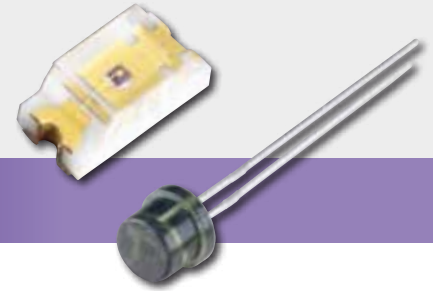


Left: Spectrally Adapted Photodiodes and Phototransistors

Right: C30737PH Series  
T-1¼ (TO-like) Through-Hole  
Package (4.9mm Diameter)

# AMBIENT LIGHT SENSORS



## Spectrally Adapted Photodiodes and Phototransistors

### Applications

- Interior and exterior light switching (dusk/dawn switch)
- Interior and exterior light control (dimming)
- Automotive headlight dimmer
- Display contrast control
- Energy conservation
- Oil burner flame monitoring

### Features and Benefits

- Response approaching human eye using Excelitas' IR-BLOC™ technology
- Perfect light sensor in conjunction with Excelitas pyroelectric detectors for motion controlled light switches
- RoHS compliant
- Selectable wavelength detection range
- Small footprint
- Surface mount packages

### Product Description

Ambient light sensors from Excelitas provide an easy solution for applications that require a response similar to the human eye, making it ideal when the response should only be influenced by visible light. These devices contribute in various applications to energy conservation in both fixed and portable devices. There are three main device types, one being filtered photodiodes, the second filtered phototransistors and finally wavelength selective devices based on III-V material. They are available in a number of standard packages, including surface mount for automated assembly.

Product Table

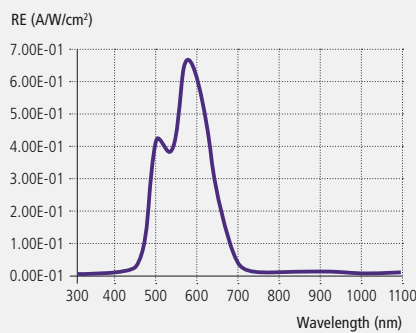
### Spectrally Adapted Photodiodes and Phototransistors

Symbol	Package	Active Area	Short Circuit Current @ H=100fc, 2850K		Junction Capacitance		Radio-metric Sensitivity @ λ <sub>P</sub>	Spectral Range	Peak Wavelength	
			min	typ	max	typ				max
Unit		mm <sup>2</sup>	I <sub>sc</sub>	I <sub>d</sub>	I <sub>0</sub>	C <sub>J</sub>	C <sub>J</sub>	S <sub>R</sub>	λ <sub>RANGE</sub>	λ <sub>P</sub>
			μA	nA	nA	pF	pF	A/W	nm	nm
VTP1220FBH	T-1¼ flat	1.219	0.7	-	10	-	18	0.27	400-700	550
VTP9812FH	T-1¼ flat	1.548	0.7	-	10	-	18	0.034	400-700	580
VTT9812FH	T-1¼ flat	0.192	100	-	100	-	-	7	450-700	585
SR10SPD 470-0.9	SMT	0.70	-	-	0.03	150	-	0.18	380-556	470
SR10SPD 525-0.9	SMT	0.73	-	-	0.03	100	-	0.25	480-560	525

Electrical characteristics at T<sub>Ambient</sub> = 25 °C

Graph 1

### Responsivity @ 25° C VTT9812FH IR-BLOC™



Graph 2

### VTT9812FH Output Versus Low Light Levels

