

## SMD WATCH CRYSTAL SERIES M8208

### FEATURES

- Worldwide cheapest available SMD crystal with 32.768 kHz
- High performance for low cost
- ±10 ppm frequency tolerance at 25°C deliverable on request
- Standard operating temperature range of -40/+85°C
- Excellent clock signal generator for CPU's

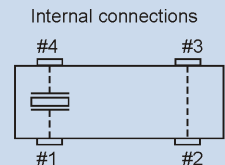
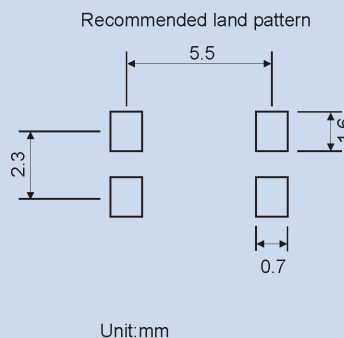
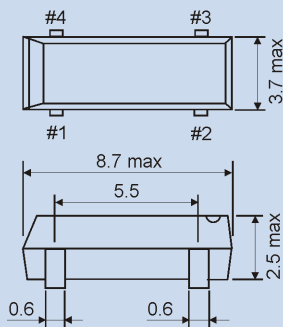
RoHS-2 2011/65/EU  
 compliant

### GENERAL DATA

SMD-CRYSTAL SERIES	M8208
NUMBER OF SOLDER PADS	4
PAD CONNECTION	Pad # 1 + 4 = XTAL Pad # 2 + 3 = do not connect / not connect to ground
FREQUENCY RANGE	32.768 kHz
FREQUENCY TOLERANCES AT 25°C	±20 ppm (standard) / ±10 ppm ~ ±100 ppm (option)
LOAD CAPACITANCE (C <sub>L</sub> )	12.5 pF (standard) 6pF, 7pF, 8pF and 9pF available on request
WORKING TEMPERATURE RANGES	-40/+85°C
RESONANCE RESISTANCE	50 kΩ max.
SHUNT CAPACITANCE C <sub>0</sub>	1 ~ 1.25 pF typical
TURNOVER TEMPERATURE	+25°C ±5°C
PARABOLIC COEFFICIENT	-0.035 ppm/°C <sup>2</sup>
DRIVE LEVEL	1.0 μW max. (other parameters deliverable on request)
AGING	±5 ppm max. per year
INSULATION RESISTANCE	>500 MΩ DC/100V ±10%
STORAGE TEMPERATURE	-40°+85°C
DELIVERY FORM	Tape and Reel (1.000 ~ 3.000 pcs per reel)

**OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION**

### DIMENSIONS



Pad Connection:  
 #1 = Crystal  
 #2 = N/C  
 #3 = N/C  
 #4 = Crystal  
 Do not connect pad #2 + #3 to GND.  
 This is absolutely forbidden.

**CRYSTALS**

**OSCILLATORS**

**CERAMIC RESONATORS**



Premium Quality by  
**PETERMANN-TECHNIK**

**CERAMIC FILTERS**

**SAW COMPONENTS**

Spec.01 • REV.00 • June 2013

## ORDERING INFORMATION

Series

M8208

Frequency

32.768 kHz

Frequency  
Stability at  
25°C

20

Temperature  
Range

-40+85°C

Load  
Capacitance

12.5 pF

**CRYSTALS**  
**OSCILLATORS**  
**CERAMIC RESONATORS**



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