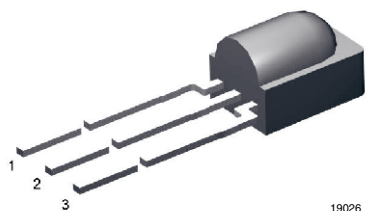




IR Sensor Module for Remote Control Systems



FEATURES

- Photo detector and preamplifier in one package
- AC coupled response from 20 kHz to 60 kHz, all data formats
- Improved shielding against electrical field disturbance
- TTL and CMOS compatibility
- Output active low
- Supply voltage: 2.7 V to 5.5 V
- Carrier out signal for code learning functions
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Pinning:

1 = Carrier OUT, 2 = GND, 3 = V_S

DESCRIPTION

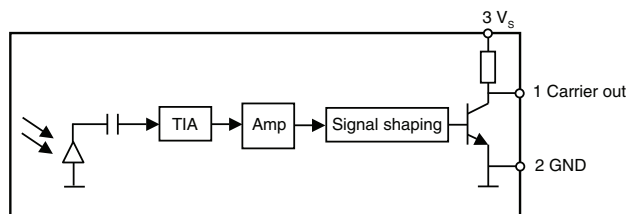
The TSOP98260 is a miniaturized sensor for receiving the modulated signal of infrared remote control systems. A PIN diode and preamplifier are assembled on a lead frame, the epoxy package is designed as an IR filter. The modulated output signal, carrier out, can be used for code learning applications.

This component has not been qualified according to automotive specifications.

PARTS TABLE

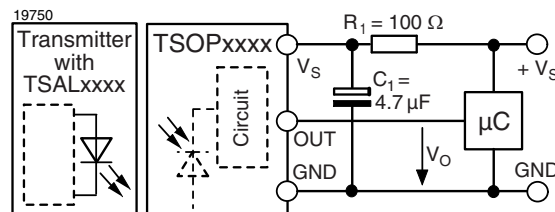
CARRIER FREQUENCY	CODE LEARNING APPLICATIONS
20 kHz to 60 kHz	TSOP98260

BLOCK DIAGRAM



19746

APPLICATION CIRCUIT



$R_1 + C_1$ recommended to suppress power supply disturbances.



ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Supply voltage (pin 3)		V_S	- 0.3 to + 5.5	V
Output voltage (pin 1)		V_O	- 0.3 to ($V_S + 0.3$)	V
Output current (pin 1)		I_O	10	mA
Junction temperature		T_j	100	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 25 to + 85	$^{\circ}\text{C}$
Operating temperature range		T_{amb}	- 25 to + 85	$^{\circ}\text{C}$
Soldering temperature	$t \leq 10\text{ s}$, 1 mm from case	T_{sd}	260	$^{\circ}\text{C}$

ELECTRICAL AND OPTICAL CHARACTERISTICS CARRIER OUT ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified, $V_S = 3\text{ V}$)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply current (pin 3)	$E_v = 0$	I_{SD}		0.6	0.8	mA
Supply voltage		V_S	2.7		5.5	V
Transmission distance	$E_v = 0$, test signal see fig. 1, IR diode TSAL6200, $I_F = 400\text{ mA}$	d		1		m
Output voltage low (pin 1)	$I_{OSL} = 0.5\text{ mA}$, test signal see fig. 1	V_{OSL}			250	mV
Minimum irradiance	$V_S = 3\text{ V}$, (20 kHz to 60 kHz)	$E_{e\text{ min.}}$		0.3	0.5	W/m^2
Maximum irradiance	test signal see fig. 1, (20 kHz to 60 kHz)	$E_{e\text{ max.}}$	300	500		W/m^2
Directivity	Angle of half transmission distance	$\Phi_{1/2}$		± 45		deg
Carrier Out rise time	$V_S = 3\text{ V}$, $C_L = 10\text{ pF}$	T_R		100		ns
Carrier Out fall time	$V_S = 3\text{ V}$, $C_L = 10\text{ pF}$	T_F		10		ns
Output pulse width	$T_{PI} = 10\text{ }\mu\text{s}$, $C_L = 10\text{ pF}$	T_{PO}	5	7	10	μs

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

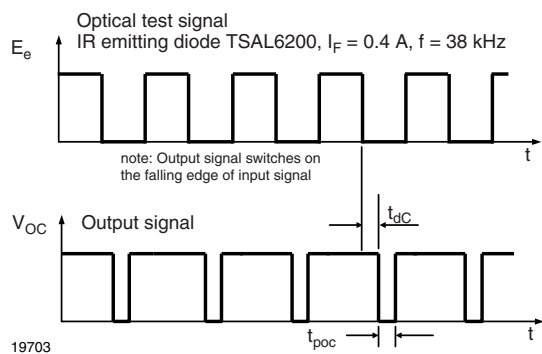


Fig. 1 - Carrier Output Pulse Diagram

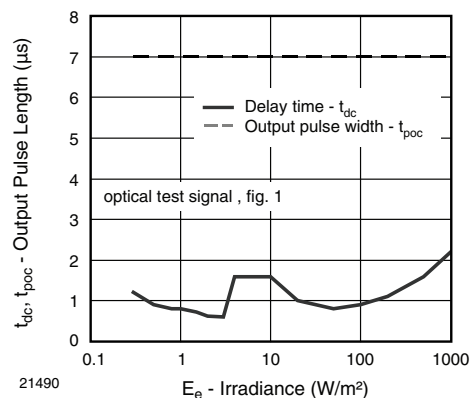


Fig. 2 - Carrier Output Function Diagram

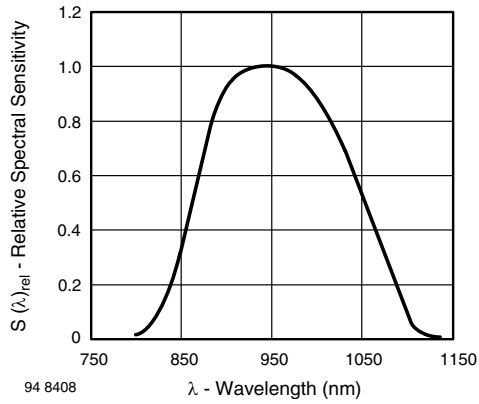


Fig. 3 - Relative Spectral Sensitivity vs. Wavelength

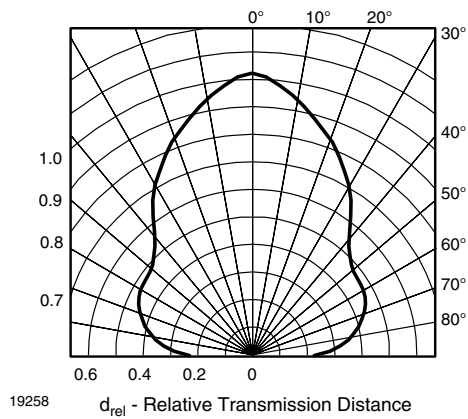


Fig. 4 - Horizontal Directivity

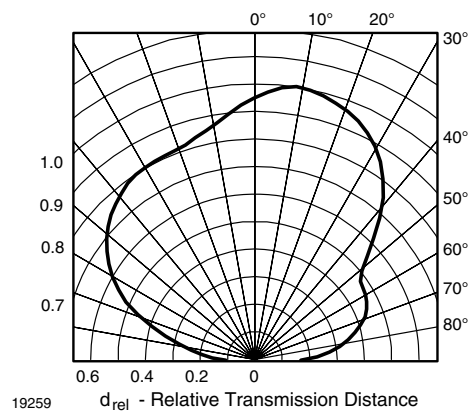
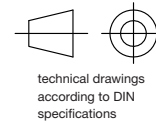
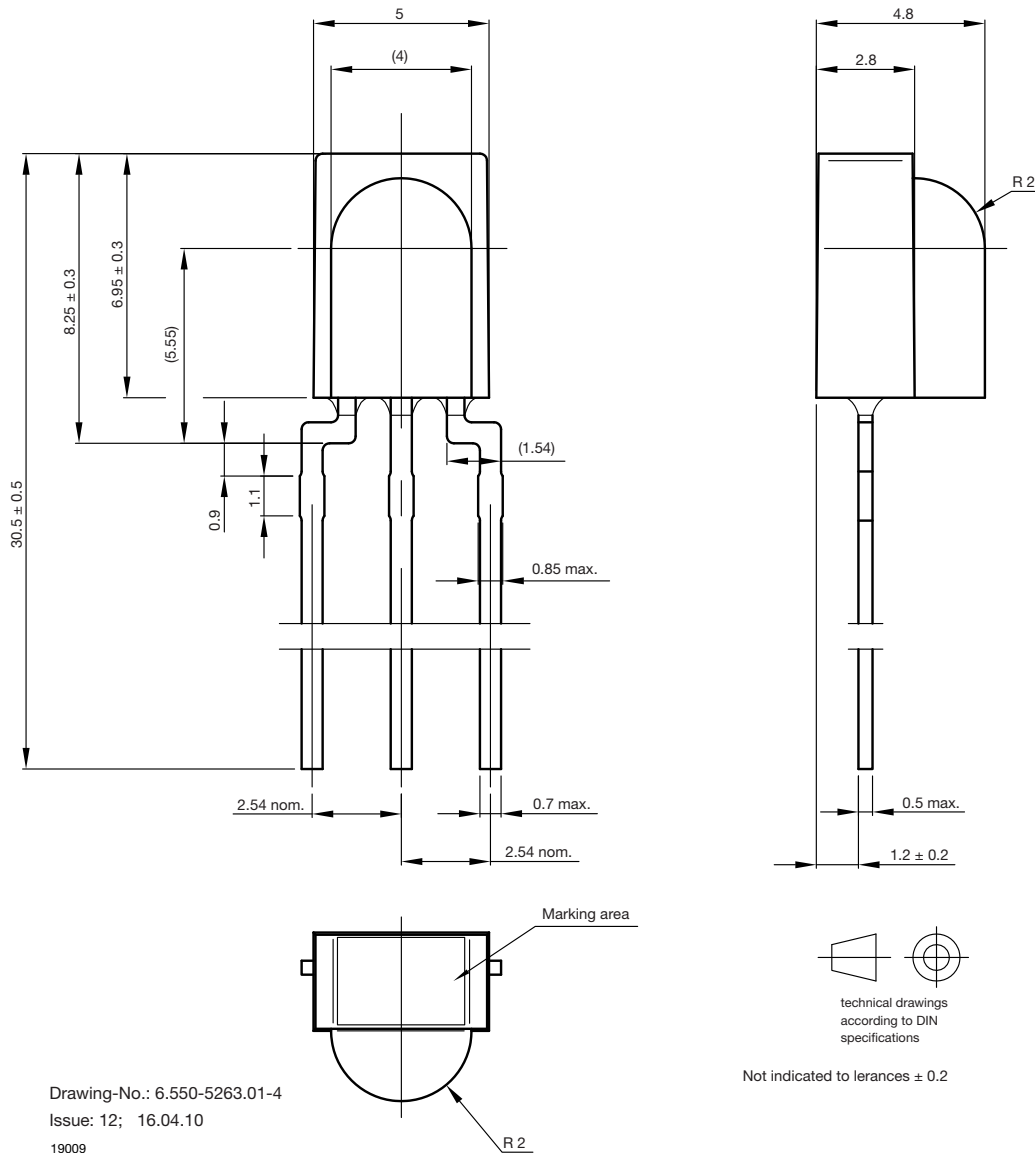


Fig. 5 - Vertical Directivity



PACKAGE DIMENSIONS in millimeters



Not indicated to tolerances ± 0.2



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