

压电致动器产品介绍

Piezoelectric Actuator Product Introduction

压电致动器是基于压电材料制作而成的具有变形特性的压电执行器件。它利用压电陶瓷的逆压电效应，在不同电压的驱使下，可以产生不同的位移量。

Piezoelectric actuators are piezoelectric actuators with deformation characteristics based on piezoelectric materials. It utilizes the inverse piezoelectric effect of piezoelectric ceramics, which can produce different displacements under the drive of different voltages.

压电致动器的特点

Features of piezoelectric actuators:

纳米级高分辨率;

Nanoscale high resolution;

推力大; large thrust;

毫秒至亚秒级响应速率;

Millisecond to sub-second response rate;

噪声小; low noise;

稳定性好等 good stability

压电致动器的应用:

基于压电致动器的特点，其在光学、力学、半导体、加工、生物医疗、显微成像等领域得到了广泛的应用，如光纤拉伸、高精密机械加工设备、小型高速冲床、智能弹头的角度调整、高精度阀门、手术刀精密控制、光学调整平台、变形镜、偏转镜等。应用场景非常多样，如快速响应及大出力特点，非常适用于主动减振/抑振等；高分辨率特点又使其非常适用于光学干涉移相、三维形貌测量、变形镜等；小体积及快速定位特点适用于激光腔调谐；拉伸性能可应用于光纤拉伸。

Applications of piezoelectric actuators:

Based on the characteristics of piezoelectric actuators, they have been widely used in various fields such as optics, mechanics, semiconductors, processing, biomedicine, and microscopic imaging, such as optical fiber stretching, high-precision machining equipment, small high-speed punches, intelligent Bullet angle adjustment, high-precision valve, precision control of scalpel, optical adjustment platform, deformation mirror, deflection mirror, etc. The application scenarios are very diverse, such as fast response and large output characteristics, which are very suitable for active vibration reduction/vibration suppression, etc.; high resolution characteristics make it very suitable for optical interference phase shifting, 3D shape measurement, deformable mirrors, etc.; small size and the characteristics of fast positioning are suitable for laser cavity tuning; the stretching performance can be applied to optical fiber stretching.

贵州振华红云电子有限公司

Guizhou Zhenhua Hongyun Electronics Co., Ltd

●产品特点及用途 Product features and applications

单管压电陶瓷致动器具有体积小、重量轻、频率精度高、损耗小等特点，重点应用于光学、光纤领域的偏转、调谐，微型液体喷嘴等。

The single-tube piezoelectric ceramic actuator has the characteristics of small size, light weight, high frequency accuracy, and low loss. It is mainly used in deflection and tuning in the fields of optics and optical fibers, and micro-liquid nozzles.

●产品介绍

Production Introduction Part Number: PAJ120-7736-38

注：图中所示的为未安装封套的压电陶瓷的尺寸，安装封套后整体尺寸约增加 1-1.5mm，电极引线出口的尺寸约增加 3-3.5mm。

Note: The size shown in the figure is the size of the piezoelectric ceramic without the envelope installed. After the envelope is installed, the overall size will increase by about 1-1.5mm, and the size of the electrode lead outlet will increase by about 3-3.5mm.

①产品测试条件为 0-150V

Product test condition is 0-150V

②动态使用时推荐预负载为：15MPa

The recommended preload for dynamic use is: 15MPa

③动态使用时推荐最大预负载为：30MPa

The recommended maximum preload for dynamic use is: 30MPa

④工作电压：-20~150V，直流稳压电源

Working voltage: -20~150V, DC regulated power supply

⑤工作温度：-40~150℃

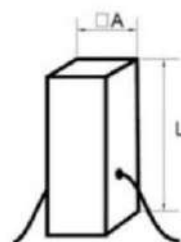
Working temperature: -40~150℃

⑥标准规格导线为红黑两色导线各一根，红正黑负，线长 L=100mm，线径 $\Phi 0.75\text{mm}$

Standard wires: red and black wires, one red and one black, wire length L=100mm, wire diameter $\Phi 0.75\text{mm}$

⑦产品外形尺寸、性能要求可接收客户定制。

Product dimensions and performance requirements can be customized by customers



Item	长 (mm) ± 0.3	宽 (mm) ± 0.3	高 (mm) ± 0.3	静电容量 (μF) $\pm 30\%$	损耗 (%)	谐振频率 Khz ± 3	位移 (μm) (@120V)	最大推力 (N)
1	7	7	36	8	≤ 4	34	≥ 38	1750