

# IS654A IS655A MATCHED EMITTER DETECTOR PAIR SHMITT TRIGGER OUTPUT

**ISOCOM**<sup>®</sup> LTD

PACKAGES	CIRCUIT

## DESCRIPTION

The IS654A (Gallium Arsenide Infrared Emitting Diode) and the IS655A (Microprocessor Schmitt Trigger) are matched Emitter Detector Pair mounted in clear plastic lateral side looking packages which enables these devices to display superior mechanical resolution, coupled characteristics and reliability in a low cost housing.

Isocom Ltd supplies a multitude of plastic optocouplers for all applications varying from standard transistor optos through to Darlington and Schmitt Trigger devices. It's massive family of optos vary in speed allowing maximum opportunity to engineers worldwide.

All devices are performance guaranteed between -20°C and +80°C and have completed rigorous testing. The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

## FEATURES

- Lateral Side Looking Clear Plastic
- Fast Switching Times

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use.

Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

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Or go to the Isocom Website @: [Http://www.isocom.uk.com](http://www.isocom.uk.com)

## ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-40°C to +100°C
Operating Temperature	-25°C to +85°C
Lead Soldering Temperature	260°C 1.6mm from case for 10S

### Infrared Emitting Diode

Forward DC Current	50mA	
Reverse DC Voltage	5V	
Peak forward Current	3.0A	1µS p.w. 300 pps
Power Dissipation	100mW	Derate linearly above 25°C at 1.33mW/°C.

### Output Schmitt Trigger

Supply Voltage	17V	V <sub>CC</sub>
High Level Output Voltage	30V	V <sub>OH</sub>
Low Level Output Current	50mA	I <sub>OL</sub>
Power Dissipation	250mW	

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub> = 25°C U.O.S. (each channel where appropriate).

### Input Diode Electrical Characteristics

Parameter	Symbol	Test Conditions	Device	Min	Typ	Max	Units
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA		1.0		1.3	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5.0V				10	µA
Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> = 10µA		5.0			V

### Output Schmitt Detector Electrical Characteristics

Supply Voltage	V <sub>CC</sub>			4.5		17	V
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### Coupled Electrical Characteristics

Low Level Output Voltage	VOL	I <sub>OL</sub> = 16mA, V <sub>CC</sub> = 5V, E = 2mw/cm <sup>2</sup>			0.07	0.4	V
High Level Output Current	I <sub>OH</sub>	V <sub>CC</sub> = 5V, V <sub>OH</sub> = 30V, E = 0				100	µA
Supply Current (low level)	I <sub>CCL</sub>	V <sub>CC</sub> = 5V, E = 2mw/cm <sup>2</sup>			2.5	5	mA
Supply Current (high level)	I <sub>CCH</sub>	V <sub>CC</sub> = 5V, E = 0			1.2	3	mA
Propagation Delay Time L-H	t <sub>pLH</sub>	T <sub>a</sub> = 25°C, V <sub>CC</sub> = 5V, E = 2mw/cm <sup>2</sup> , R <sub>L</sub> = 280Ω			6		µS
Propagation Delay Time H-L	t <sub>pHL</sub>				2		µS
Rise Time	t <sub>r</sub>				0.1		µS
Fall Time	t <sub>f</sub>				0.03		µS

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