

MEAS EMITTER ASSEMBLY ELM-5000 SERIES

SMT optical sensor component

- Dual Drive
- Pulse Oximetry Component
- Clear Epoxy
- Reflow Solderable

Low oxygen level can put a strain on cell functioning including the heart and brain. This is critical in acute medical situations like post-op recovery. TE Connectivity's (TE) Surface Mounted Technology (SMT) optical components provide leading accuracy in oxygen level detection.

With more than 27 years of proven reliability and expertise, TE has designed SMT sensors with best-in-class flexibility to accommodate multiple wavelength options.

Our ability to provide both components and complete sensor packages makes us a leading choice for pulse oximetry applications that require high degrees of precision, durability and performance.

Emitter Assembly ELM-5000 series are specially designed for medical applications where selection of peak wavelength and reflow solderability are key requirements. Emission source material is GaAlAs in conjunction with GaAlP complete with clear epoxy lens.

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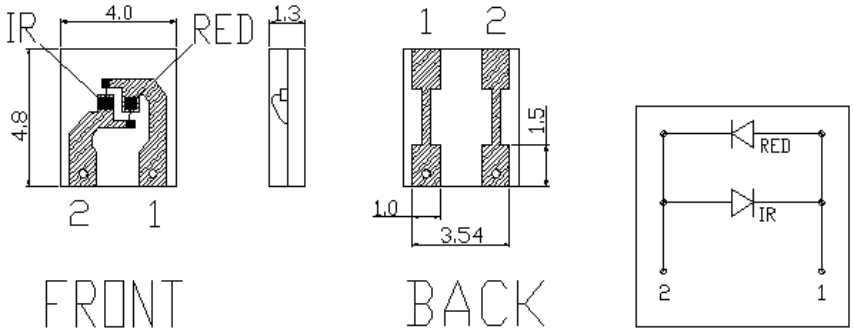
Features

- 660 nm ±3 nm Peak Wavelength Red LED
- Two IR Wavelength Choices
- Dual Drive

Applications

- Pulse Oximetry
- SpO_2 Finger/Ear Reusable Probes
- SpO_2 Disposable Strip or Butterfly Probes

Dimensions (unit: mm)



RED 660nm

Parameter @ 25ºC	Symbol	Conditions	Min.	Typ.	Max.	Absolute	Unit
Forward Voltage	V_F	I_F=20mA		1.8			V
Reverse Voltage	V_R	I_R=10µA	5				V
Power	P_o	I_F=20mA	1.2				mW
Peak Wavelength	λ_p	I_F=20mA	660	663	666		nm
Spectral Bandwidth	$\Delta\lambda$	I_F=20mA		20			nm

INFRARED 890nm (ELM-5001)

Parameter @ 25ºC	Symbol	Conditions	Min.	Typ.	Max.	Absolute	Unit
Forward Voltage	V_F	I_F=20mA			1.50		V
Reverse Voltage	V_R	I_R=10µA	5				V
Power	P_o	I_F=20mA	1.0				mW
Peak Wavelength	λ_p	I_F=20mA	880	890	900		nm
Spectral Bandwidth	$\Delta\lambda$	I_F=20mA		75			nm

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INFRARED 905nm (ELM-5002)

Parameter @ 25ºC	Symbol	Conditions	Min.	Typ.	Max.	Absolute	Unit
Forward Voltage	V_F	I_F=20mA		1.26			V
Reverse Voltage	V_R	I_R=10µA	5				V
Power	P_o	I_F=20mA	1.0				mW
Peak Wavelength	λ_p	I_F=20mA	895	905	915		nm
Spectral Bandwidth	$\Delta\lambda$	I_F=20mA		70			nm

NOTES:

Operation Temperature: -20 to 80°C

Storage Temperature: -30 to 80°C

Moisture Protection: Components must be baked at 120°C for 72 hours before use and used up within 8 hours after baking

Reflow soldering temperature: Max. Temperature Range: 230 – 250°C

Ordering Information

Description	Model	Part Number
Emitter Assembly; SMT Optic; 660nm/890nm	ELM-5001	10104043-20
Emitter Assembly; SMT Optic; 660nm/905nm	ELM-5002	10104018-20

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