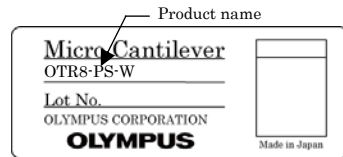


Micro cantilever

Product name

OTR8-PS-W

Silicon nitride Triangular cantilever with Sharpened Pyramidal tip



OTR8-PS-W

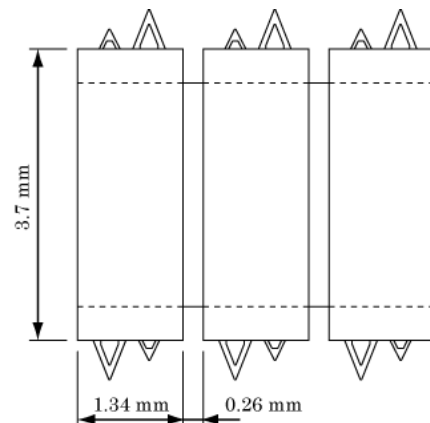
O : OLYMPUS
 TR : Triangular cantilever
 S : Lever thickness of 800 nm
 P : Pyramidal tip
 S : Single side metal coating (reflex coat)
 W : Wafer / unit (14 strips / unit)
 (490 chips / unit)

Chip

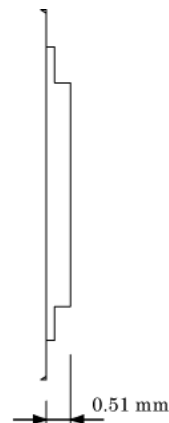
There are two types of triangular cantilevers (100 μm and 200 μm long) on both sides of the glass chip.

Dimensions

tip side view



side view



Material

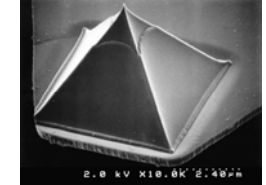
| | |
|---------------|-----------------|
| Tip & Lever | Silicon nitride |
| Metal coating | Gold / Chromium |
| Chip | Pyrex glass |

Tip

The tip is a hollow pyramid with a sharp apex (oxide sharpened).

Dimensions

| | Typical value |
|---------------------------------|---------------|
| Tip height (μm) | 2.9 |
| Tip radius (nm) | < 20 |
| Tip angle (deg.) | < 70 |



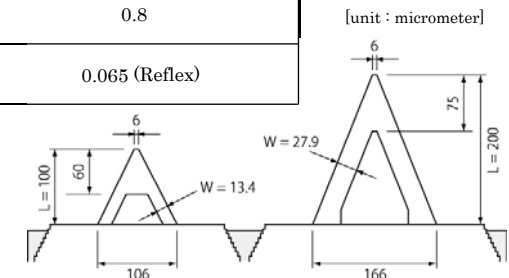
SEM micrograph of the sharpened pyramidal tip

Tip angle between diagonal ridges is less than 90 degrees.

Cantilever

Dimensions

| | Typical value | |
|--|------------------------|-----|
| Cantilever length L (μm) | 100 | 200 |
| Cantilever width W (μm) | refer to illust. below | |
| Cantilever thickness t (μm) | 0.8 | |
| Metal coat thickness tm (μm) | 0.065 (Reflex) | |



Calculated mechanical properties

| | | Typical value |
|-----------------------------|------------------------------|---------------|
| Resonant frequency (kHz) | 100 μm long lever | 73 |
| | 200 μm long lever | 24 |
| Spring constant (N/m) | 100 μm long lever | 0.57 |
| | 200 μm long lever | 0.15 |

OLYMPUS

OTR8-PS-W