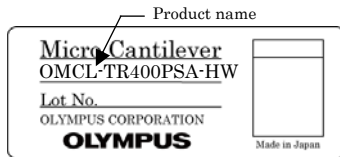


Micro cantilever

Product name

OMCL-TR400PSA-HW

Silicon nitride Triangular cantilever with Sharpened Pyramidal tip



OMCL - TR 400 P SA - HW

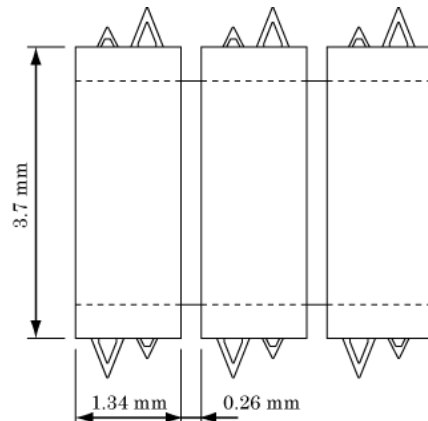
OMCL : Olympus Micro Cantilever
 TR : Triangular cantilever
 400 : Lever thickness of 400 nm
 P : Pyramidal tip
 SA : Single side metal coating (reflex coat)
 HW : Half wafer (7strips , 245 chips) / unit

Chip

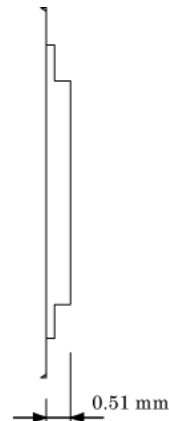
There are two types of triangular cantilevers (100 μm and 200 μm long) on both sides of the glass chip.

Dimensions

tip side view



side view



Material

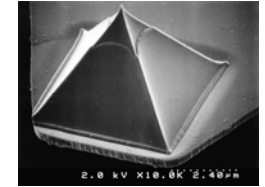
Tip & Lever	Silicon nitride
Metal coating (reflex side)	Gold / Chromium
Chip	Pyrex glass

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

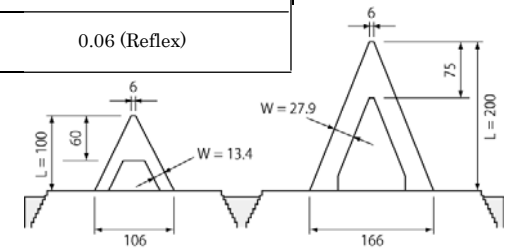
Tip angle between diagonal ridges is less than 90 degrees.

Cantilever

Dimensions

	Typical value	
Cantilever length L (μm)	100	200
Cantilever width W (μm)	refer to illust. below	
Cantilever thickness t (μm)	0.4	
Metal coat thickness tm (μm)	0.06 (Reflex)	

[unit : micrometer]



Calculated mechanical properties

		Typical value
Resonant frequency (kHz)	100 μm long lever	34
	200 μm long lever	11
Spring constant (N/m)	100 μm long lever	0.08
	200 μm long lever	0.02

OLYMPUS

OMCL-TR400PSA-HW

Ver. 5.0 Aug. 6, 2009