

Phase Noise under Vibration Theory and Test Results

Bernd Neubig
AXTAL GmbH & Co. KG
Wasemweg 5
D-74821 Mosbach
www.axtal.com

Content



✕ Theoretical Background

- ✕ Sensitivity to forces and acceleration
- ✕ Sensitivity to vibrations

✕ Experimental Results

- ✕ AXIOM75-16-60 MHz with AT-cut (HC-43/U)
- ✕ AXIOM75-16A-60 MHz with SC-cut (HC-35/U)
- ✕ AXIOM35-14A-100 MHz with SC-cut (HC-43/U)
- ✕ 100 MHz with SC-cut (HC-43/U) other supplier

Content



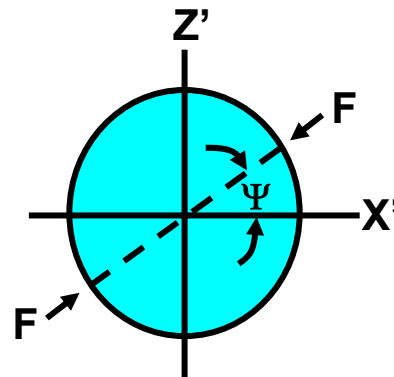
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Influence of lateral forces



Example:

Resonator 5 MHz 3rd overtone, 14 mm diameter

$$\left(\frac{\Delta f}{f}\right)_{\text{Max}} = \begin{cases} 3 \text{ ppm/N} & \text{for AT-cut resonator} \\ 1.7 \text{ ppm/N} & \text{for SC-cut resonator} \end{cases}$$

