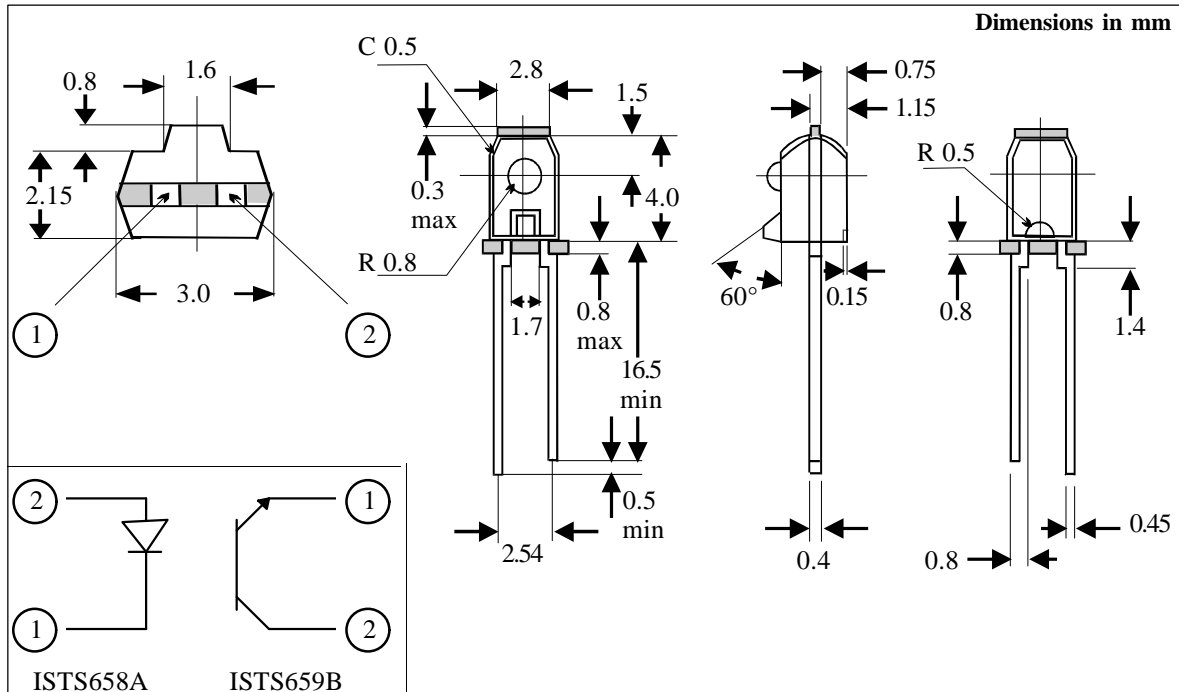


IS658A
IS659B



**SIDE LOOK MATCHED INFRARED
EMITTER DETECTOR PAIR
PHOTOTRANSISTOR OUTPUT**



DESCRIPTION

The IS658A (Gallium Arsenide Emitting Diode) and the IS659B (NPN Silicon Photo Transistor) are a mechanically and spectrally matched emitter detector side looking pair.

FEATURES

- Side looking package.
- Detector has tinted plastic package for visible light cut out
- LED has high output, Radiant Intensity :-
 $I_E = 0.7\text{mW min. at } I_F = 20\text{mA}$
- 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 ——— 50mA
Reverse Voltage ——— 5V
Power Dissipation ——— 75mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} ——— 30V
Emitter-collector Voltage BV_{ECO} ——— 5V
Collector Current I_C ——— 20mA
Power Dissipation ——— 75mW

ISOCOM COMPONENTS LTD

Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (01429) 863609 Fax :(01429) 863581

ISOCOM INC

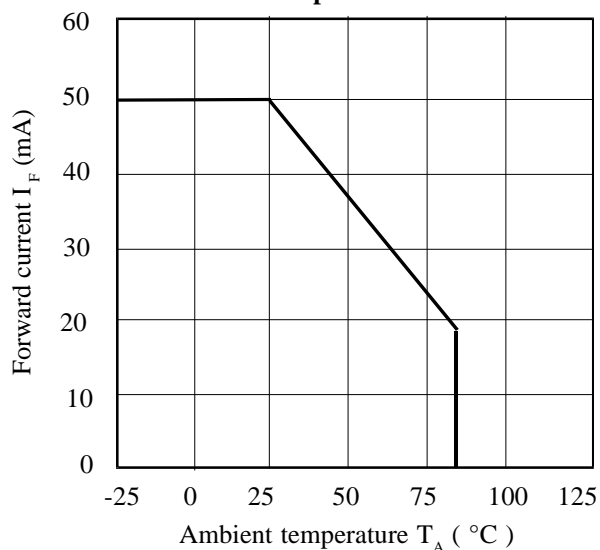
1024 S. Greenville Ave, Suite 240,
Allen, TX 75002 USA
Tel: (214) 495-0755 Fax: (214) 495-0901
e-mail info@isocom.com
http://www.isocom.com

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

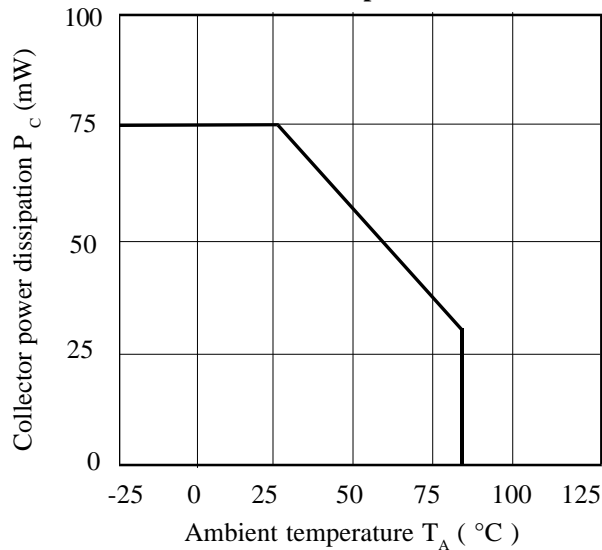
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
IS658A Emitter	Forward Voltage (V_F)		1.2	1.6	V	$I_F = 20\text{mA}$
	Reverse Current (I_R)			100	μA	$V_R = 5\text{V}$
	Radiant Flux (I_E)	0.7			mW/sr	$I_F = 20\text{mA}$
	Peak Emission Wavelength		940		nm	$I_F = 20\text{mA}$
	Spectrum Radiation Bandwidth		50		nm	$I_F = 20\text{mA}$
	Beam Emission Angle		± 30		deg.	$I_F = 20\text{mA}$
IS659B 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)	0.2			mA	$5\text{V } V_{CE}, \lambda = 940\text{nm}$ $E_e = 1\text{mW/cm}^2$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	$I_C = 0.1\text{mA}$ $E_e = 0.5\text{mW/cm}^2$
	Rise Time t_r Fall Time t_f		3 3.5		μs μs	$V_{CC} = 2\text{V}, I_C = 2\text{mA},$ $R_L = 100\Omega$
	Peak Sensitivity Wavelength Beam Acceptance Angle		940 ± 15		nm deg.	$I_F = 20\text{mA}$

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

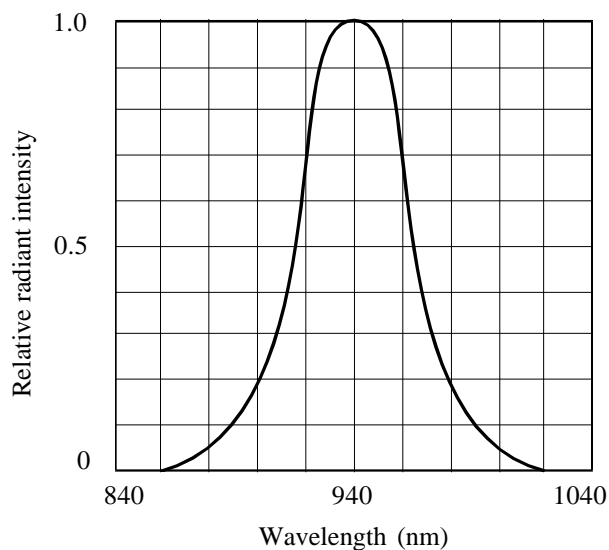
Forward Current vs. Ambient Temperature



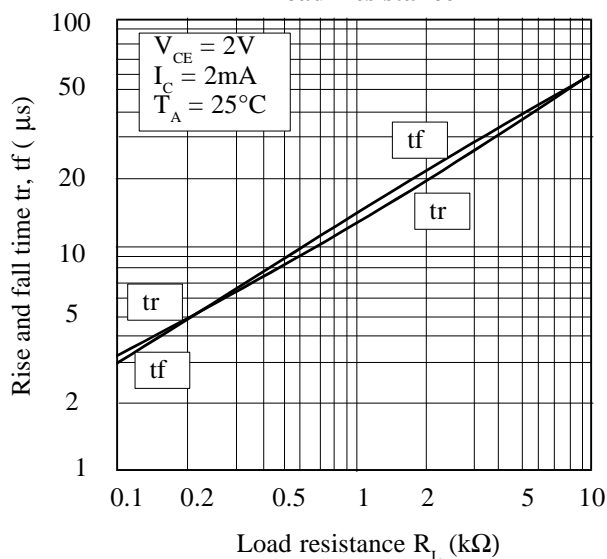
Collector Power Dissipation vs. Ambient Temperature



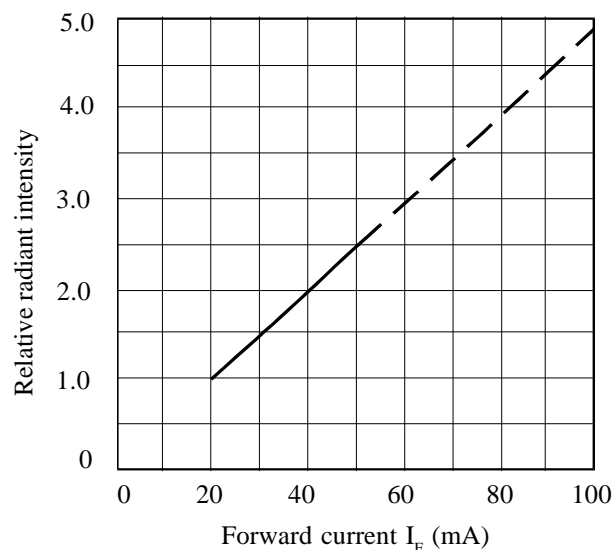
Spectral Distribution



Rise and Fall Time vs. Load Resistance



Relative Radiant Intensity vs. Forward Current



Relative Collector Current vs. Irradiance

