IS657D

ISO - LOGIC INVERTER SCHMITT TRIGGER OPEN COLLECTOR SIDE DETECTOR

DESCRIPTION

The IS657D is an optically integrated circuit detector with schmitt trigger open collector inverter output. It is mounted in a clear plastic lateral side looking package which enables these devices to display superior mechanical resolutions, coupled characteristics and reliability in a low cost housing.

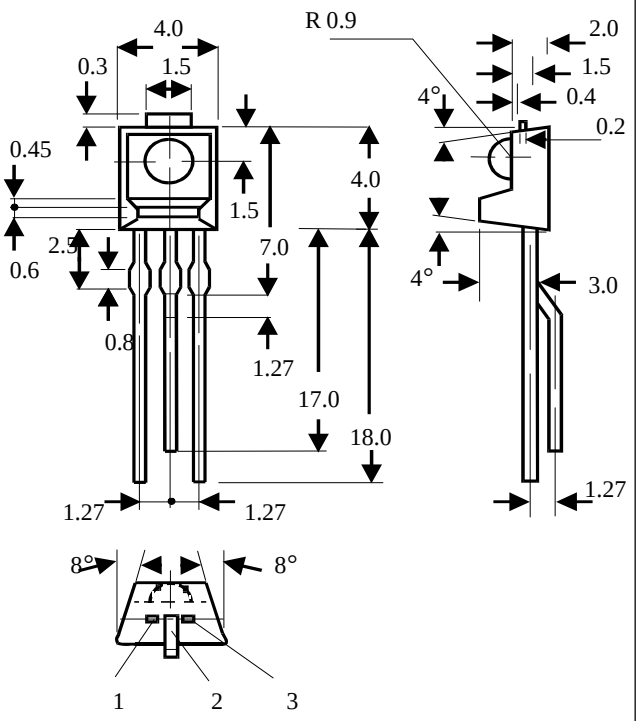
FEATURES

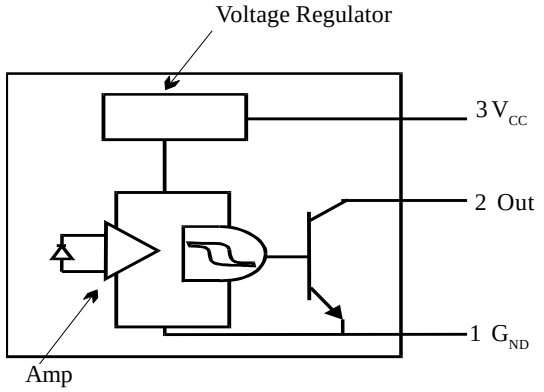
- Built-in Schmitt trigger circuit
- Low level output at incident light
- Open collector output
- Lateral Side Looking Plastic Package
- High Sensitivity (E_V= 35 lx at 25°C)
- LSTTL and TTL Compatible output
- Supply voltage V_{CC} -0.5 to + 35 volts

APPLICATIONS

- Floppy disk drives
- Copiers, Printers,Facsimilies
- VCR's, Cassette tape recorders
- Automatic vending machines

Dimensions in mm





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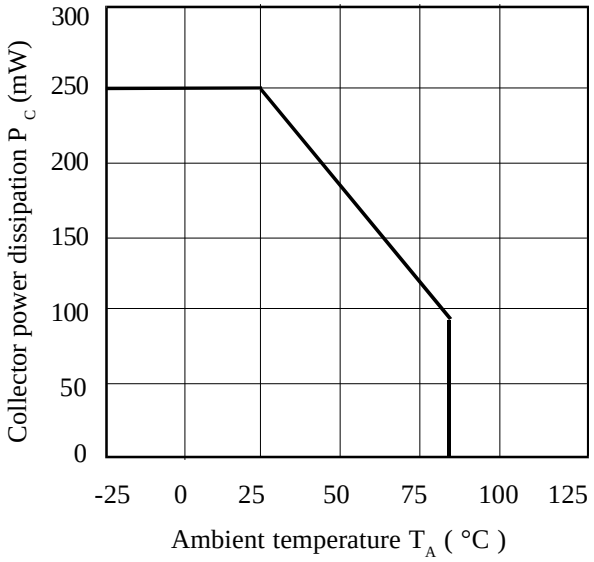
ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-40°C to +100°C
Operating Temperature	-25°C to +85°C
Lead Soldering Temperature (5 secs maximum)	260°C
Power Dissipation	250 mW
Output Current	50mA
Allowed Range V_{31}	0 to 35V
Allowed Range V_{21}	0 to 40V

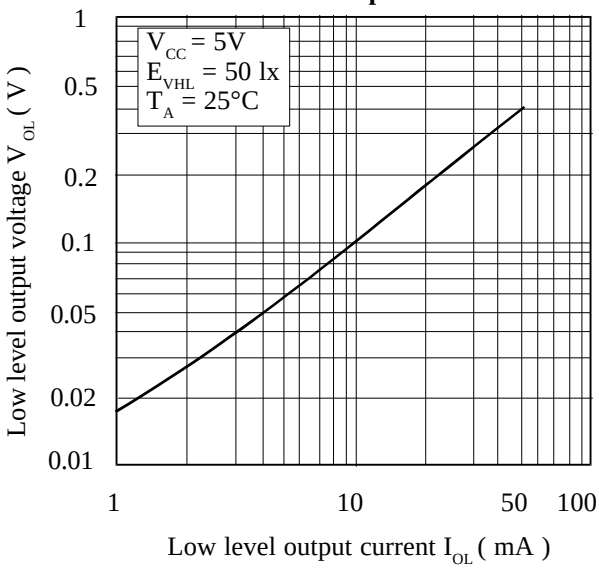
ELECTRICAL CHARACTERISTICS (T_A= 0°C to 70°C, V_{CC}= 5V Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITIONS
High Level Output Current	I_{OH}			100	µA	V_{CC}= 20V, V_O= 30V, E_V = 0
Low Level Output Voltage	V_{OL}			0.4	V	I_{OL} = 16mA, E_V = 50 lx
Supply Current	I_{CCL}			4.5	mA	E_V = 50 lx
	I_{CCH}			3	mA	E_V = 0
High to Low Threshhold Illumination	E_{VHL}		15	35	lx	T_A = 25°C, R_L = 280Ω
				50	lx	R_L= 280Ω
Low to High Threshhold Illumination	E_{VLH}	1.5	10		lx	T_A = 25°C, R_L = 280Ω
		1			lx	R_L= 280Ω
Hysteresis	E_{VLH} / $E_{\overline{VHL}}$	0.50	0.65	0.90		T_A = 25°C, R_L = 280Ω
High to Low Propagation Time	t_{PHL}		3	9	µs	T_A = 25°C, E_V = 50 lx
Low to High Propagation Time	t_{PLH}		5	15	µs	R_L = 280Ω
Rise Time	tr		0.1	0.5	µs	
Fall Time	tf		0.05	0.5	µs	

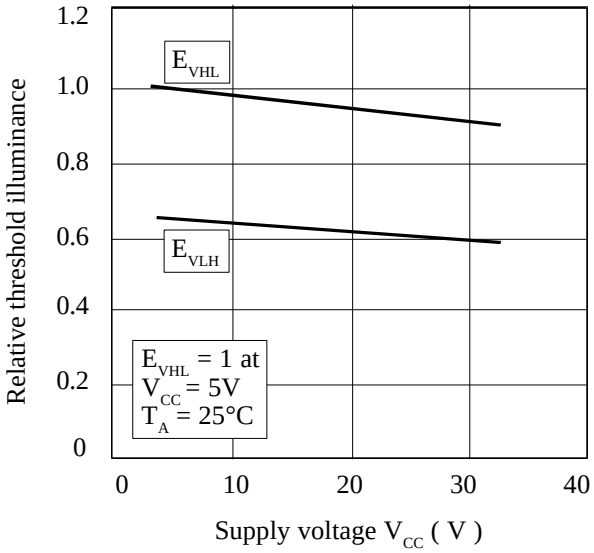
Collector Power Dissipation vs. Ambient Temperature



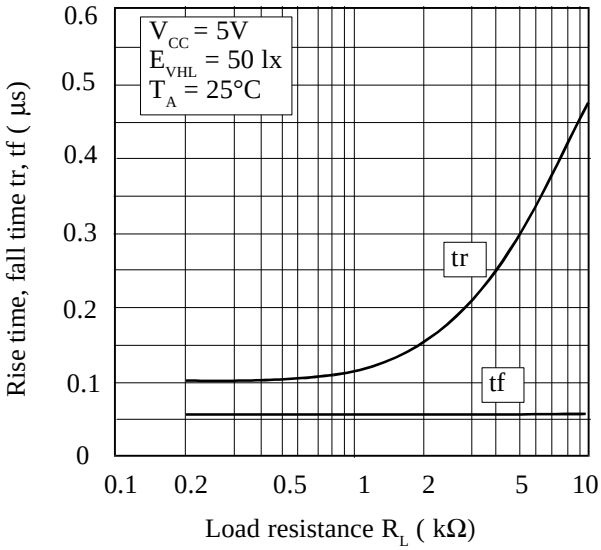
Low Level Output Voltage vs. Low Level Output Current



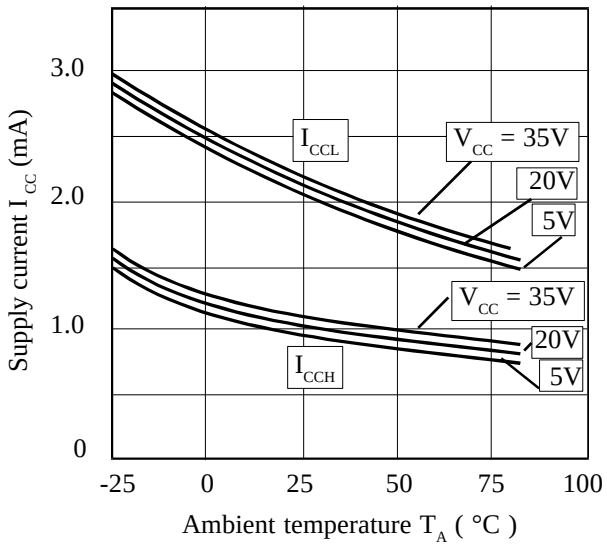
Relative Threshold Illuminance vs. Supply Voltage



Rise Time, Fall Time vs. Load Resistance



Supply Current vs. Ambient Temperature



Low Level Output Voltage vs. Ambient Temperature