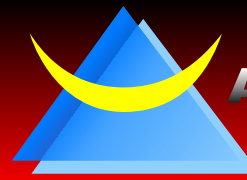


# CSMP1 SERIES

- Plastic SMD Tuning Fork Crystal
- Wide Temperature Range
- Tight Tolerance and Stability
- Tape and Reel Packaging



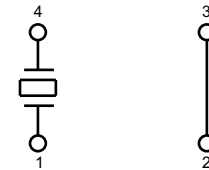
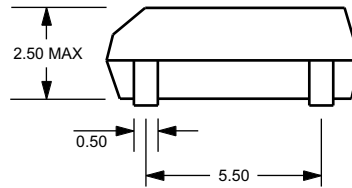
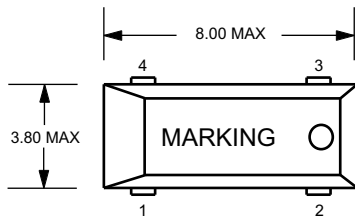
**ASCEND**

FREQUENCY DEVICES

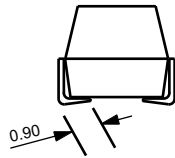
## Electrical Specifications

Frequency Range:	32.768KHz
Frequency Tolerance/Stability:	±20ppm / $-.034(\pm.006)\text{ppm}/^{\circ}\text{C}^2(\text{T-To})^2$
Turnover Temperature (To):	25°C±5°C
Operating Temperature Range:	-40°C to +85°C
Storage Temperature Range:	-55°C to +125°C
Aging:	±3ppm / first year Maximum
Shunt Capacitance:	1.35pF Maximum
Load Capacitance:	12.5pF or 6pF
Equivalent Series Resistance:	50k Ohms Maximum
Drive Level:	1µWatts Maximum
Motional Capacitance:	3.0fF Typical
Capacitance Ratio:	450 Typical
Insulation Resistance::	500M ohms minimum / DC 100V ±15V
Hermeticity of Seal::	$1 \times 10^{-2}$ mPa (m³/s) Maximum
Shock Resistance::	±5ppm Maximum (drop test onto a hard wooden board from 75cm)

## Mechanical Dimensions



PAD CONNECTIONS



### MARKING

Line 1: 32.768KHz

ALL DIMENSIONS  
IN MILLIMETERS

## Part Numbering Guide

# CSMP1 12 - 32.768K TR

### Series

Plastic SMD 3.8mm x 8.00mm Watch Crystal

### Packaging

Blank = Bulk  
TR = Tape and Reel

### Load Capacitance

06 = 6pF  
12 = 12.5pF

### Frequency

K = KHz