

## Micro cantilever

### Product name

#### BL-RC150VB-HW (Bio-Lever series)

Silicon nitride Rectangular cantilever with V-shaped tip

Product name

Micro Cantilever

BL-RC150VB-HW

LotNo.

Typical Value	L- 60 $\mu$ m	L- 100 $\mu$ m	Quality Assurance
Resonant frequency (kHz)	37	13	[ ]
Spring constant (pN/nm)	30	6	

http://www.olympus.co.jp/probe/OLYMPUS

### BL - RC 150 V B - HW

BL : Bio Lever  
 RC : Rectangular cantilever  
 150 : Lever thickness (nm) , rough value  
 V : V-shaped tip  
 B : Both side metal coating  
 HW : Half wafer ( 6 strips / unit )  
 ( 210 chips / unit )

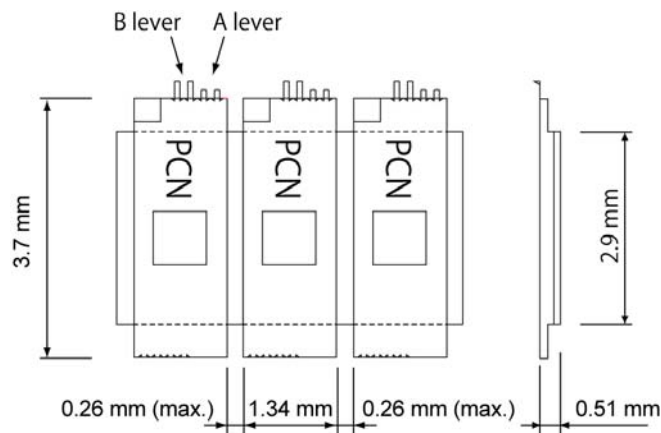
### Chip

There are two types of cantilevers (60  $\mu$ m and 100  $\mu$ m long) on one side of the glass chip.  
 Glass chips are separated from a cantilever-chip-array or a strip before use.

### Dimension

tip side view

side view

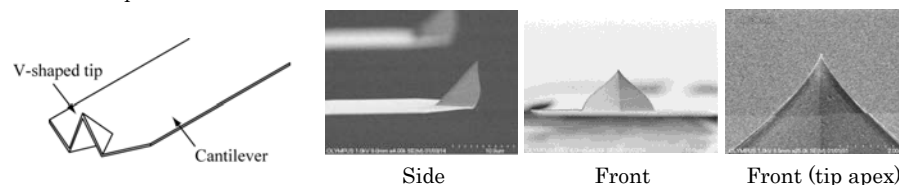


### Materialz

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

### Tip

The tip is a hollow pyramid sliced in half vertically with a sharp apex.  
 The tip is fabricated on the exact end of each cantilever.



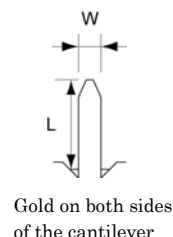
### Dimension

	Typical value	Typical range
Tip height ( $\mu$ m)	7	5 - 10
Tip radius (nm)	30	less than 40
Tip angle (deg.)	(side) less than 45 (front) less than 90	

### Cantilever

#### Dimension

	A lever	B lever
Cantilever length L ( $\mu$ m)	60 ( $\pm$ 10)	100 ( $\pm$ 10)
Cantilever width W ( $\mu$ m)	30 ( $\pm$ 2)	
Cantilever thickness t ( $\mu$ m)	0.13 ( $\pm$ 0.03)	
Metal coat thickness tm ( $\mu$ m)	Tip side 0.02 Back side 0.03	( $\pm$ 0.01)



### Calculated mechanical properties

		Typical value	Typical range
Resonant frequency (kHz)	A lever	37	19 - 73
	B lever	13	7 - 21
Spring constant (pN/nm) (N/m)	A lever	$\frac{30}{0.03}$	$\frac{9 - 96}{0.009 - 0.096}$
	B lever	$\frac{6}{0.006}$	$\frac{2 - 16}{0.002 - 0.016}$

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BL-RC150VB-HW

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