PixelSensor™
Multispectral Sensors

Multispectral Sensors for Compact Devices

PixelSensor™ multispectral sensors use on-chip filtering to pack up to 8 wavelength-selective photodiodes into a compact 9 mm x 9 mm array for simple integration into optical devices. A single PixelSensor replaces multiple components, helping OEMs shrink multi-wavelength instruments for applications including in vitro diagnostics, biochemical assays, solar radiation and colorimetry applications.

PixelSensor's wafer-level optical filters split the spectrum into 8 discrete color bands and suppress out-of-band background light, improving contrast and sensitivity. PixelSensor offers wavelength selectivity (400-1010 nm), is available in OEM versions with user-defined spectral bands, and can be specified with optional electronics board and accessories for rapid prototyping and development.
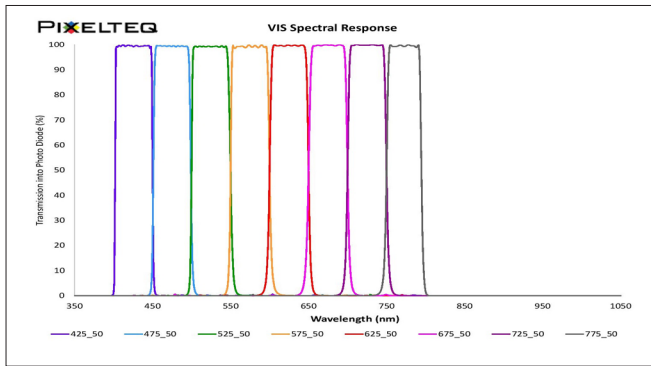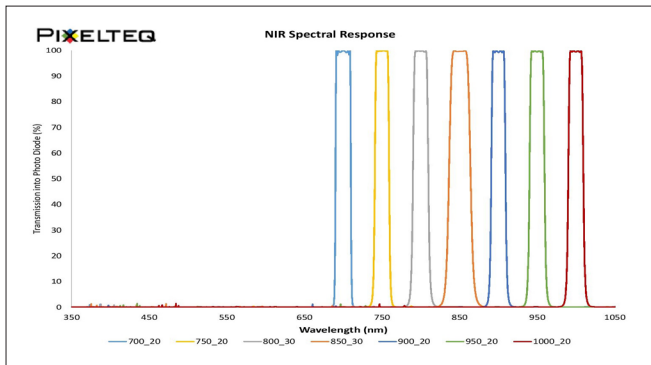
info@oceanoptics.com · info@pixelteq.com

US +1 727-733-2447 · **EUROPE** +31 26-3190500
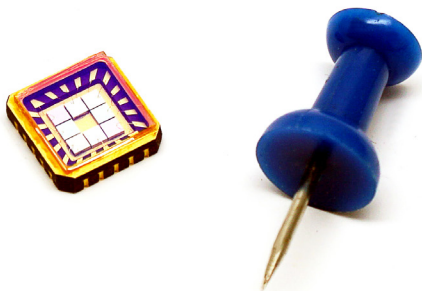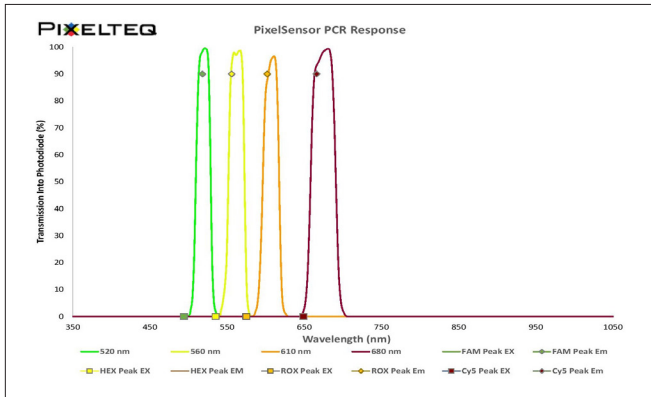
ASIA +86 21-6295-6600 · www.oceanoptics.com

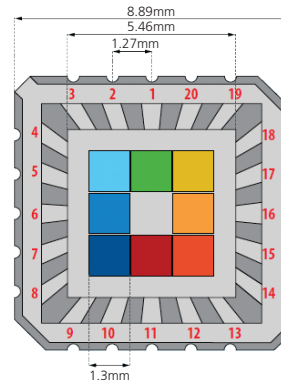## VIS Spectral Response

NIR Spectral Response

PCR Spectral Response

Photodiode Performance Characteristics

Characteristic	Symbol	Test	Min	Typical	Max	Unit
Dark current	I_D	$V_R = 10V$		2	8	nA
Shunt resistance	R_{SH}	$V_R = 10mV$		100		MΩ
Junction capacity	C_J	$V_R = 0V, f=100kHz$		6	7	pF
		$V_R = 50V, f=100kHz$		0.6	0.7	
Spectral range	range	Spot scan	400		1010	nm
Breakdown voltage	V_{BR}	$I = 10μA$		75		V
Noise equivalent power	NEP	$V_R = 5V @$ = peak		$5x10^{-14}$		
Response time	t_r	$R_L = 50Ω, V_R = 50V$		6.0		ns
Absolute maximum rating						
Reverse voltage	V_{BR}			75		V
Operating temperature	T_O		-40	to	+80	℃

LCC Sensor

Spectral filters	Standard and custom 10-100 nm FWHM
Photodiodes	Si, 1.0 x 0.8 mm
Package	LCC 20

LCC Dimensions

Optional Evaluation Housing

Mechanical fixture including:
- 15.2 mm light guide
- SM05 lens adapter
- Fiber optic adapter for collimating lens

OEM Board Specifications

Integration time	1-1024 ms
Gain reference	20–5120 nA/v
Interface	USB 2.0
Protocol	HID-compliant
Software	Windows 32/64-bit compatible

OEM Board Dimensions (inches/mm)