

Round PICMA® Multilayer Bender Actuators

All-Ceramic Bending Actuators with High Displacement



PD410

Displacement to 480 µm
Fast response in the ms range
Nanometer resolution
Low operating voltage
UHV-compatible to 10⁻⁹ hPa

PICMA® multilayer bender elements with high reliability

Operating voltage 0 to 60 V. Bidirectional displacement, bimorph design. Ceramic insulation, polymer free. UHV-compatible to 10⁻⁹ hPa, no outgassing, high bakeout temperature. Reliable even under extreme conditions.

Fields of application

Industry and research, vacuum. For medical technology, laser technology, sensor technology, automation tasks, pneumatic valves.

Motion	Unit	Tolerance	PD410.10	PD410.11
Displacement	µm	±20%	±240	±240

Drive Properties	Unit	Tolerance	PD410.10	PD410.11
Actuator type			Bending actuator	Bending actuator
Drive type			Piezo actuator/PICMA® Bender	Piezo actuator/PICMA® Bender
Operating voltage	V		0 to 60 (±30)	0 to 60 (±30)
Electrical capacitance	µF	±20%	2 × 9.5	2 × 9.5

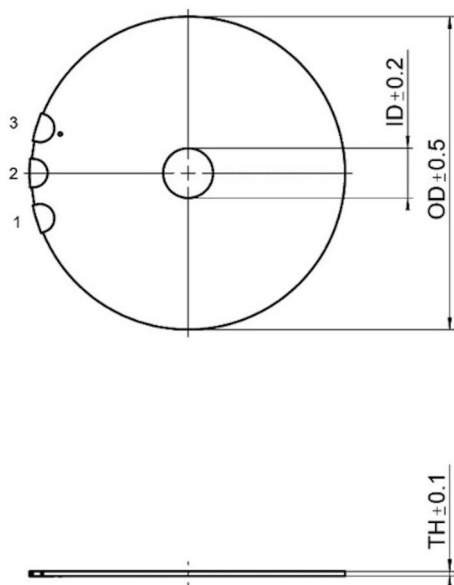
Mechanical Properties	Unit	Tolerance	PD410.10	PD410.11
Resonant frequency, unloaded	Hz	±20%	1000	1000
Blocking force	N	±20%	±16	±16
Piezo material			PIC252	PIC252

Miscellaneous	Unit		PD410.10	PD410.11
Operating temperature range	°C		-20 to 150	-20 to 150
Vacuum class	hPa		10 ⁻⁹	10 ⁻⁹
Connector			Solderable contacts	Stranded wires, PTFE isolated, AWG 32, Ø 0.49 mm
Cable length	m			0.1
Recommended controllers / drivers			E-650, E-651 • E-614	E-650, E-651 • E-614

Electrical capacitance: Measured at 1 V_{pp}, 1 kHz, RT.
 Resonant frequency, unloaded: Measured at 1 V_{pp} restraint with rotatable mounting on the outer circumference.
 Recommended mounting: Epoxy resin adhesive.
 All specifications depend on actual clamping conditions and mechanical load applied.

Custom designs or different specifications on request.

Drawings / Images



PD410 round PICMA® Bender Piezo Actuator, dimensions in mm. OD=44 mm, ID=7 mm, TH=0.65 mm.

Order Information

PD410.10

Round PICMA® multilayer bending actuator; PICMA® Bender piezo actuator drive; ±240 µm travel range (open loop); vacuum-compatible to 10⁻⁹ hPa; solderable contacts

PD410.11

Round PICMA® multilayer bending actuator; PICMA® Bender piezo actuator drive; ±240 µm travel range (open loop); vacuum-compatible to 10⁻⁹ hPa; connecting wires