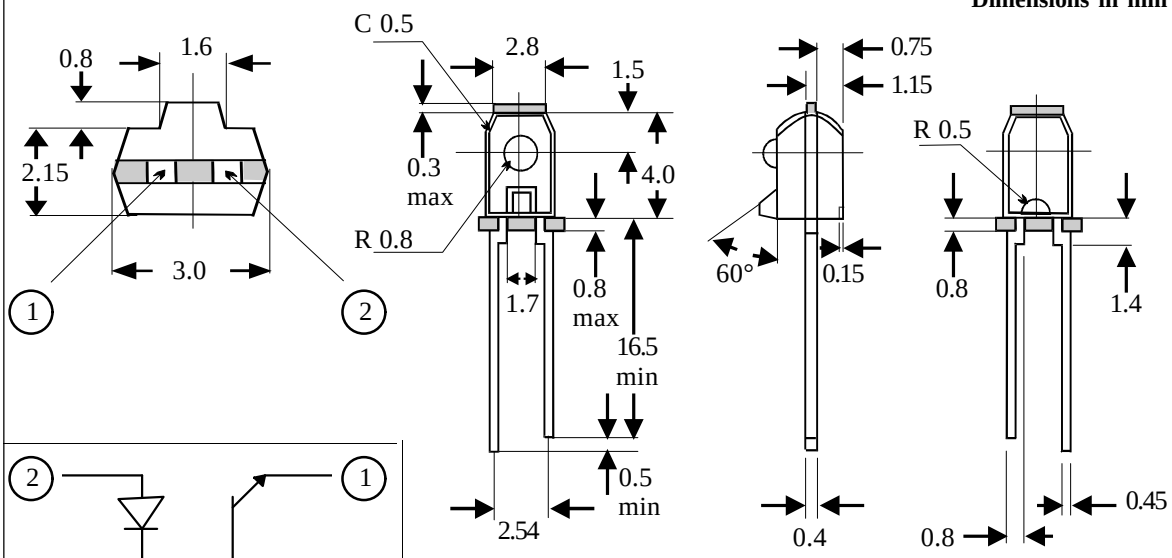
IS658A
IS659B

SIDE LOOK MATCHED INFRARED EMITTER DETECTOR PAIR PHOTOTRANSISTOR OUTPUT

Dimensions in mm



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 = 0.7mW min. at I_F = 20mA
- 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

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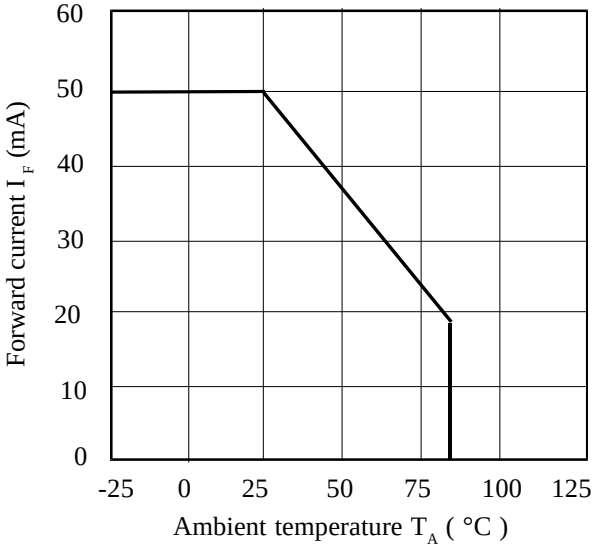
ELECTRICAL CHARACTERISTICS (T_A= 25°C Unless otherwise noted)

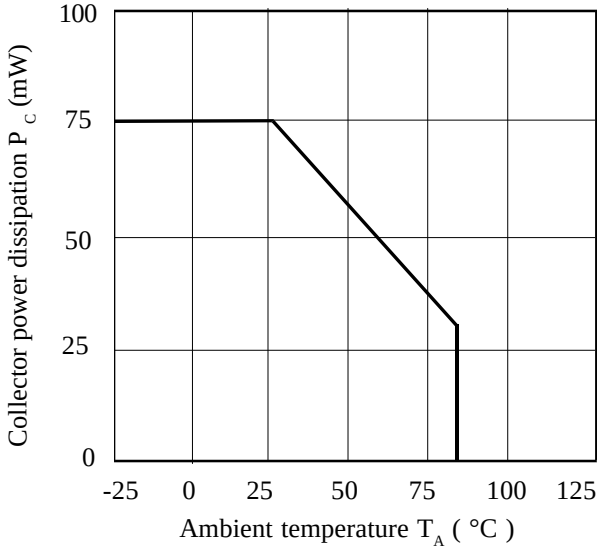
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
IS658A Emitter	Forward Voltage (V_F)		1.2	1.6	V	I_F = 20mA
	Reverse Current (I_R)			100	µA	V_R = 5V
	Radiant Flux (I_E)	0.7			mW/sr	I_F = 20mA
	Peak Emission Wavelength		940		nm	I_F = 20mA
	Spectrum Radiation Bandwidth		50		nm	I_F = 20mA
	Beam Emission Angle		±30		deg.	
IS659B Detector	Collector-emitter Breakdown (BV_{CEO}) (Note 1)	30			V	I_C = 1mA Ee = 0mW/cm²
	Emitter-collector Breakdown (BV_{ECO})	5			V	I_E = 100µA Ee = 0mW/cm²
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 10V Ee = 0mW/cm²
	On-State Collector Current I_C (ON)	0.2			mA	5V V_{CE}, λ = 940nm Ee = 1mW/cm²
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$			0.4	V	I_C = 0.1mA Ee = 0.5mW/cm²
	Rise Time tr		3		µs	V_{CC}= 2V, I_C= 2mA,
	Fall Time tf		3.5		µs	R_L = 100Ω
	Peak Sensitivity Wavelength		940		nm	I_F = 20mA
	Beam Acceptance Angle		±15		deg.	

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

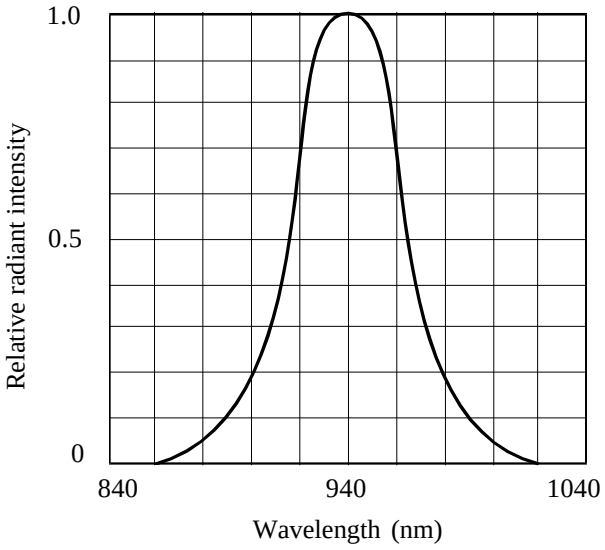
Forward Current vs. Ambient Temperature



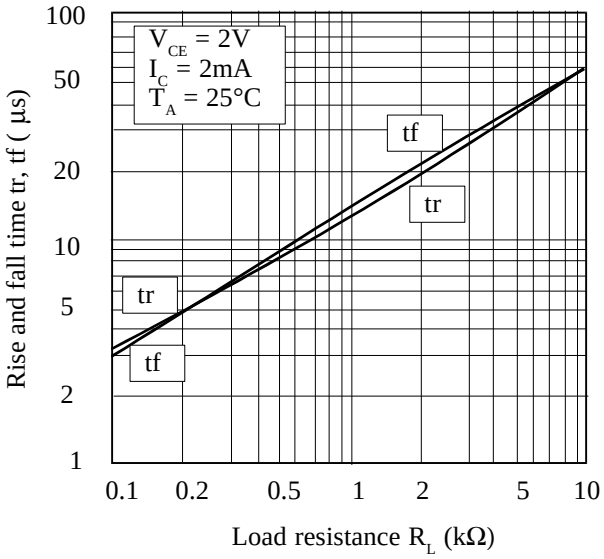
Collector Power Dissipation vs. Ambient Temperature



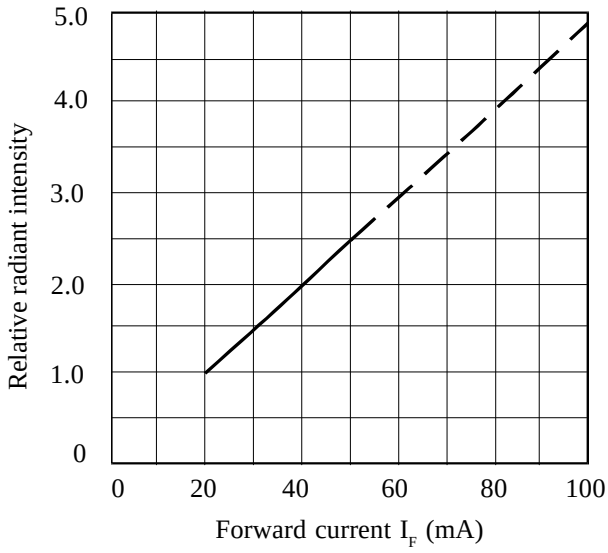
Spectral Distribution



Rise and Fall Time vs. Load Resistance



Relative Radiant Intensity vs. Forward Current



Relative Collector Current vs. Irradiance