KEMET
a YAGEO company

PIEZOELECTRIC CERAMICS

ND Disc Shape Transducers

Overview

KEMET's piezoelectric ceramics ND series are disc shaped piezoceramics that use original high-performance piezoelectric materials.
These products are based on the principle of the piezoelectric effect that generates a charge in response to pressure and an inverse piezoelectric effect that generates strain in response to voltage.

Benefits

- N6 material has a high coupling coefficient, high Qm, and low tanδ, suitable for high power applications
- N21 material has a high coupling coefficient and a large g-constant, suitable for sensing applications
- Operating temperature range from -20ºC to +60ºC
- RoHS and REACH compliant

Applications

- Vibratory feeder
- Ultrasonic cleaning machine
- Ultrasonic levitation
- Ultrasonic flow and level meter
- Ultrasonic distance sensor
- Load sensor, impact sensor

Material Properties

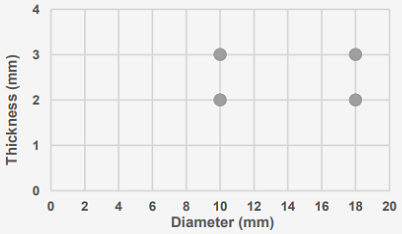
Item	N6	N21
Relative Dielectric Constants	1,400	1,800
Dielectric Loss (%)	0.3	2.0
Frequency Constants N_1 Radial (Hz m)	2,160	1,960
Electromechanical Coupling Factors Kr (%)	55	62
Piezoelectric Constants d_{31} ($x10^{-12}$ m/V)	-133	-198
Piezoelectric Constants g_{33} ($x10^{-3}$ Vm/N)	23.5	25.4
Mechanical Quality Factor	1,500	75
Curie Temperature (ºC)	325	330

Construction

Part Number	Radial Resonance Frequency (kHz)	Capacitance (pF)
ND10X2N6	216	480
ND10X3N6	207	320
ND18X2N6	120	1,610
ND18X3N6	120	1,080
ND10X2N21	196	590
ND10X3N21	190	400
ND18X2N21	109	2,000
ND18X3N21	109	1,370

ND****N6 ND****N21

Shape Lineup



Product Configuration