

[MOEMS module]

# MEMS-FPI\* spectroscopic module NEW

## C15712 / C15713 / C15714

The compact near-infrared spectroscopic module combines a MEMS-FPI spectrum sensor capable of spectroscopic measurements in the near-infrared region and a lamp light source.


\*FPI (Fabry-Pérot interferometer)

### FEATURES

- Three wavelength types  
C15712: 1350 to 1650 nm / C15713: 1550 to 1850 nm / C15714: 1750 to 2150 nm
- Spectral resolution: 18 to 22 nm max.
- Dimensions: 32 (W) × 74 (D) × 16 (H) mm
- Interface: USB 2.0



### FPI technology



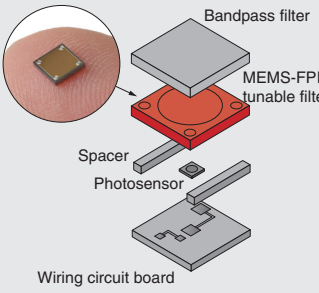
**CORE DEVICE**

**MEMS-FPI spectrum sensor**

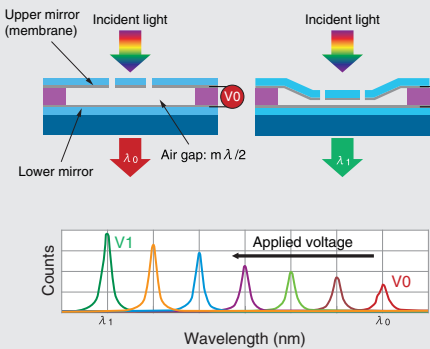
The MEMS-FPI spectrum sensor is an ultra-compact sensor that houses, in a single package, an InGaAs PIN photodiode and a MEMS-FPI tunable filter that can vary its transmission wavelength depending on the applied voltage.

C14272/C13272-03/C14273

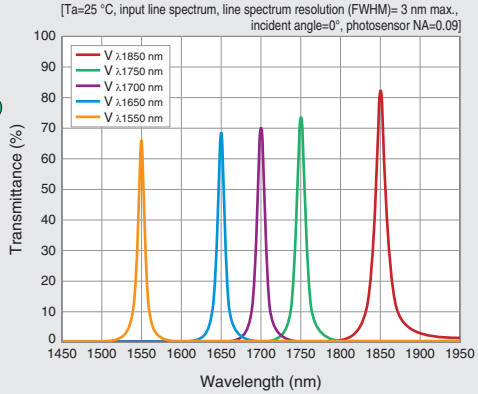
**Structure**



**Tunable filter**



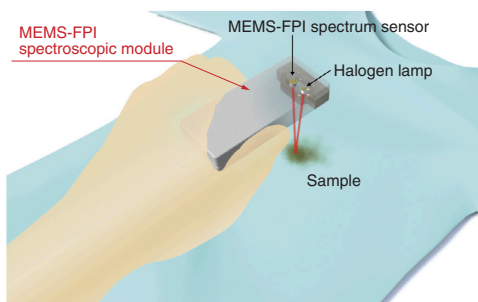
**Transmittance of MEMS-FPI tunable filter**



[Ta=25 °C, input line spectrum, line spectrum resolution (FWHM)= 3 nm max., incident angle=0°, photosensor NA=0.09]

### Application example

This module is sensitive to near-infrared light, which interacts with various kinds of materials, so this module can be used for material identification based on NIR spectroscopy. The following is an example showing the difference in spectra obtained from the three types of textiles.



#### Textile measurement example (C15713)

