



OPTOELECTRONICS

Infrared (IR) Receivers

World's Leading Supplier of Infrared (IR) Receivers



Vishay is the world's leading supplier of infrared (IR) receivers. No other supplier offers a similar breadth of products, holders, application and technical support, and overall knowledge of infrared communication. Our customers have confidence that our IR receivers will receive remote control signals while filtering out noise in the most demanding ambient environments. Vishay's IR receivers are used for remote control and for transmissive and reflective sensors.

APPLICATIONS

- Remote control
- Reflective and transmissive sensors

RESOURCES

- More IR receiver products at: <http://www.vishay.com/ir-receiver-modules/>
- Full optoelectronics portfolio at: <http://www.vishay.com/optoelectronics/>
- Technical questions contact: IRR@vishay.com
- Sales contacts: <http://www.vishay.com/doc?99914>

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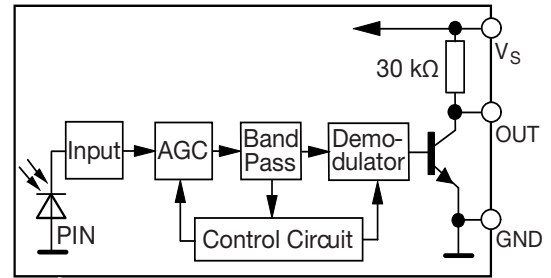
One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



Remote Control

No single automatic gain control (AGC) algorithm can completely suppress all noise and pass data signals.

Vishay has developed five different AGC response algorithms based on coding schemes and ambient noise conditions. These AGC algorithms allow developers to choose the most appropriate receiver for their application and coding scheme.



Over 60 different holders and 20 different lead bend and cut options available.



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Code, Applications	Carrier Freq. (kHz)	Best AGC										
			.76H x 2.0W x 2.0L (mm)	.8H x 3.95W x 3.95L (mm)	1.0H x 4.3W x 4.3L (mm)	2.3H x 3.0W x 6.8L (mm)	3.2H x 3.0W x 6.8L (mm)	4.0H x 5.3W x 7.5L (mm)	6.9H x 5.6W x 6.0L (mm)	6.9H x 4.8W x 5.0L (mm)	12.5H x 5.8W x 10.0L (mm)	
Sony SIRCS 15 and 20 bit	40	2				TSOP75S40FW	TSOP75F40F					
Sony 12 bit		4				TSOP75S40FW	TSOP75F40F					
RC-5	36	4	VSOP58436	TSOP37436 TSOP57436	TSOP37436H TSOP57436H	TSOP75436W	TSOP75436	TSOP35436	TSOP34436	TSOP38436	TSOP31436	
RC-6	36					TSOP77436W	TSOP77436	TSOP6436	TSOP4436	TSOP58436		
Panasonic	36.7											
NEC	38	4	VSOP58438	TSOP37438 TSOP57438	TSOP37438H TSOP57438H	TSOP75438W	TSOP75438	TSOP36436	TSOP34438	TSOP38438	TSOP31438	
Sharp						TSOP77438W	TSOP77438	TSOP6438	TSOP4438	TSOP58438		
r-step												
r-step	56	4		TSOP57456	TSOP37456H TSOP57456H	TSOP75456W	TSOP75456	TSOP36456	TSOP34456	TSOP38456	TSOP31456	
Thomson RCA						TSOP77456W	TSOP77456	TSOP6456	TSOP4456	TSOP58456		
M CIR	36	3 or 5	VSOP38336	TSOP37336 TSOP57336	TSOP37336H TSOP57336H	TSOP75536W	TSOP75536	TSOP35536	TSOP34536	TSOP38536	TSOP31536	
RCMM		3 or 5				TSOP77336W	TSOP77336	TSOP6336	TSOP4336	TSOP58336	TSOP31336	
Mitsubishi	38	3 or 5	VSOP38338	TSOP37338 TSOP57338	TSOP37338H TSOP57338H	TSOP75538W	TSOP75538	TSOP36538	TSOP34538	TSOP38538	TSOP31538	
RECS-80 Code		3 or 5				TSOP77338W	TSOP77338	TSOP6338	TSOP4338	TSOP58338	TSOP31338	
r-map												
XMP-1, XMP-2	38	3	VSOP38338	TSOP57338	TSOP57338H	TSOP75338W	TSOP75338	TSOP36338	TSOP34338	TSOP38338	TSOP31338	
Presence sensor	38	---		TSSP57038	TSSP57038H			TSSP6038	TSSP4038	TSSP58038		
(Fixed gain)												
Proximity sensor	38	---		TSSP57P38	TSSP57P38H			TSSP6P38	TSSP4P38	TSSP58P38		
Universal 3D/ Code Learning/ Repeater	carrier out	---					TSMP77000	TSMP6000			TSMP58000	
		---							TSMP4138	TSMP58138		
		---							TSMP4138		TSMP1138	

Note: Part dimensions shown in millimeter (mm)



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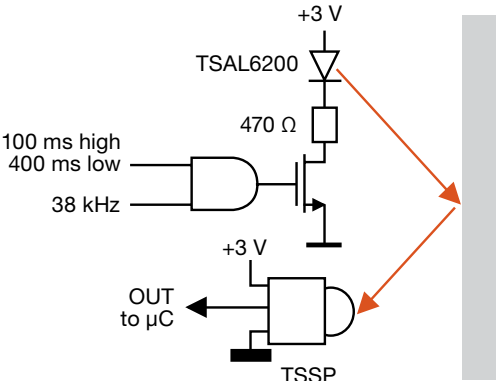
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Sensors

Presence of an Object

To avoid over or under detection due to varying ambient light levels, Vishay's TSSP4038, TSSP58038, TSSP6038, and TSSP57038 have a fixed gain. Once the design of the optical parameters such as the intensity of the emitter, the aperture in front of the receiver, and the alignment of emitter and detector are determined, the sensor will have stable, repeatable performance under all lighting conditions. The output of the sensor is the demodulated signal of the emitter, typically 38 kHz modulated bursts.



Proximity of an Object

Many applications require a reflective sensor that detects not only the presence of an object, but also its relative proximity. This information can answer the question whether an object is moving toward or away from the sensor. This is possible with Vishay's TSSP4P38, TSSP58P38, TSSP6P38, TSSP77P38 and TSSP57P38 IR proximity sensors. The response to a long reflected burst signal is an output pulse, whose width is inversely proportional to the distance of the object from the sensor.



For further information, please see our flyer, [Mid-range Infrared Sensors for Object Detection and Ranging](#), or contact midrangesensors@vishay.com

Data Transmission

Low Data Rate Transmission Infrared Receivers for Low Bit-Rate Data Transmission Up to 14 k b.p.s. at Ranges Up to 10 Meters

The TSDP34T85 and TSDP75T85 are developed specifically for use in data transmission applications to receive ASK modulated data at 85kHz with a minimum burst length of 6 cycles. This translates to a data rate of up to 14k b.p.s. at a bit error rate less than 10⁻⁶ using basic on-off keying. While this data rate is relatively low compared with e.g. IrDA protocols, the transmission range is more than 10 times higher at up to 10 meters.



For further information, please click on our website: [www.vishay.com/ir-receiver-modules/data transmission](http://www.vishay.com/ir-receiver-modules/data%20transmission)

¹ only available with Presence part numbers



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