



VISHAY INTERTECHNOLOGY, INC.

IR RECEIVER MODULES

The Ultimate Choice for Remote Control Systems



PRODUCT OVERVIEW

IR RECEIVER MODULES - YOUR SOLUTION FROM THE

MARKET LEADER

Introduction

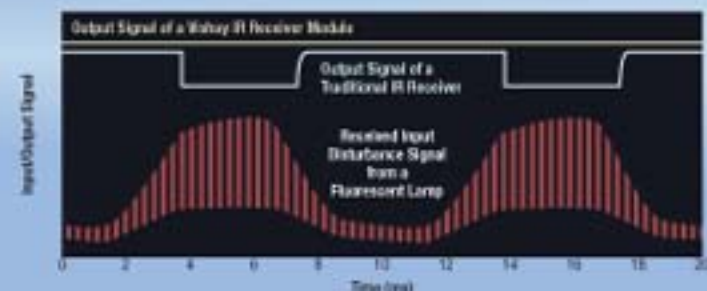
Vishay offers unique IR Receiver Modules for pulse code remote control systems with a built-in control IC for intelligent reduction on disturbance light ambient. The new products have integrated metal shielding and use the plastic encapsulation material as IR band pass filter for 950 nm light transmission. The various devices with different trimmed carrier frequencies are in three pin plastic packages.

Package Variations

Special component holders meet the right construction of the final positioning in the end equipment. Additional package variations are available and can be found in our databook, on our website and also on our CD-ROM.

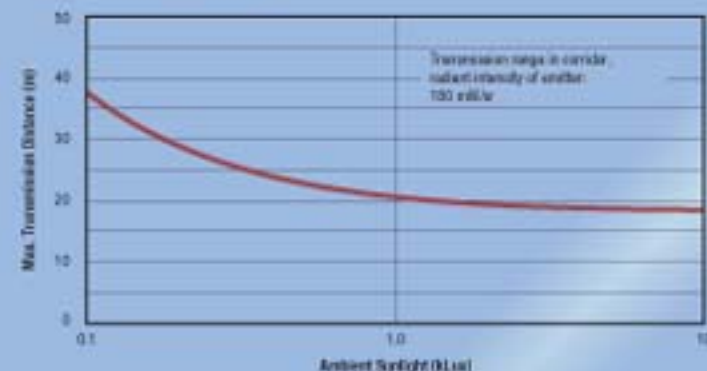
Special Characteristics

Immunity against Disturbance

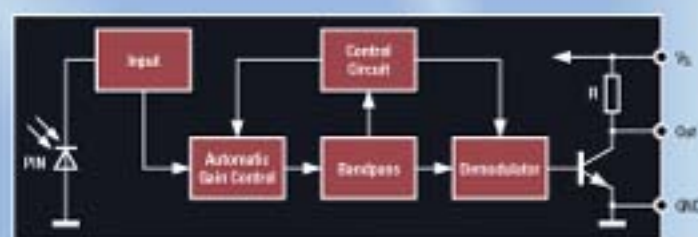


Such a strongly modulated disturbance signal looks very similar to the bursts of a data signal and causes almost all IR receivers to make output pulses. However, Vishay's IR receiver modules will even suppress this signal. They will evaluate such strongly modulated signals as disturbance and will set the internal gain accordingly. They can still receive a remote control signal at the same time.

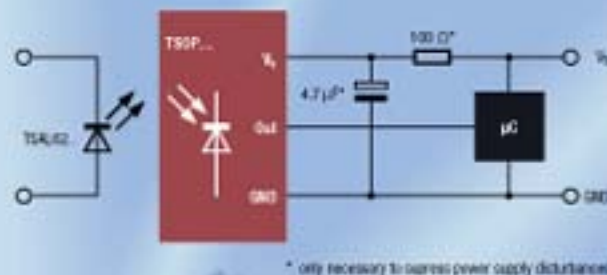
Transmission Range



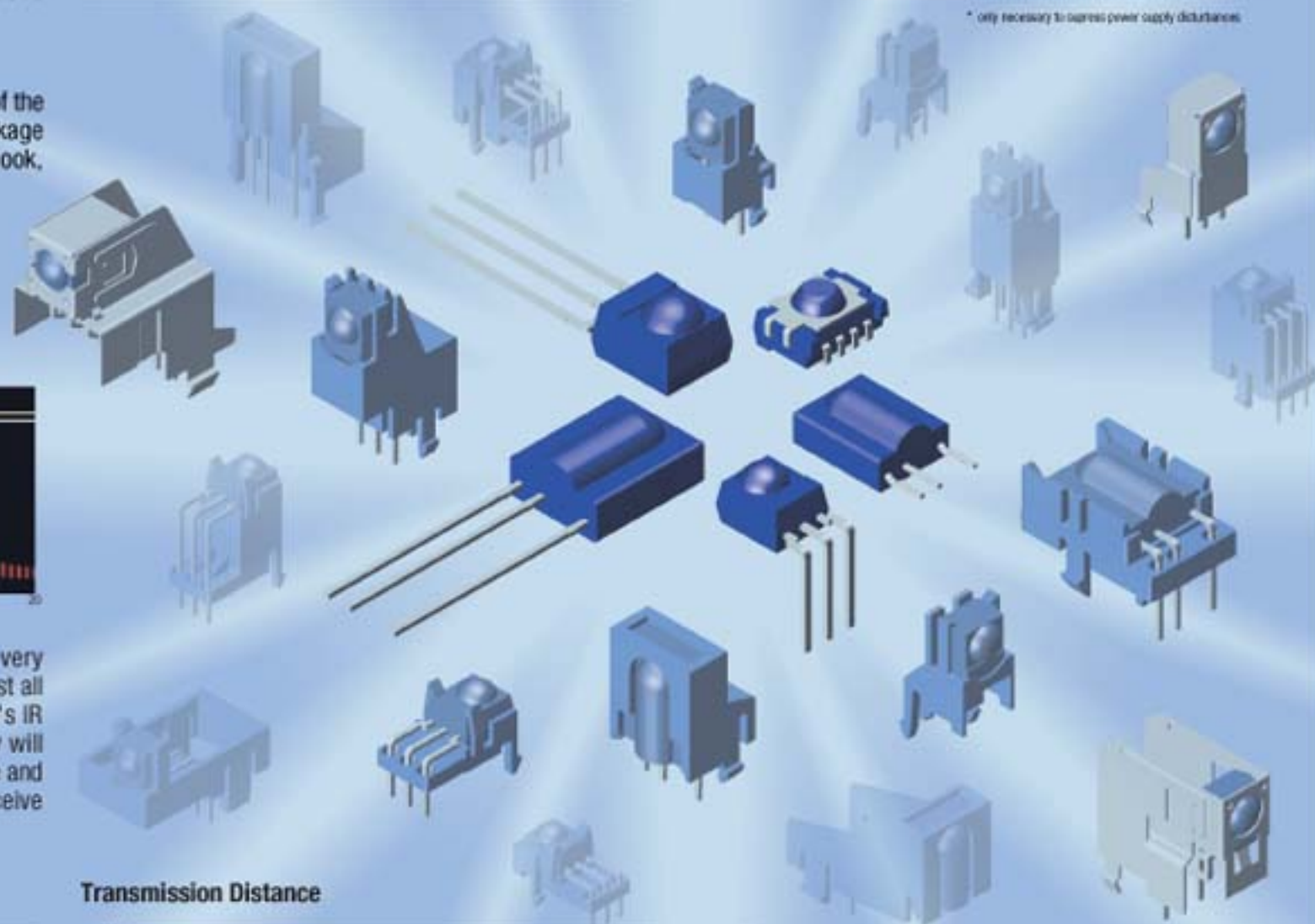
Block Diagram of the Receiver Modules



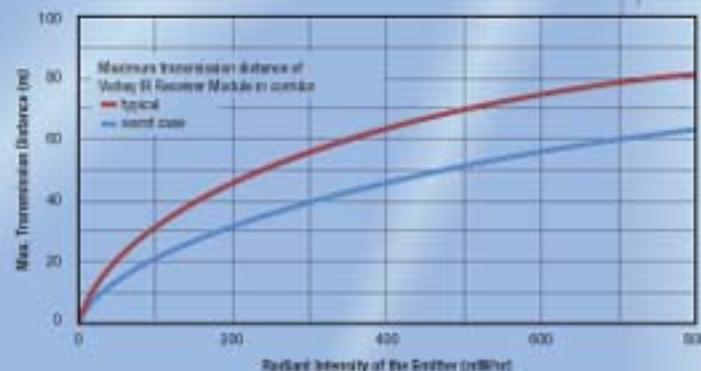
Application Circuit



* only necessary to suppress power supply disturbances



Transmission Distance



The maximum possible transmission distance of an IR remote control system depends mainly on the radiant intensity of the emitter, the sensitivity of the receiver and the environmental conditions. On the other hand is the minimum possible distance an important value for a remote control system. Vishay's IR receiver modules will work even at zero distance.

IR Receiver Modules

Series for Standard Remote Control Application Meets all Major RC Codes...

...with Supply Voltage $V_S = 2.4 \text{ V to } 3.6 \text{ V}$:

TSOP34838SS1A

...with Supply Voltage $V_S = 4.5 \text{ V to } 5.5 \text{ V}$:

TSOP12.., TSOP22.., TSOP48.., TSOP62..

Features:

- Enhanced Immunity against all kind of disturbance light
- No occurrence of disturbance pulses at the output
- Continuous data transmission possible with 800 bit/s
- Suitable burst length ≥ 10 cycles/burst

Series for Multimedia Applications with High Data Rates...

TSOP11.., TSOP21.., TSOP41.., TSOP61..

Features:

- Continuous data transmission possible with 3500 bit/s
- Suitable burst length ≥ 6 cycles/burst
- Immunity against all kind of disturbance light

Vishay's High Speed IR Receiver Modules:

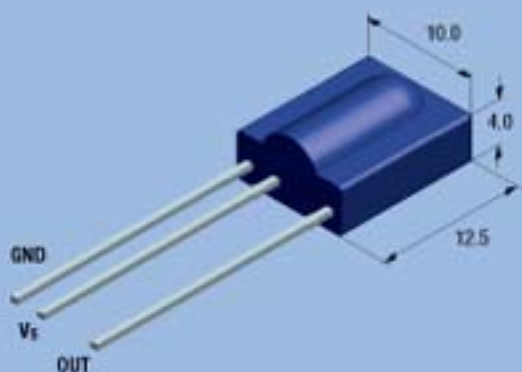
TSOP7000, TSOP5700

Features:

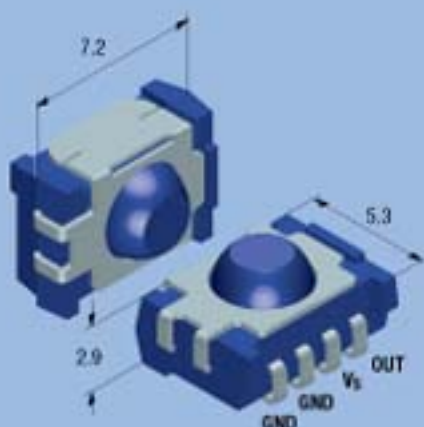
- Enhanced immunity against all kind of disturbance light, especially critical energy saving lamps
- No occurrence of disturbance pulses at the output
- Data rate up to 20 kBit/s
- PCM frequency of 455 kHz
- Supply voltage from 2.7 V up to 5.5 V
- Short settling time after power on

Dimensions

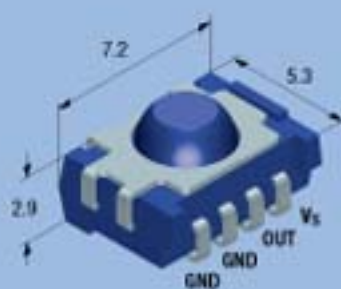
TSOP12.. / TSOP11..



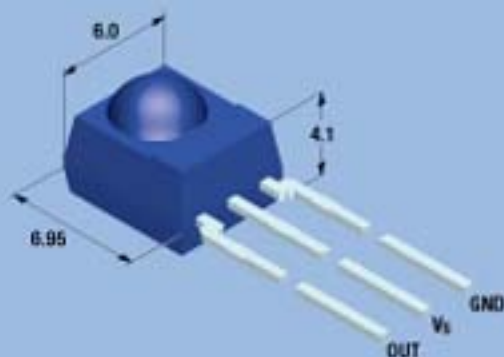
TSOP62.. / TSOP61..



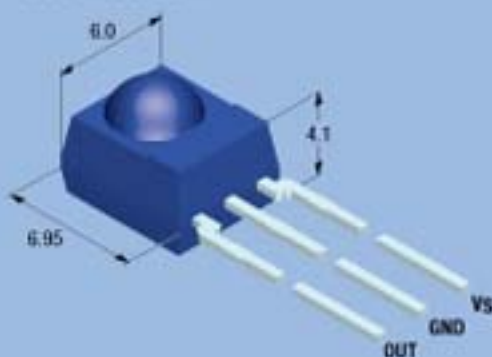
TSOP57..



TSOP22.. / TSOP21..



TSOP48.. / TSOP41.. / TSOP7000
TSOP34838SS1A



For further technical information, please contact: photomodules@vishay.com or visit our web site.

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