ROITHNER LASERTECHNIK GmbH
WIEDNER HAUPTSTRASSE 76 1040 VIENNA AUSTRIA
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LED940D-05

- **Infrared Light Emitting Diode**
- **940 nm, 25 mW**
- **InGaAs structure**
- **5mm clear epoxy resin**

RoHS COMPLIANT Pb Pb-Free

Description

LED940D-05 is an **AlGaAs** based infrared LED, typically emitting at 940 nm with a typical output power of 25 mW. **LED940D-05** features a 350x350µm chip die in a hermetically sealed 5 mm clear epoxy resin.

Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Power Dissipation, DC	P_D		170	mW
Forward Current	I_F		100	mA
Pulse Forward Current*	I_{FP}		1000	mA
Reverse Voltage	V_R		5	V
Thermal Resistance	R_{thja}		170	K/W
Junction Temperature	T_J		120	°C
Operating Temperature	T_{OPR}	- 40	+ 100	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Soldering Temperature (max 3s)	T_{SOL}		+ 265	°C

***** ***Duty cycle = 1%, pulse width = 10 µs***

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

Parameter	Symbol	Values Min.	Values Typ.	Values Max.	Unit
Peak Wavelength	**λ_P**	**930**	**940**	**955**	**nm**
Spectral Width (FWHM)	$\Delta\lambda$		40		nm
Forward Voltage	V_F		1.4	1.7	V
	$V_{F\ PULSE}$		2.1*		V
Radiated Power	P_O		25		mW
	$P_{O\ PULSE}$		400		mW
Radiant Intensity	I_E		9.3		mW/sr
	$I_{E\ PULSE}$		150		mW/sr
Viewing Half Angle	$\Theta_{1/2}$		± 45		deg.
Rise/Fall Time	t_f		10/15		ns

Pulse Condition: Duty cycle = 1%, pulse width = 10 µs, pulse current = 1A

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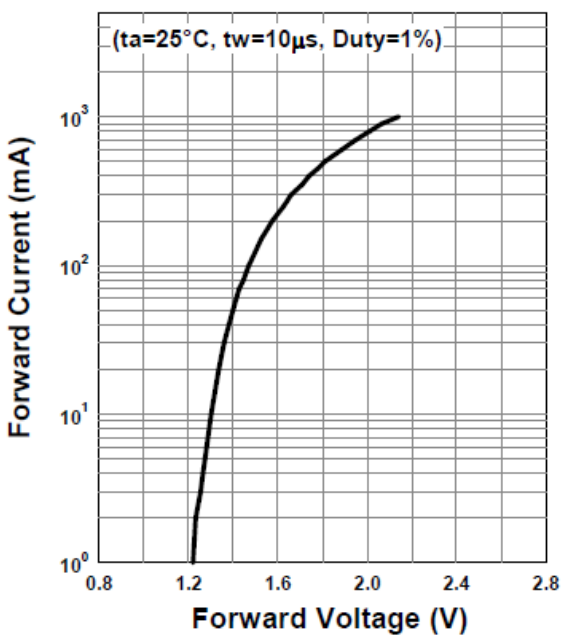
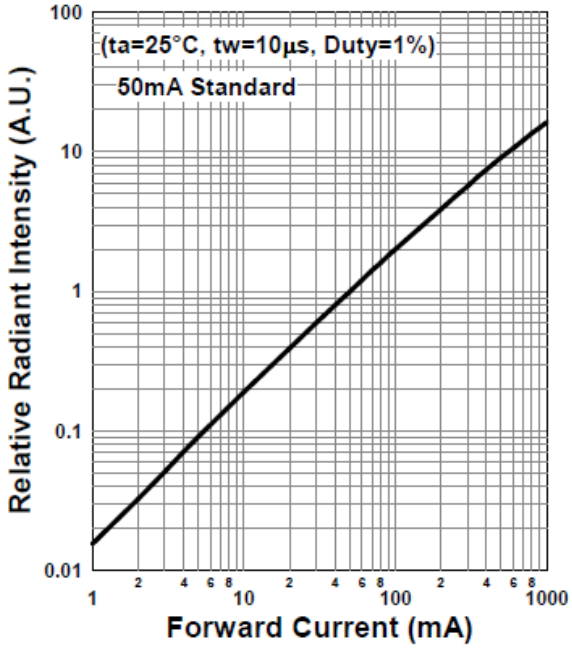
Performance Characteristics

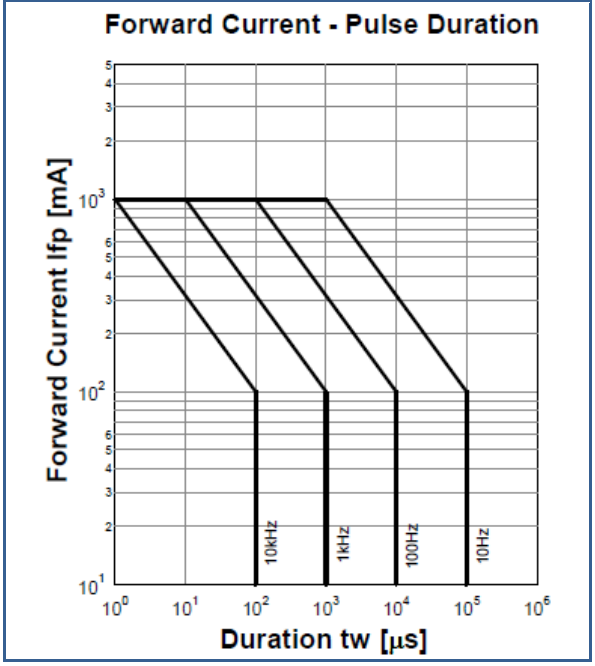
Forward Current vs. Forward Voltage



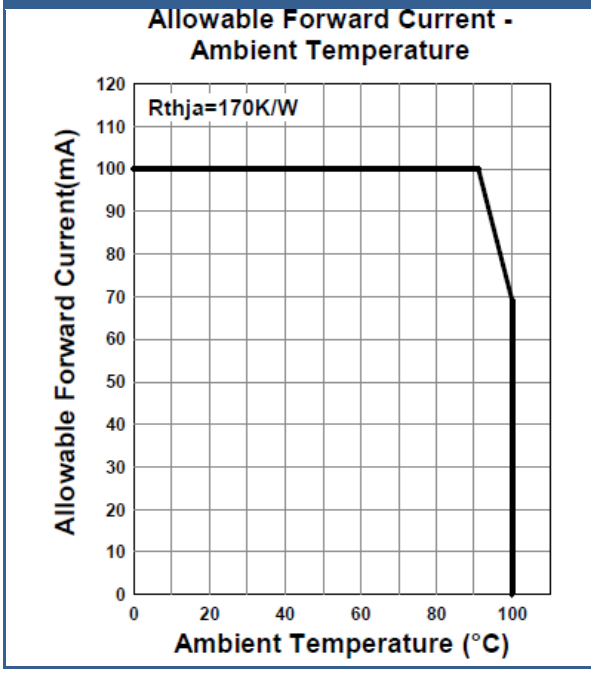
Relative Radiant Intensity vs. Forward Current



Forward Current vs. Pulse Duration



Allowable Forward Current vs. Ambient Temp.



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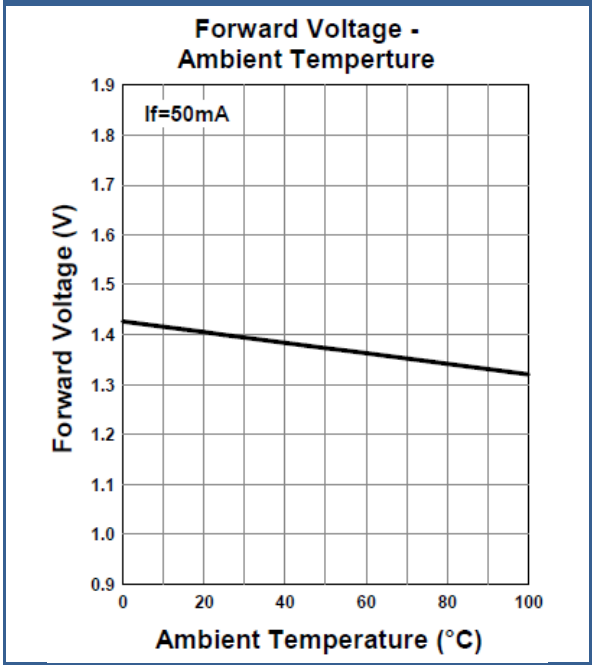
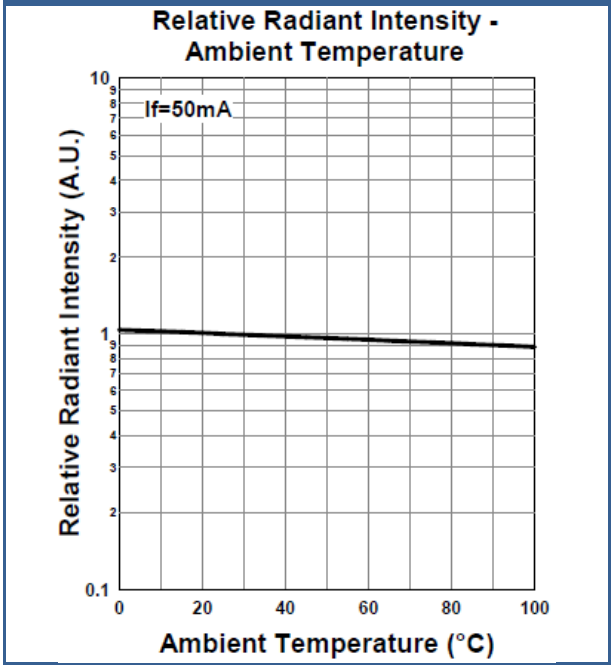
Performance Characteristics

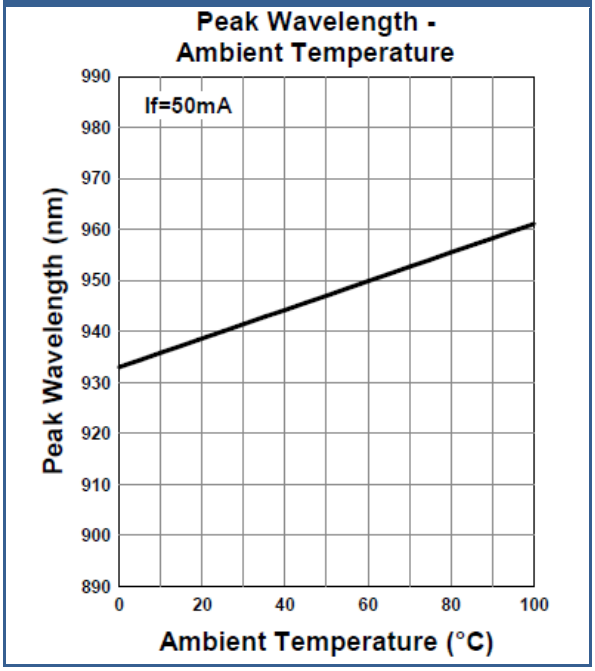
Forward Voltage vs. Ambient Temperature



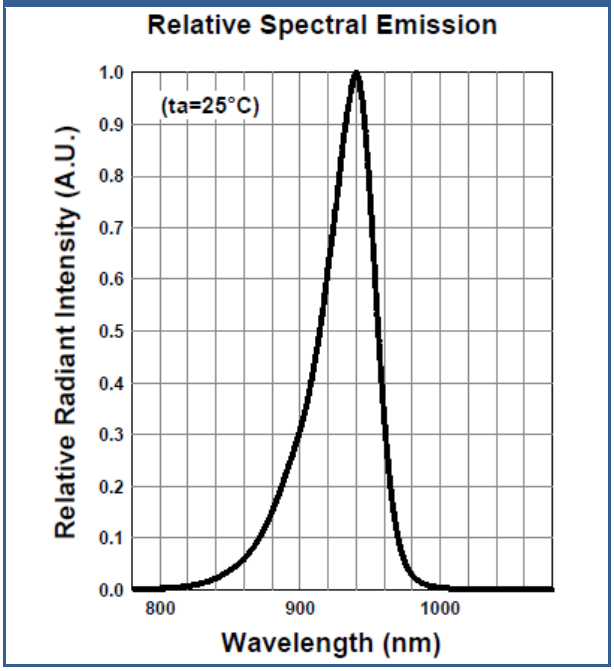
Relative Radiant Intensity vs. Ambient Temp.



Peak Wavelength vs. Ambient Temperature



Relative Spectral Emission



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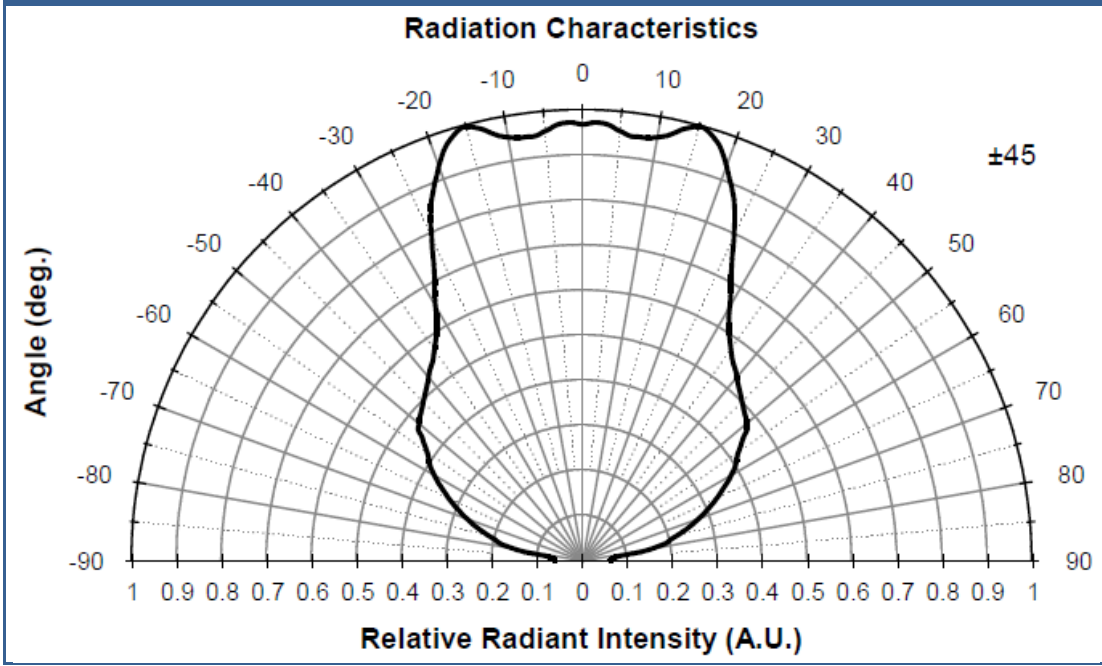
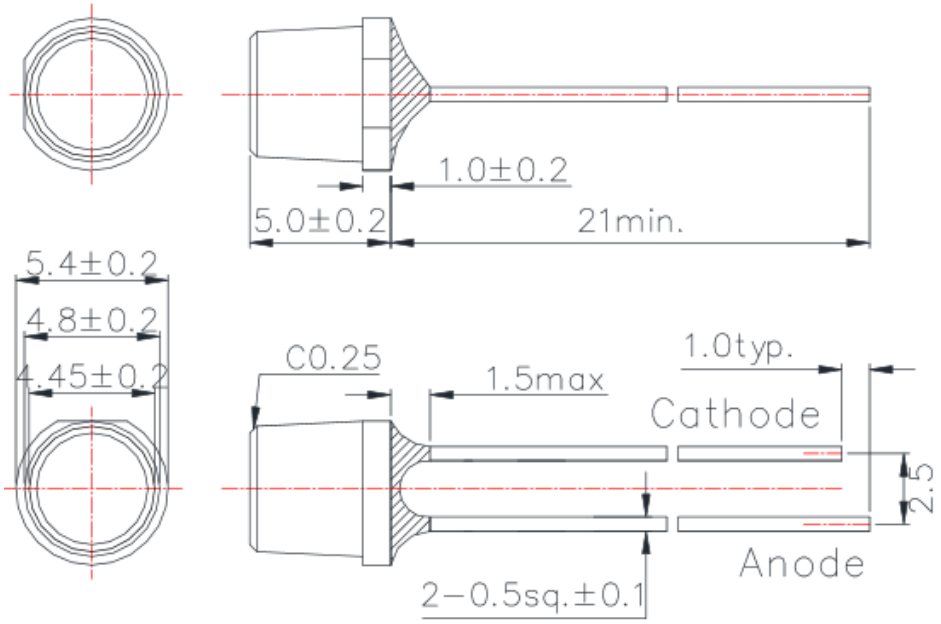
Performance Characteristics

Radiation Characteristics



Outline Dimensions



All dimensions in mm