

H21L1, H21L2
H22L1, H22L2



ISO - LOGIC INVERTER SCHMITT TRIGGER INTERRUPTER SWITCH

DESCRIPTION

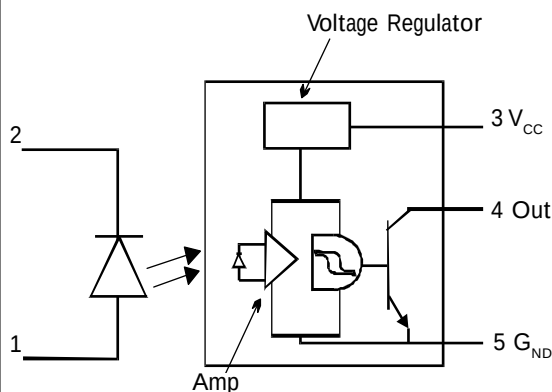
The H21L_ and H22L_ series of transmissive photointerrupters are single channel switches consisting of a Gallium Arsenide infrared emitting diode coupled to a high speed integrated circuit detector. The output incorporates a Schmitt trigger which provides hysteresis for noise immunity and pulse shaping. The gap in the plastic housing provides a means of interrupting the signal with an opaque material, switching the output from an 'ON' into an 'OFF' state.

FEATURES

- Built in Schmitt trigger circuit
- Open collector output
- High sensitivity
- 3mm gap between LED and detector
- 1mm aperture over LED and detector

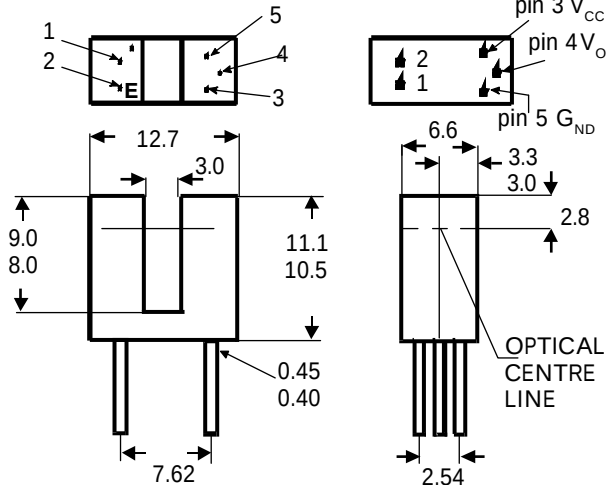
APPLICATIONS

- Floppy disk drives, Copiers, Printers, Facsimiles, VCR's, Cassette tape Recorders, Automatic vending machines

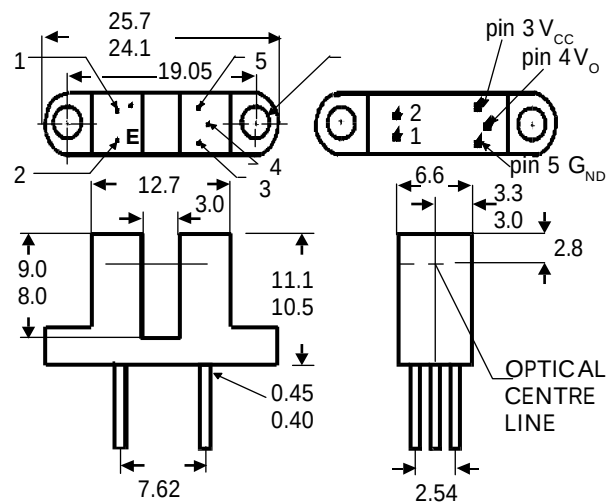


Dimensions in mm

H22L1 H22L2



H21L1 H21L2



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ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	_____	-40°C to +85°C
Operating Temperature	_____	-25°C to +85°C
Lead Soldering Temperature	_____	260°C
(5 secs maximum)		

INFRARED EMITTING DIODE

Power Dissipation	_____	75 mW
Forward Current (Continuous)	_____	50 mA
Forward Current (Peak)	_____	1 A
(Pulse Width ≤ 100μs, Duty Ratio = 0.01)		
Reverse Voltage	_____	6V

PHOTO DETECTOR

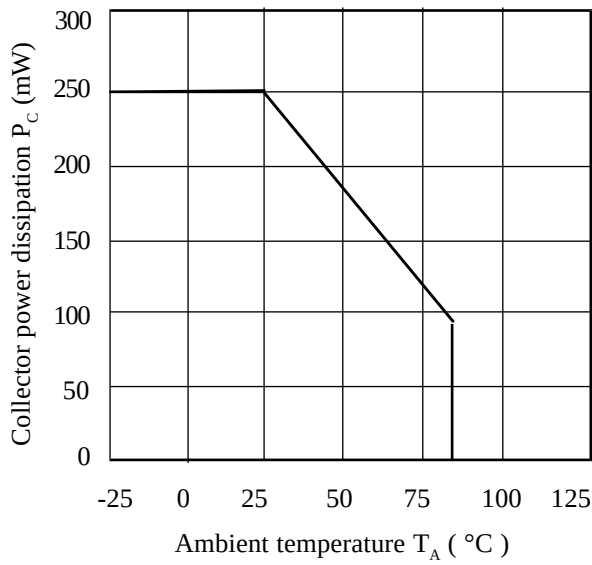
Power Dissipation	_____	250 mW
Output Current	_____	50mA
Allowed Range V_{35}	_____	0 to 35V
Allowed Range V_{45}	_____	0 to 40V

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

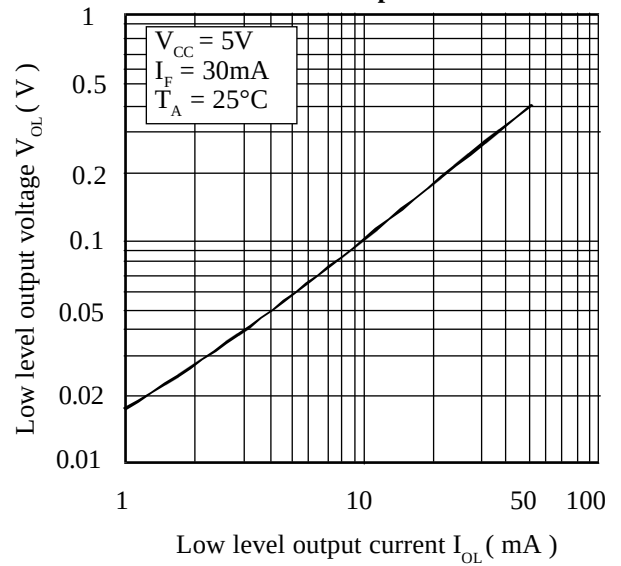
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	6	1.1	1.6	V	$I_F = 20\text{mA}$ $I_R = 10\mu\text{A}$ $V_R = 3\text{V}$
	Reverse Voltage (V_R)				V	
	Reverse Current (I_R)			10	μA	
Detector	Operating Voltage Range V_{CC}	4		15	V	
	Low Level Supply Current I_{CCL}		1.6	5	mA	$V_{CC} = 5\text{V}$, $I_F = 20\text{mA}$
	High Level Supply Current I_{CCH}		1.0	5	mA	$V_{CC} = 5\text{V}$, $I_F = 0\text{mA}$
	Low Level Output Voltage V_{OL}			0.4	V	$V_{CC} = 5\text{V}$, $I_F = 30\text{mA}$ $R_L = 270\Omega$
	High Level Output Current I_{OH}			100	μA	$V_{CC} = 15\text{V}$, $I_F = 0\text{mA}$ $V_O = 15\text{V}$
	Turn-on Threshold Current $I_F (ON)$					
	H21L1, H22L1			30	mA	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$
	H21L2, H22L2			15	mA	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$
	Turn-off Threshold Current $I_F (OFF)$					
	H21L1, H22L1		0.5		mA	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$
	H21L2, H22L2		0.5		mA	$V_{CC} = 5\text{V}$, $R_L = 270\Omega$
	Hysteresis Ratio $I_F (OFF) / I_F (ON)$		0.5	0.9		$V_{CC} = 5\text{V}$, $R_L = 270\Omega$
	Rise Time		tr	0.1	μs	$V_{CC} = 5\text{V}$ $I_F = 20\text{mA}$
	Fall Time		tf	0.05	μs	$R_L = 270\Omega$

Note 1 Special Selections are available on request. Please consult the factory.

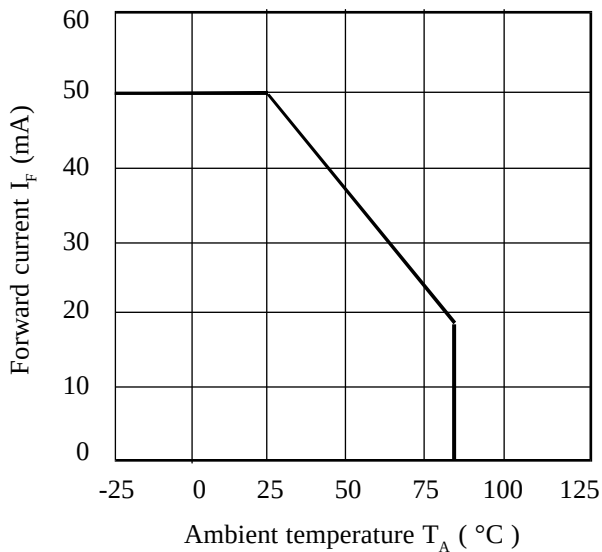
Collector Power Dissipation vs. Ambient Temperature



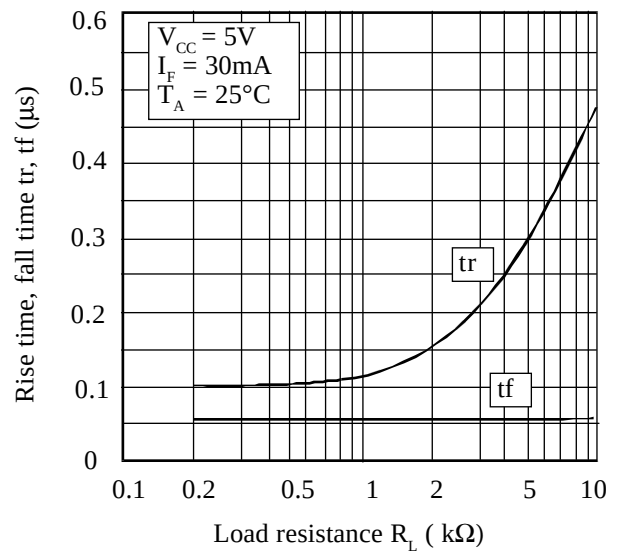
Low Level Output Voltage vs. Low Level Output Current



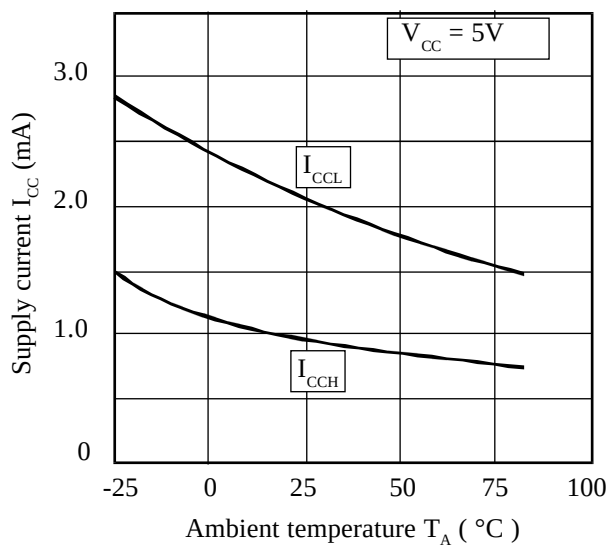
Forward Current vs. Ambient Temperature



Rise Time, Fall Time vs. Load Resistance



Supply Current vs. Ambient Temperature



Low Level Output Voltage vs. Ambient Temperature

