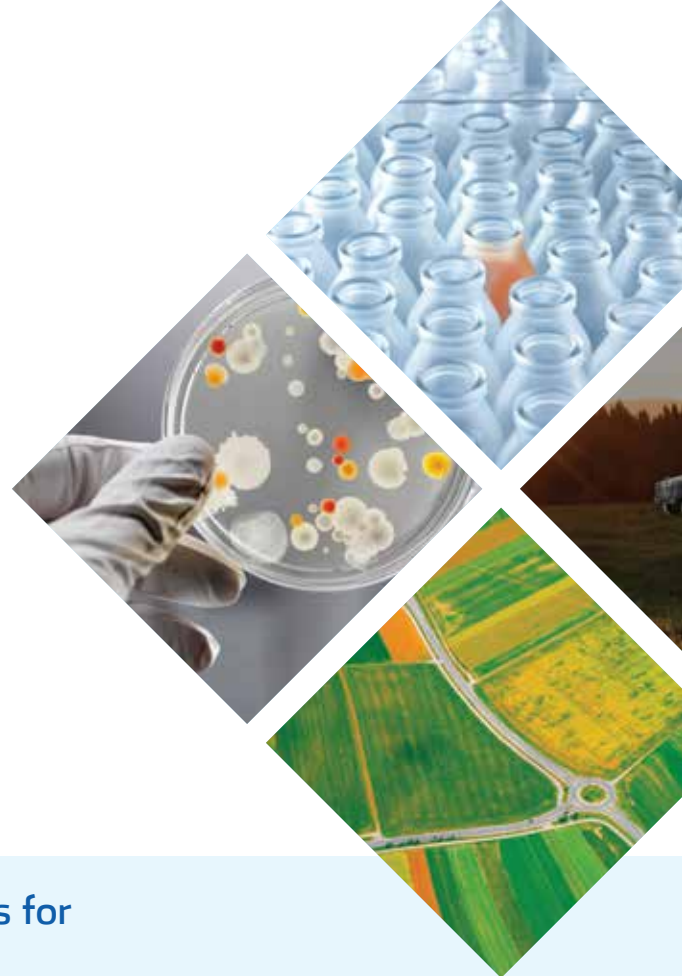
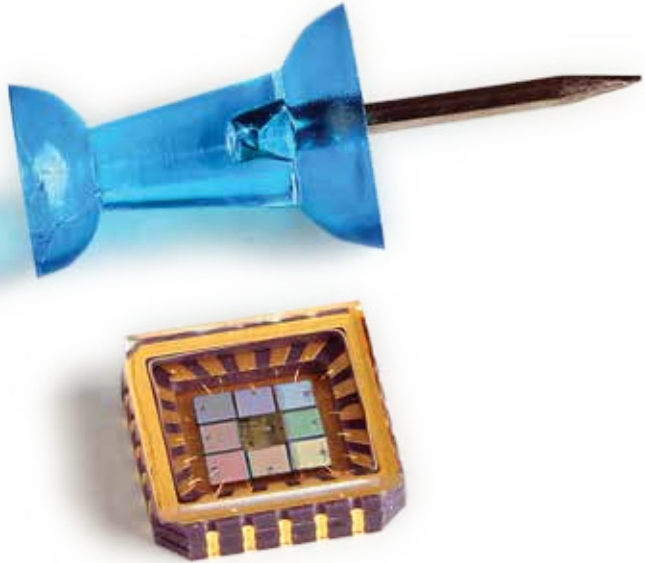


PixelSensor

Multispectral Sensors

PIXELTEQ

micro-patterned filters | sensors | cameras



Wavelength-selective detectors for compact multispectral devices

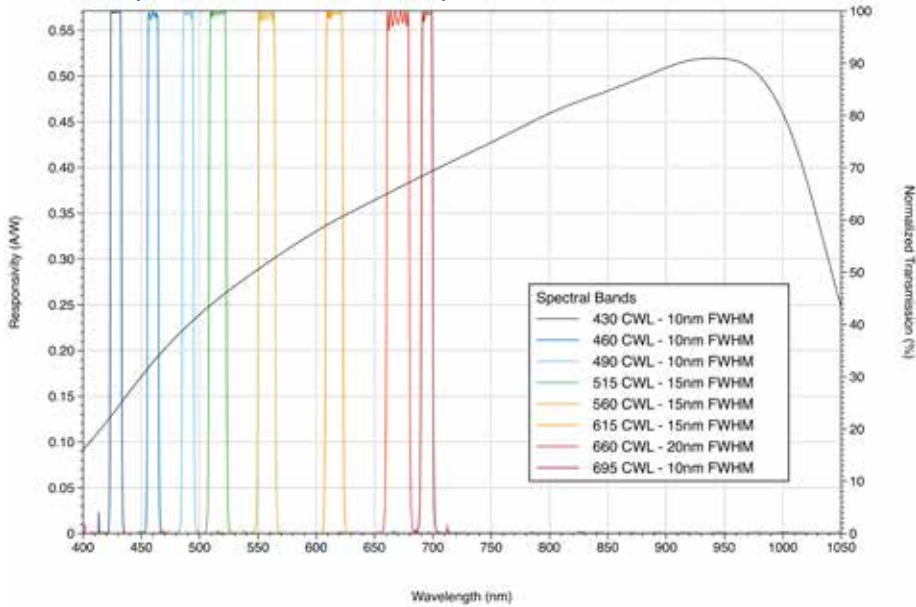
PixelSensor multispectral sensors use exclusive on-chip filtering to pack up to eight wavelength-selective photodiodes into a compact array $< 1 \text{ cm}^2$ for simpler and smaller optical devices. One PixelSensor typically replaces several components, delivering more signal and shrinking multispectral instruments for applications from portable spectroscopy to fluorescence detection. The PixelSensor VIS splits the visible spectrum into eight discrete color bands. Customized OEM versions are available with user-defined spectral bands.

PixelSensor's unique wafer-level optical filters suppress background light and enhance passband transmission, improving contrast and sensitivity. Designed for low noise and fast response time, the 20-pin LCC package can be surface or socket mounted. Optional Developer Boards and accessories provide designers with hardware and software tools for rapid prototyping and development – to get you started with spectral sensing in minutes and to help move your device quickly from concept to scalable production.



pixelteq.com

Spectral Response | PixelSensor, 8-band VIS (custom spectral bands available on request)



Sensor

Spectral filters	Standard & custom spectral bands (10-100nm FWHM typical)
Spectral range	VIS-NIR (400-1000nm), Si photodiode
Package	LCC package (up to 8 spectral bands)

Dimensions

Dimensions	8.9 x 8.9 x 2.4mm (0.35" x 0.35" x 0.1")
Active Area	1.0 x 0.8mm (0.04" x 0.033")
Volume	<200mm ³ (0.015in ³)

Other options available on request

Performance Characteristics

Characteristic	Symbol	Test	Min	Typical	Max	Units
Dark current	I_D	$V_R = 10V$		2	8	nA
Shunt resistance	R_{SH}	$V_R = 10mV$		100		MΩ
Junction capacitance	C_J	$V_R = 0V, f=100kHz$ $V_R = 50V, f=100kHz$		6 0.6	7 0.7	pF
Spectral range	λ_{range}	Spot scan	400		1100	nm
Breakdown voltage	V_{BR}	$I = 10\mu A$		75		V
Noise equivalent power	NEP	$V_R = 5V @ \lambda = peak$		5×10^{-14}		W/ \sqrt{Hz}
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

Benefits

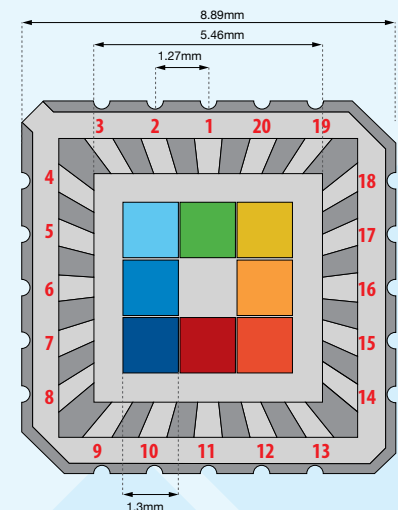
- 8-band array in 9x9mm footprint
- Simplified optics for miniaturized devices
- Narrowband VIS + NIR selectivity
- Standard & custom spectral bands
- OEM Versions available

Applications

- Biomedical instrumentation
- Color meters & monitors
- Industrial sorting & sensing
- Portable optical sensors
- OEM multispectral devices

Options & Accessories

- PixelSensor Developer Board
- Light guide tube
- Breakout board



Pin	Description	Pin	Description
1	PD#1 Anode	11	PD#5
2	Cathode	12	Cathode
3	Cathode	13	Cathode
4	PD#2 Anode	14	PD#6 Anode
5	Cathode	15	Cathode
6	PD#3 Anode	16	PD#7 Anode
7	Cathode	17	Cathode
8	PD#4 Anode	18	PD#8 Anode
9	Cathode	19	Cathode
10	Cathode	20	Cathode

Contact our engineers to discuss your specific application.

+1.303.273.9700 (americas) +86.10.5126.1868 (china)
+31 263831707 (europe) +91.22.6708.0420 (india)

info@pixelteq.com
pixelteq.com

PIXELTEQ