

TAOS Opto Components



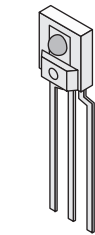
Light sensors from TAOS combine precision mixed-signal functionality with photo-detectors on the same integrated circuit to produce product with performance and cost advantages over conventional solutions. TAOS' intelligent opto sensors simplify analog-to-digital conversion of light and are designed to reduce the need for signal conditioning or preprocessing circuitry in light sensing systems. Our light sensing solutions improve system performance and reduce design cycle time giving designers the flexibility they require.

LIGHT-TO-VOLTAGE CONVERTERS

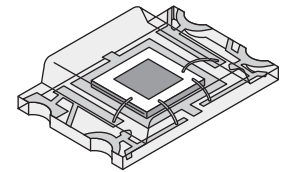
Light-to-voltage converters simplify the design by integrating a photodiode and a transimpedance amplifier on a single monolithic IC. This family provides a linear output voltage that is proportional to the light intensity. The devices cover a wide range of speed and responsivity to span a variety of applications.

For quantities of 100 and up, call for quote.

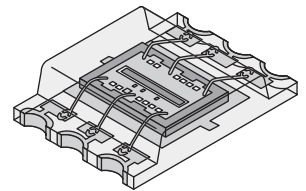
MOUSER STOCK NO.	TAOS Part No.	Package	Voltage Range	Responsivity (mV/uW/cm ²)	Spectral Response (nm)	Rise Time (uS)	Price Each			
							1	10	25	50
856-TSL12S-LF	TSL12S-LF	3-lead Sidelooker	2.7V to 5.5V	248 @ 640 nm	320-1050	20	1.26	1.10	.95	.85
856-TSL13S-LF	TSL13S-LF	3-lead Sidelooker	2.7V to 5.5V	64 @ 640 nm	320-1050	8	1.26	1.10	.95	.85
856-TSL14S-LF	TSL14S-LF	3-lead Sidelooker	2.7V to 5.5V	16 @ 640 nm	320-1050	3	1.26	1.10	.95	.85
856-TSL12T	TSL12T	TMB-4	2.7V to 5.5V	96 @ 640 nm	320-1050	20	1.37	1.20	1.03	.92
856-TSL13T	TSL13T	TMB-4	2.7V to 5.5V	24 @ 640 nm	320-1050	8	1.37	1.20	1.03	.92
856-TSL250R-LF	TSL250R-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	137 @ 635nm	350-1000	260	2.52	2.21	1.89	1.70
856-TSL250RD	TSL250RD	SOIC-8	2.7V to 5.5V	69 @ 640 nm	350-1000	260	2.88	2.52	2.16	1.94
856-TSL251R-LF	TSL251R-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	52 @ 635nm	350-1000	70	2.52	2.21	1.89	1.70
856-TSL251RD	TSL251RD	SOIC-8	2.7V to 5.5V	17 @ 640 nm	350-1000	70	2.88	2.52	2.16	1.94
856-TSL252R-LF	TSL252R-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	10.2 @ 635nm	350-1000	7	2.52	2.21	1.89	1.70
856-TSL257-LF	TSL257-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	1300 @ 470nm	350-1000	160	2.02	1.76	1.51	1.36
856-TSL261R-LF	TSL261R-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	43.5 @ 940 nm	850-1000	70	2.52	2.21	1.89	1.70
856-TSL267-LF	TSL267-LF	3-Lead Sidelooker - Pb Free	2.7V to 5.5V	450 @ 940 nm	850-1000	160	2.02	1.76	1.51	1.36



3-lead Sidelooker



TMB-4



TMB-6

LIGHT-TO-FREQUENCY CONVERTERS

Light-to-frequency converters measure light intensity and convert it to a digital format providing a direct interface to a microcontroller or digital signal processor. This compact device performs the functions of light sensing, signal conditioning, and analog-to-digital conversion all in a single package. This family features low dark signal offset and a wide dynamic range of up to 160 dB. The output of these devices is a constant-amplitude waveform with frequency linearly proportional to light intensity.

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	TAOS Part No.	Package	Dark Signal Frequency	Minimum Full Scale Frequency	Spectral Response	Able to Program	Price Each			
							1	10	25	50
856-TSL230RD	TSL230RD	SOIC-8	0.4 Hz	1.1 MHz	350-1000	YES	4.57	4.00	3.43	3.09
856-TSL230RP-LF	TSL230RP-LF	PDIP-8	0.4 Hz	1.1 MHz	350-1000	YES	6.91	6.05	5.18	4.67
856-TSL230BRP-LF	TSL230BRP-LF	PDIP-8	0.4 Hz	1.1 MHz	350-1000	YES	7.42	6.49	5.56	5.01
856-TSL235R-LF	TSL235R-LF	3-Lead Sidelooker - Pb Free	0.4 Hz	500 KHz	350-1000	NO	3.60	3.15	2.70	2.43
856-TSL237T	TSL237T	TMB-4	0.1 Hz	500 KHz	350-1000	NO	3.71	3.24	2.78	2.50
856-TSL237S-LF	TSL237S-LF	3-lead Sidelooker - Pb free	0.1 Hz	500 KHz	350-1000	NO	3.78	3.31	2.84	2.55
856-TSL245R	TSL245R-LF	3-lead Sidelooker	0.4 Hz	500 KHz	850-1000	NO	3.60	3.15	2.70	2.43

LIGHT-TO-DIGITAL CONVERTERS

Light-to-Digital Converters combine a broadband photodiode with a visible light blocking photodiode in a single CMOS integrated circuit. With integrated analog-to-digital conversion circuitry, data is output via a serial interface using two standard protocols: SMBus and I2C. One common application is to use the Light-to-Digital Converter in an ambient light sensing application. Light intensity in Lux can be calculated using the output from both photodiodes without the need of using an expensive optical filter.

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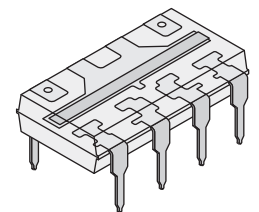
MOUSER STOCK NO.	TAOS Part No.	Package	Selectable Integration	Dynamic Range (lux)	ADC Digital Output	Digital Output Format	Oper. Voltage	Price Each			
								1	10	25	50
856-TSL2550D	TSL2550D	SOIC-8	160 & 800	0-10,000	7-bit companded	SMBus & I2C (up to 100 KHz)	5V	3.49	3.06	2.62	2.36
856-TSL2550T	TSL2550T	TMB-4	160 & 800	0-10,000	7-bit companded	SMBus & I2C (up to 100 KHz)	5V	3.28	2.87	2.46	2.21
856-TSL2561T	TSL2561T	TMB-6	12, 100, & 400	0.1-40000	16-bit linear	I2C (Fast made up to 400 MHz)	3V	2.84	2.49	2.13	1.92

LINEAR SENSOR ARRAYS

Linear Sensor Arrays provides the capability of measuring spatial relationships in addition to light intensity. These devices consist of a linear array of integrating light sensing elements (pixels) which measure incident light over some exposure time and generate an output that can be either a voltage or a digital word which represents the light exposure at each pixel.

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	TAOS Part No.	Package	Resolution	# Pixels	Active Length (mm)	Outputs	Price Each			
							1	10	25	50
856-TSL201R-LF	TSL201R-LF	DIP-8	200	64	8.26	one analog	7.20	6.30	5.40	4.86
856-TSL1401R-LF	TSL1401R-LF	DIP-8	400	128	8.12	one analog	8.17	7.15	6.13	5.52



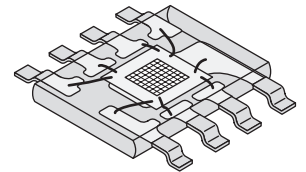
DIP-8

COLOR SENSOR

The programmable color light-to-frequency converter combines configurable silicon photodiodes and a current-to-frequency converter on single monolithic CMOS integrated circuit. The output is a square wave with frequency directly proportional to light intensity. The full-scale output frequency can be scaled by one of three preset values via two control input pins.

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	TAOS Part No.	Package	Voltage Range	Colors	Output	Oper. Free-Air Temp. Range (TA)	Price Each			
							1	10	25	50
856-TCS230D	TCS230D	SOIC-8	2.7V to 5.5V	Blue, Green, Red, Clear	4-Channel Light to Frequency	-40°C to 85°C	5.69	4.98	4.27	3.84



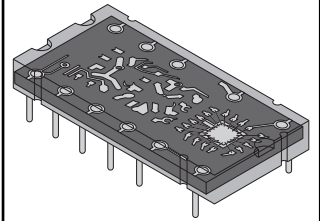
SOIC-8

LED HEXADECIMAL DISPLAY

The TIL311 is a single-digit LED hexadecimal display with internal four-bit latch, decoder, and constant-current LED drivers in a 14-pin dual-in-line-package. Hexadecimal characters are formed by a 4 x 7 array of red light-emitting-diodes that are illuminated in a modified seven-segment configuration. The device includes right-hand and left-hand externally driven decimal points.

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.	TAOS Part No.	Operating Voltage	Character Height	Peak Wave Length	Price Each			
					1	10	25	50
856-TIL311	TIL311	5 V	0.300 In	660 nm	26.82	23.47	20.12	18.10



TIL311

EVALUATION BOARDS (EVM)

MOUSER STOCK NO.	TAOS Part No.	Description	Price Each
856-TCS230EVM	TCS230EVM	Evaluation system for the TCS230 Color Sensor. This EVM consists of a lens module with white LED illuminator, a Parallax BOE module and programmed BASIC Stamp, and PC host software that displays the RGB output values.	212.75
856-TSL2560EVM	TSL2560EVM	EVM for the TSL 2560 family. It stimulates automatic brightness control using the computer display panel. The ECM connects to any notebook or PC via a USB port in which the software interface provides control over the device feature set and demonstrates ALS implementation.	207.00

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