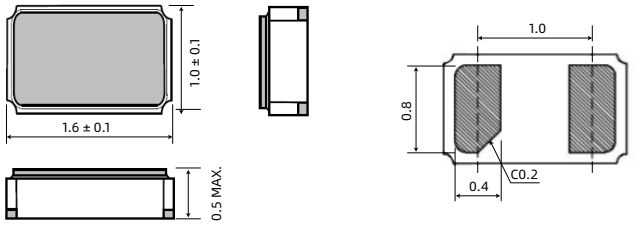
## Application:

Smart Meters, PPS Timekeeping, Medical Electronics, Machine to Machine (M2M), Smart City, Smart Home, Home Appliances, Health and Wellness Monitors, Wearable (Smartwatch, Fitness Tracker), Consumers , IoT.

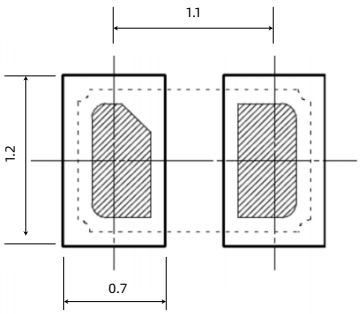
## Product Order Number:

| | |
|---|---|
| 6pF | DP8B32768003 |
| 7pF | DP8B32768002 |
| 12.5pF | DP8B32768001 |

## External Dimensions (Unit:mm)




## Footprint (Recommended) (Unit:mm)




## Electrical Characteristics

| Item | Symbol | Specifications | Conditions/Remarks |
|---|---|---|---|
| Nominal frequency range | f_nom | 32.768kHz | |
| Oscillation mode | - | Fundamental | |
| Storage temperature | T_stg | -55°C ~ + 105°C | |
| Operating temperature | T_use | -40°C ~ + 85°C | |
| Level of drive | DL | 0.1 μW±20% Typ. (0.5 μW Max.) | |
| Frequency tolerance (standard) | F_tol | ±20 x $10^{-6}$ | @+25°C±3°C , DL=0.1 μW |
| Frequency aging | f_age | ±3 x $10^{-6}$/ year Max. | @+25°C First year |
| Parabolic coefficient | B | -0.04 Max. | PPM/°C^2 |
| Load capacitance | $C_L$ | 6pF, 7pF,12.5pF | Option |
| Motional resistance (ESR) | R1 | 90kΩ Max. | |
| Motional capacitance | C1 | 6.0fF Typ. | |
| Shunt capacitance | C0 | 1.3 pF Typ. | |
| Insulation resistance | - | 500MΩ | At DC 100V |