

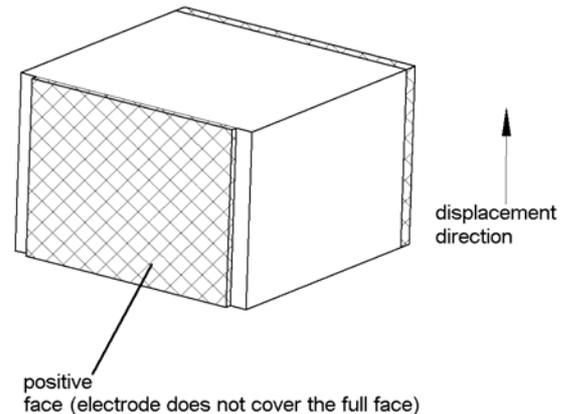
Technical Note

PL0XT0001, valid for PL022, PL033, PL055

PICMA[®] Chip Monolithic Multilayer Piezo Actuators

Features:

- Ceramic Insulation for Extended Lifetime
- Ultra-Compact from 2x2x2 mm³
- High Curie Temperature
- Ideal for Dynamic Operation
- Sub-Millisecond Response / Sub-Nanometer Resolution
- UHV Compatible to 10⁻⁹ hPa
- Superior Lifetime Even Under Extreme Conditions



Technical Data / Ordering Numbers:

Ordering Number*	Dimensions A x B x TH [mm ±0.1]	Displacement [µm ±20% @ 100V] measured between two tips	Blocking Force [N]@100 V	EI. capa- cittance [nF ±20%]	Unloaded Resonant Frequency [kHz]
PL022.30	2 x 2 x 2	2.2	> 120	25	> 300
PL033.30	3 x 3 x 2	2.2	> 300	50	> 300
PL055.30	5 x 5 x 2	2.2	> 500	250	> 300

* For optional wire leads (STC-32T-1x, 100 mm length) change order number extension to .x1 (e.g. PL022.31).

Capacitance measured at 1 V_{pp}, 1 kHz.

Max. operating voltage: -20 to +120 V

Max. operating temperature: 150°C

Standard Mechanical Interface: ceramic (top & bottom)

Standard Electrical Interface: solderable termination

Available Options: special mechanical interfaces, etc.

Other specifications on request.

Specifications subject to change without notice.

CAUTION:

Polarity Matters: Termination with the smaller electrode (or red lead) must be connected to +V, opposite one (or black lead) attached to GND. Do not reverse. Do not exceed 120 volts.

Assembling: Epoxy adhesives are recommended for mechanical assembling. Please make sure that the mounting surface does not short the actuator electrically.

Soldering: The contacts may be soldered with a solder from the system L-Sn95..97Ag3 ..4Cu0.5..1.0 containing flux. Permissible flux types are 1.1.1 or 1.1.3 (DIN EN29-454 Part 1) corresponding to ROLO / ROMO (J-STD-004). The maximum soldering temperature is 350 °C (662 °F) for less than one second (i.e. as short as possible). Flux residues must be removed by a cleaning process applying ethanol or a higher alcohol. The use of an ultrasonic bath is possible. Alternatively the use of conductive epoxies instead of solder is recommended.

Environment: Store components in dry air and at room temperature.