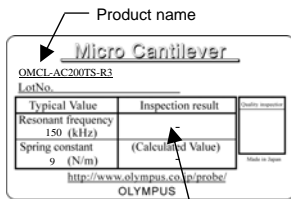


## Micro cantilever

### Product name

#### OMCL-AC200TS-R3

Silicon cantilever with a sharpened tetrahedral tip



Inspection result

### OMCL - AC 200 T S - R 3

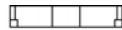
OMCL : Olympus Micro Cantilever  
 AC : main application is AC mode measurement  
 200 : Lever length of 200  $\mu\text{m}$   
 T : sharpened Tetrahedral tip  
 S : Aluminum reflex coating (Single side)  
 R : 100 chips / unit  
 3 : Chip thickness 0.3 mm,  
 Rectangular cross section chip

### Chip

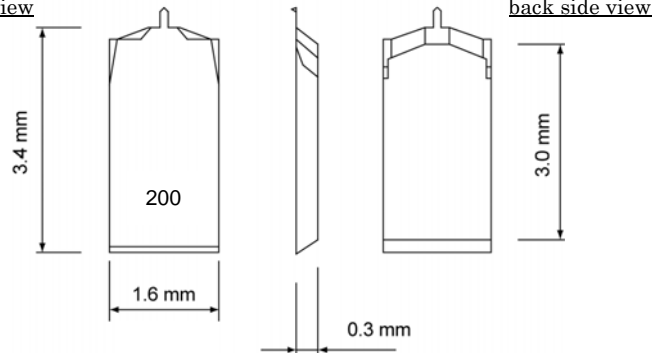
There is a rectangular cantilever on one side of the silicon chip.

#### Dimension

front side view



tip side view

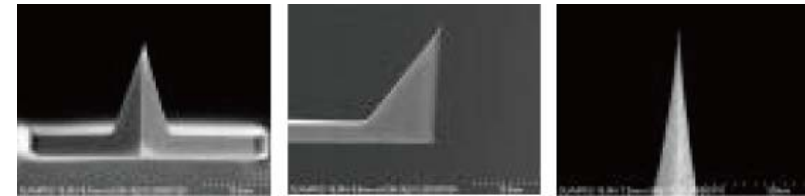


### Material

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)

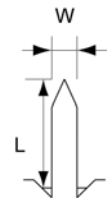
### Dimensions

	Typical value	Typical range
Probe length ( $\mu\text{m}$ )	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 ( $\mu\text{m}$ )	200 ( $\pm 20$ )
Cantilever width W ( $\mu\text{m}$ )	40 ( $\pm 2$ )
Cantilever thickness t ( $\mu\text{m}$ )	3.5 ( $\pm 0.6$ )
Thickness of Metal Coat tm ( $\mu\text{m}$ )	Aluminum 0.1 ( $\pm 0.04$ )



### Calculated mechanical properties

	Typical value	Typical range
Resonant frequency (kHz)	150	100 - 200
Spring constant (N/m)	9	2.8 - 21

**OLYMPUS**

OMCL-AC200TS-R3

Ver.1.3 June. 3, 2011