

# SMD WATCH CRYSTAL 32.768 kHz

SERIES M8208 (4 PAD HOUSING 8.7x3.7MM)

## FEATURES

- + Cheapest available SMD-Watch-Crystal
- + High performance for low cost
- +  $\pm 10$  ppm frequency tolerance at 25°C deliverable on request
- + Standard operating temperature range of -40/+85°C
- + Excellent clock generator for CPU's, Wireless, Mobile Comm., etc.

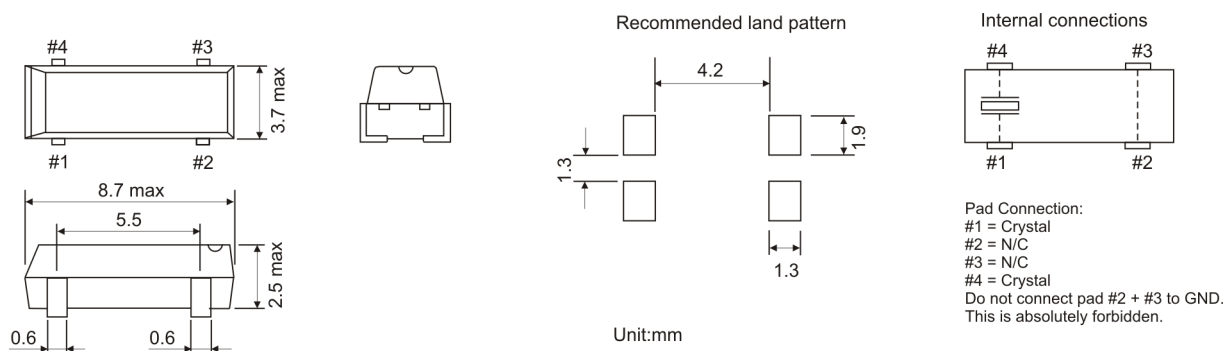


## GENERAL DATA

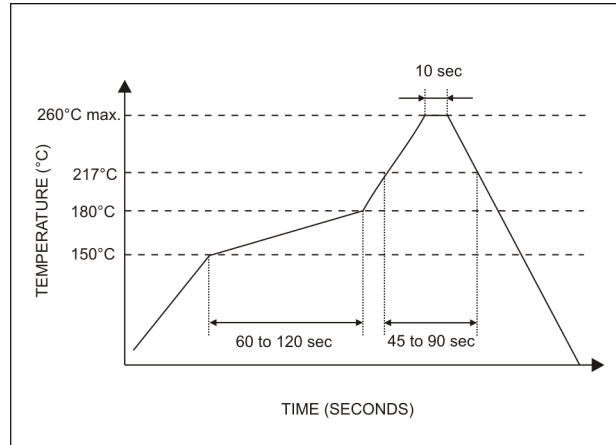
ROHS COMPLIANT

PARAMETERS	PRODUCT FEATURES AND CONDITIONS
SMD-CRYSTAL SERIES	M8208
NUMBER OF SOLDER PADS	4
PAD CONNECTION	Pad # 1 + 4 = XTAL Pad # 2 + 3 = do not connected / not connect to ground
FREQUENCY RANGE	32.768 kHz
FREQUENCY TOLERANCES AT 25°C	$\pm 20$ ppm (standard) / $\pm 10$ ppm ~ $\pm 100$ ppm (option)
LOAD CAPACITANCE (C <sub>L</sub> )	12.5 pF (standard) 6,7,8 and 9pF available on request
WORKING TEMPERATURE RANGE	-40/+85°C
RESONANCE RESISTANCE	50 k $\Omega$ max.
SHUNT CAPACITANCE (C <sub>0</sub> )	1.5 pF typ.
PARABOLIC COEFFICIENT	-0.035 $\pm 0.008$ ppm/ $\Delta$ C <sup>2</sup>
DRIVE LEVEL	1.0 $\mu$ W max. (other parameters deliverable on request)
AGING	$\pm 5$ ppm max. per year
INSULATION RESISTANCE	>500 M $\Omega$ DC/100V $\pm 10\%$
STORAGE TEMPERATURE	-55°/+125°C
DELIVERY FORM	Tape and Reel (1.000 ~ 3.000 pcs per reel)
<a href="#">SELECT YOUR REQUIRED CRYSTAL (PRODUCT CONFIGURATOR)</a>	<a href="#">REQUEST CRYSTAL SAMPLES (SAMPLE CONFIGURATOR)</a>

## DIMENSIONS



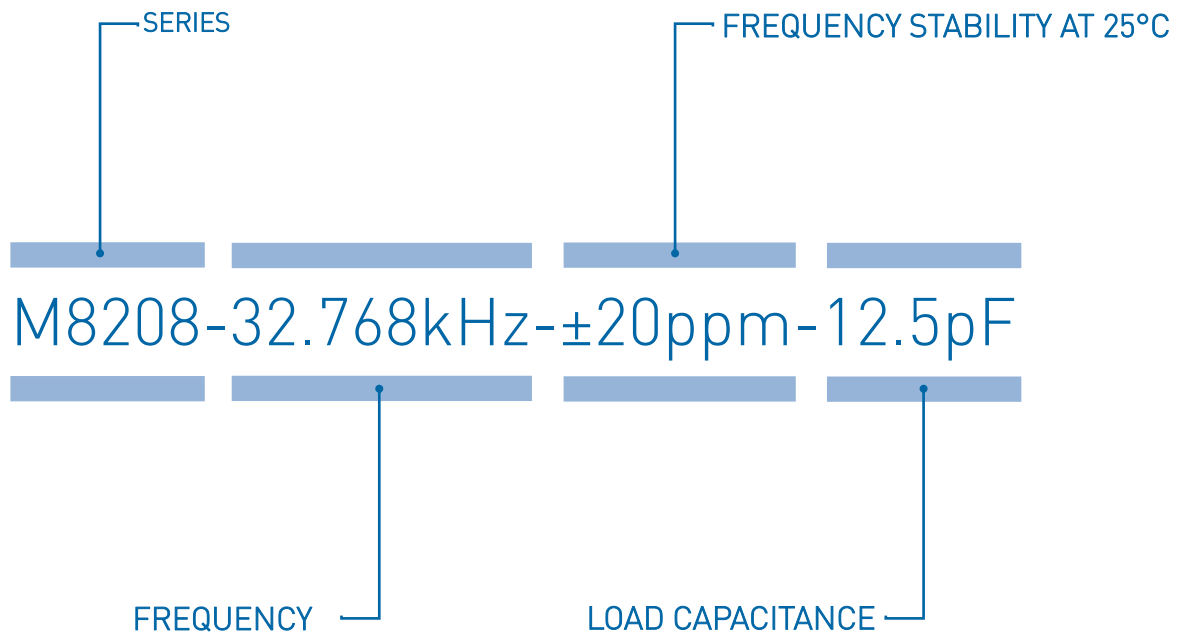
## REFLOW SOLDER PROFILE



Soldering instruction:

The M8208 is suitable for 1 reflow solder process. The max. temperature directly at the component may not exceed the temperature of 260°C for 10 sec. max. Do not solder the M8208 twice nor submit it to another additional thermal stress.

## ORDERING INFORMATION



EXAMPLE: M8208-32.768kHz-±20ppm-12.5pF  
 PLEASE INDICATE YOUR REQUIRED PARAMETERS



## REVISION HISTORY<sup>[1]</sup>

VERSION	RELEASE DATE	AMENDMENTS SUMMARY
01	12/12/16	+ Updated Reflow Solder information

Note:

1. Based on Datasheet version from May 2015/SPEC 01/REV.00



## PREMIUM QUALITY BY PETERMANN-TECHNIK



OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2015 IN OCTOBER 2016 BY THE DMSZ CERTIFIKATION GMBH.

THIS IS FOR YOU TO ENSURE THAT THE PRINCIPLES OF QUALITY MANAGEMENT ARE FULLY IMPLEMENTED IN OUR QUALITY MANAGEMENT SYSTEM AND QUALITY CONTROL METHODS ALSO DOMINATE OUR QUALITY STANDARDS.

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