

Micro cantilever

Product name

BL-AC40TS-C2 (BioLever mini)

Silicon nitride cantilever with silicon tetrahedral tip

Product name Micro Cantilever		
BL-AC40TS-C2		
LotNo.		
Typical Value	Inspection result	Quality inspection
Resonant frequency 110 (kHz)		
Spring constant 0.09 (N/m)	(Calculated Value)	
http://www.olympus.co.jp/probe/		
OLYMPUS		

BL - AC 40 T S - C 2

BL : Bio Lever

AC : main application is AC mode measurement

40 : Lever length of 40 μm

T : Tetrahedral tip

S : Gold/Chromium reflex coating (Single side)

C : 24 chips / unit

2 : Chip thickness 0.3mm

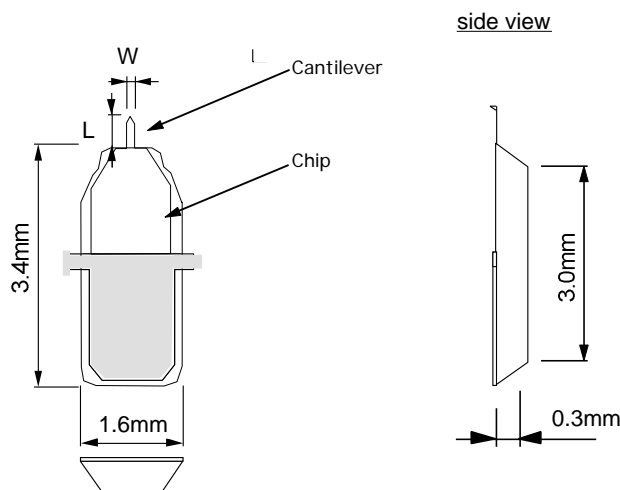
Inspection result

Chip

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

Dimension

tip side view

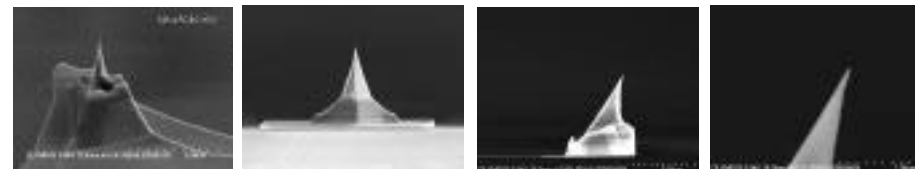


Material

Tip	Silicon (4 - 6 ohm.cm)
Lever	Silicon nitride
Metal coating (tip side)	No coating
Metal coating (back side)	Gold/Chromium on Silicon nitride cantilever
Chip	Silicon (4 - 6 ohm.cm)

Tip

The tip shapes a two-stage probe. Apex of the tip is made of silicon and shapes sharpened tetrahedral. Bottom of the tip is covered with silicon nitride film. The tip is fabricated on the end of each cantilever.



Perspective view

Front

Side

Magnified Side View

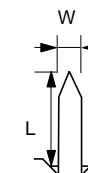
Dimension

	Typical value	Typical range
Whole Tip height (μm)	7	5- 9
EffectiveTip height (μm)	3.5	2- 5
Tip radius (nm)	8	less than 15
Tip angle (deg.)		(side) less than 35 (front) less than 35

Cantilever

Dimension

Cantilever length L (μm)	38 (± 3)
Cantilever width W (μm)	16 (± 2)
Cantilever thickness t (μm)	0.2 (± 0.02)
Metal coat thickness tm (μm)	Gold 0.04 (± 0.01)



Nominal mechanical properties

	Typical value	Typical range
Resonant frequency in air (kHz)	110	75- 145
Resonant frequency in water (kHz)	25	17- 45
Spring constant (N/m)	0.09	0.02 - 0.14

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06-09 OMCL-AC40TS-C2