

IS654A
IS655A



**3mm DIA. MATCHED INFRARED
EMITTER DETECTOR PAIR
PHOTOTRANSISTOR OUTPUT**

DESCRIPTION

The IS654A (Gallium Arsenide Emitting Diode) and the IS655A (NPN Silicon Photo Transistor) are a mechanically and spectrally matched emitter detector end looking pair.

FEATURES

- T-1 standard 3mm DIA.
- Detector has dark plastic package for visible light cut out
- LED has high output, Radiant Intensity :-
 $I_E = 2\text{mW/sr min. at } I_F = 20\text{mA}$
- All electrical parameters are 100% tested

APPLICATIONS

- Floppy disk drives
- Infrared applied systems
- VCRs, Video camera
- Optoelectronic switches

**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
(1/16 inch (1.6mm) from case for 10 secs) 260°C

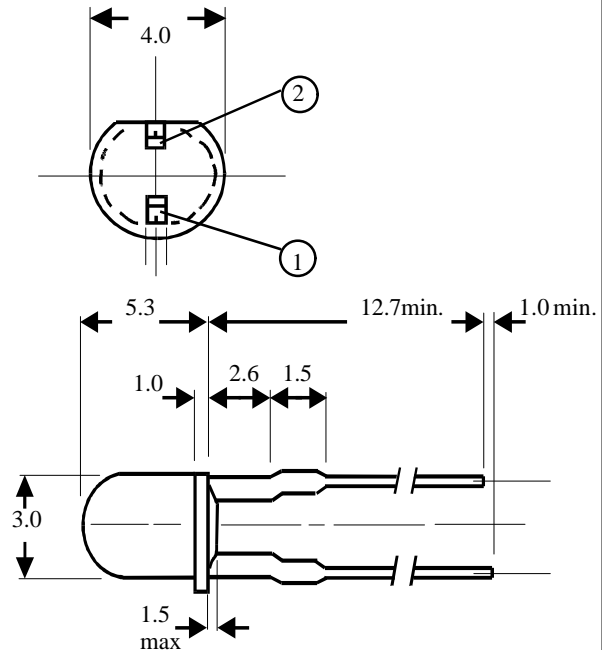
INPUT DIODE

Forward Current ——— 60mA
Reverse Voltage ——— 5V
Power Dissipation ——— 90mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} ——— 30V
Emitter-collector Voltage BV_{ECO} ——— 5V
Collector Current I_C ——— 20mA
Power Dissipation ——— 50mW

Dimensions in mm



IS654A

- ① - Anode
② - Cathode

IS655A

- ① - Emitter
② - Collector

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

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
IS654A Emitter	Forward Voltage (V_F)	1.5	1.2	1.6	V	$I_F = 20\text{mA}$
	Reverse Current (I_R)			100	μA	$V_R = 5\text{V}$
	Radiant Flux (I_E)				mW/sr	$I_F = 40\text{mA}$
	Peak Emission Wavelength		940		nm	$I_F = 40\text{mA}$
	Spectrum Radiation Bandwidth		50		nm	$I_F = 40\text{mA}$
	Beam Emission Angle		± 20		deg.	
IS655A Detector	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	$I_C = 1\text{mA}$ $E_e = 0\text{mW/cm}^2$
	Emitter-collector Breakdown (BV_{ECO})	5			V	$I_E = 100\mu\text{A}$ $E_e = 0\text{mW/cm}^2$
	Collector-emitter Dark Current (I_{CEO})			100	nA	$V_{CE} = 10\text{V}$ $E_e = 0\text{mW/cm}^2$
	On-State Collector Current I_C (ON)	1			mA	5V V_{CE} $E_e = 1\text{mW/cm}^2$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	$I_C = 0.5\text{mA}$ $E_e = 0.5\text{mW/cm}^2$
	Rise Time t_r		10	40	μs	$V_{CC} = 20\text{V}$, $I_C = 1\text{mA}$, $R_L = 1\text{k}\Omega$
	Fall Time t_f		8	35	μs	
	Peak Sensitivity Wavelength		940		nm	$I_F = 40\text{mA}$
	Beam Acceptance Angle		± 20		deg.	

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

