



ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -O. FAX. -44

1040 VIENNA
OFFICE@ROITHNER-LASER.COM

AUSTRIA



B5B-900-8

- Infrared Light Emitting Diode
- 895 nm
- GaAIAs structure
- 5 mm epoxy package



Description

B5B-900-8 is an **GaAIAs** based IR LED, typically emitting at 895 nm peak wavelength. It features a hermetically sealed clear 5 mm epoxy resin with narrow beam angle of 8°.

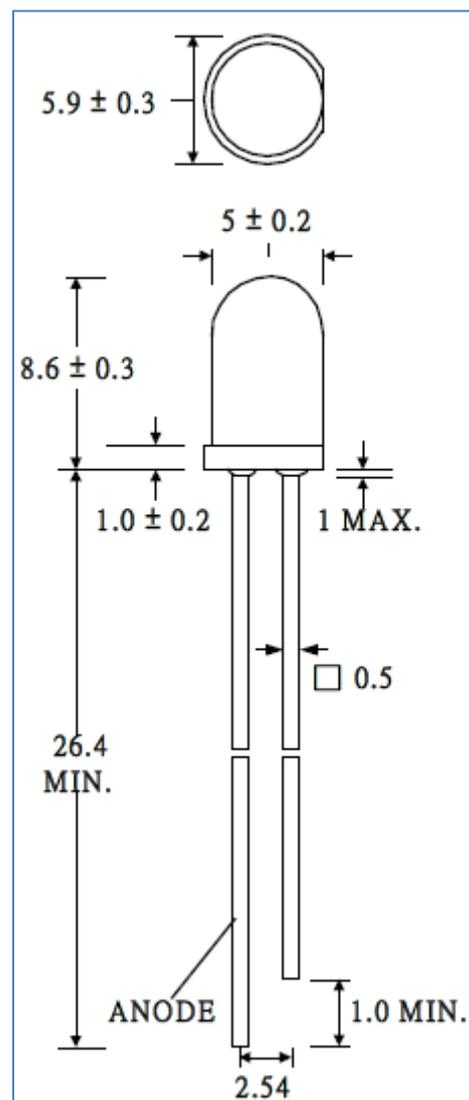
Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation, DC	P _D		170	mW
Forward Current	I _F		100	mA
Pulse Forward Current*	I _{FP}		1	A
Reverse Voltage	V _R		5.0	V
Operating Temperature	T _{OPR}	- 40	+ 85	°C
Storage Temperature	T _{STG}	- 40	+85	°C
Soldering Temperature (max 3s)	T _{SOL}		+ 260	°C

* **Duty cycle = 10% @ 1 kHz**

Electro-Optical Characteristics (T_{CASE} = 25°C, I_F = 50 mA)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ _P	885	895	910	nm
Spectral Width (FWHM)	Δλ		80		nm
Forward Voltage	V _F		1.4	1.7	V
Reverse Current (V _R = 5V)	V _R			100	μA
Output Power	I _V	32	48		mW/sr
Viewing Angle	Θ _{1/2}		8		deg.

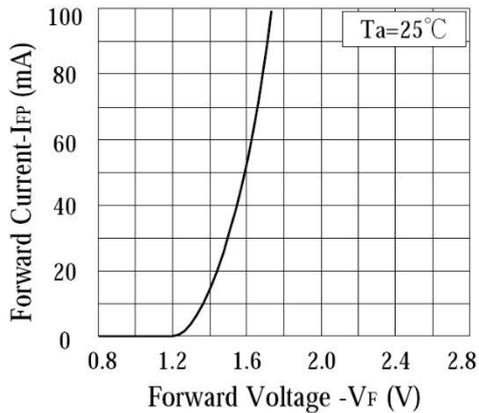


All dimensions in mm

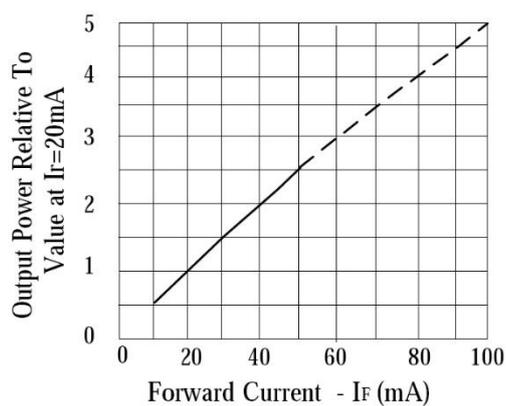


Performance Characteristics

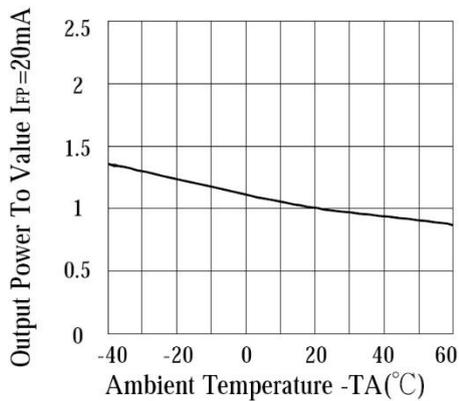
Forward Current vs. Forward Voltage



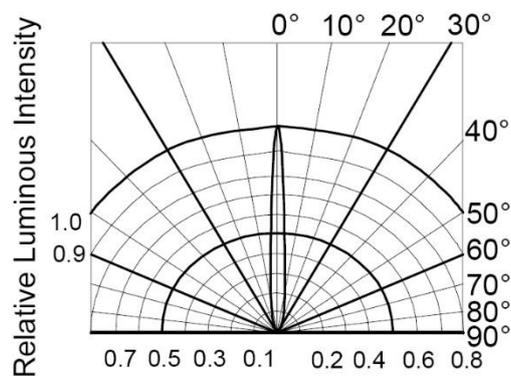
Relative Luminous Intensity vs. Forward Current



Relative Luminous Intensity vs. Ambient Temp.



Radiation Diagram



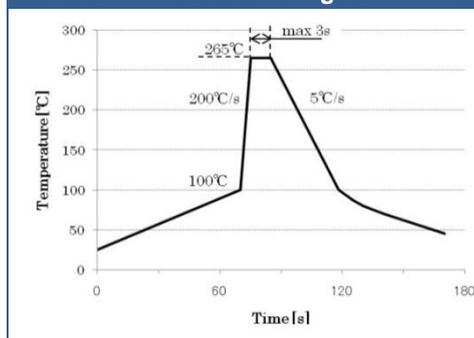


Precautions

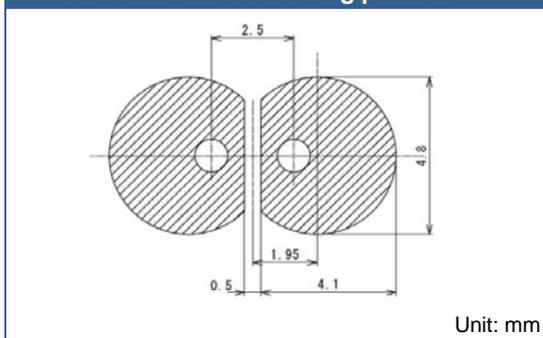
Soldering

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Recommended soldering conditions



Recommended soldering patterns



Cleaning

Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended

DO NOT USE acetone, chloroform, trichloroethylene, or MKS

DO NOT USE ultrasonic cleaners

Static Electricity

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

Radiation

During operation these LEDs do emit light, which **could be hazardous to skin and eyes**, and **may cause cancer**. Do avoid exposure to the emitted light. Protective glasses if needed. It is further advised to attach a warning label on products/systems.

Operation

Do only operate LEDs with a current source.

Running these LEDs from a voltage source will result in complete failure of the device.

Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.