

Micro cantilever

Product name

OMCL-AC160TS-R3

Silicon cantilever with a sharpened tetrahedral tip

| | |
|---------------------------------|--------------------|
| Product name | |
| Micro Cantilever | |
| OMCL-AC160TS-R3 | |
| LotNo. | |
| Typical Value | Inspection result |
| Resonant frequency 300 (kHz) | |
| Spring constant 26 (N/m) | (Calculated Value) |
| http://www.olympus.co.jp/probe/ | |
| OLYMPUS | |

Inspection result

OMCL - AC 160 T S - R 3

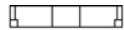
OMCL : Olympus Micro Cantilever
 AC : main application is AC mode measurement
 160 : Lever length of 160 μm
 T : sharpened Tetrahedral tip
 S : Aluminum reflex coating (Single side)
 R : 100 chips / unit
 3 : Chip thickness 0.3 mm,
 Rectangular cross section chip

Chip

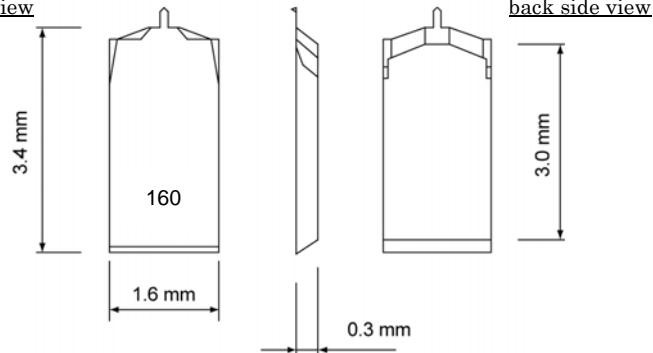
There is a rectangular cantilever on one side of the silicon chip.

Dimension

front side view



tip side view

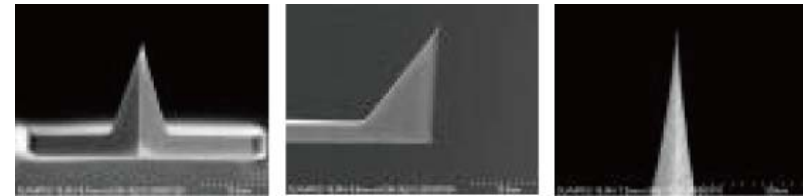


Material

| | |
|-------------------------------|--------------------------------------|
| Tip & Lever | Silicon (n-type, 0.01 - 0.02 ohm.cm) |
| Metal coating (tip side) | Non |
| Metal coating (ref ; ex side) | Aluminum on Silicon cantilever |
| Chip | Silicon (n-type, 0.01 - 0.02 ohm.cm) |

Probe

The probe is a sharpened tetrahedral. The probe is fabricated on the exact end of each cantilever.



Front

Side

Front (probe apex)

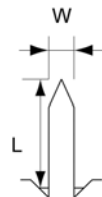
Dimensions

| | Typical value | Typical range |
|-----------------------------------|--|---------------|
| Probe length (μm) | 14 | 9 - 19 |
| Tip radius (nm) | 7 | 4 - 10 |
| Probe tip half angle (deg.) | (axis) less than 17.5 (side) less than 17.5 | |
| Probe side tip angle (deg.) | (front) 0, (back) 35 (side) 18, 18 | |

Cantilever

Dimensions

| | |
|---|-----------------------------|
| Cantilever length L (μm) | 160 (± 15) |
| Cantilever width W (μm) | 40 (± 2) |
| Cantilever thickness t (μm) | 3.7 (± 0.5) |
| Thickness of Metal Coat tm (μm) | Aluminum 0.1 (± 0.04) |



Calculated mechanical properties

| | Typical value | Typical range |
|--------------------------|---------------|---------------|
| Resonant frequency (kHz) | 300 | 200 - 400 |
| Spring constant (N/m) | 26 | 8.4 - 57 |

OLYMPUS

OMCL-AC160TS-R3

Ver.1.3 June 3, 2011