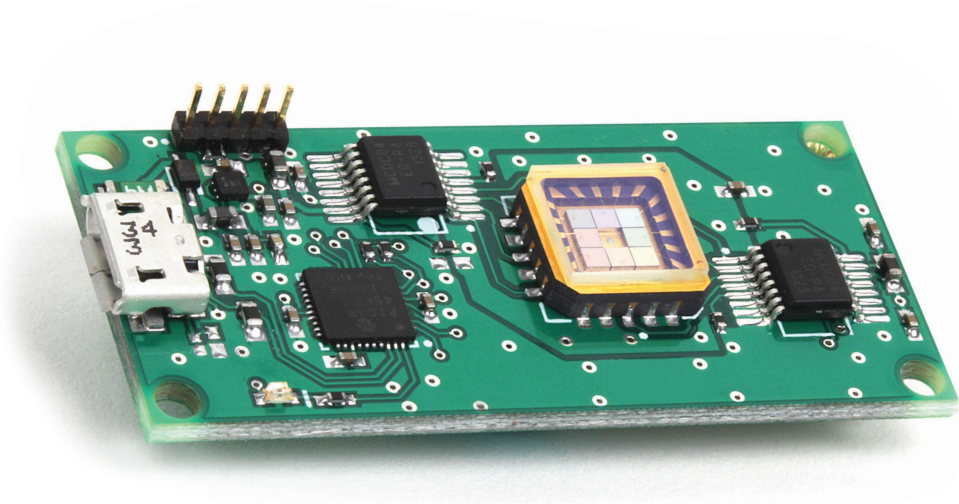




PixelSensor™

Multispectral Sensors

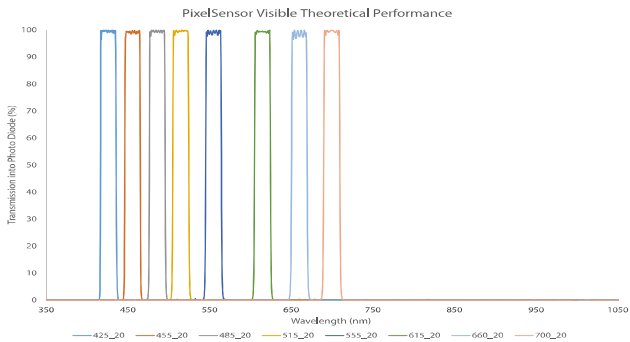
Multispectral Sensors for Compact Devices

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 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 narrowband selectivity (400-1000 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.



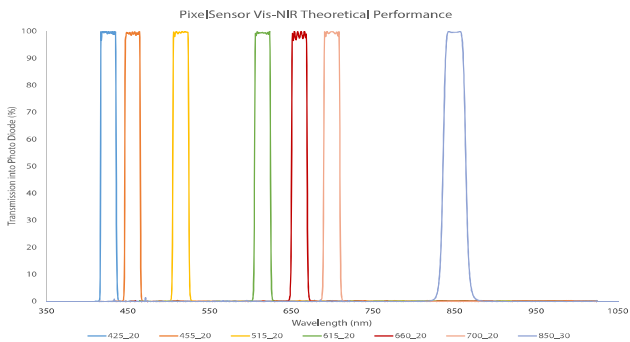
VIS Spectral Response



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	$V_R = 0V, f=100kHz$ $V_R = 50V, f=100kHz$		6 0.6	7 0.7	pF
Spectral range	range	Spot scan	400		1100	nm
Breakdown voltage	V_{BR}	$I = 10\mu A$		75		V
Noise equivalent power	NEP	$V_R = 5V @ \text{peak}$		5×10^{-14}		
Response time	t_r	$R_L = 50 \Omega, V_R = 50V$		6.0		ns
Absolute maximum rating						
Reverse voltage	V_{BR}			75		V
Operating temperature	T_O		-40	to	+80	°C

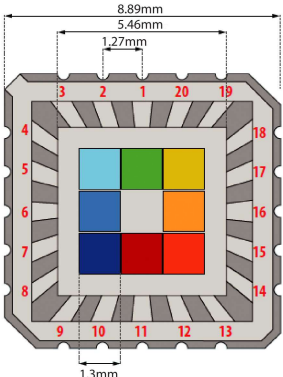
VIS-NIR Spectral



LCC Sensor

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

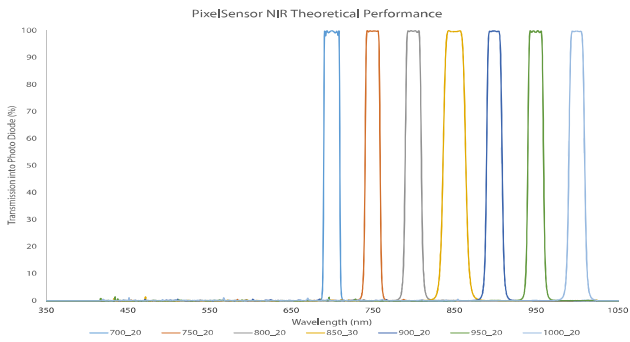
LCC Dimensions



Optional Evaluation Housing



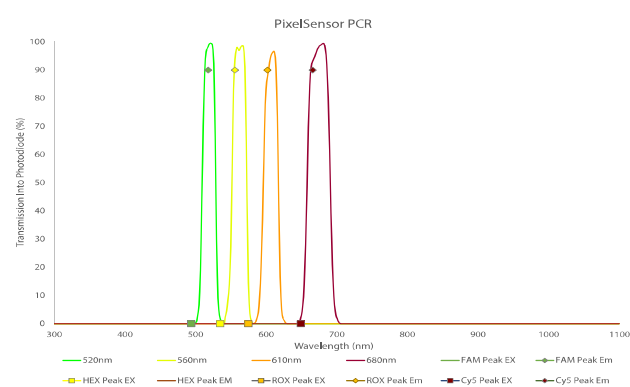
NIR Spectral



OEM Board Specifications

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

PCR Spectral



OEM Board Dimensions (inches/mm)

