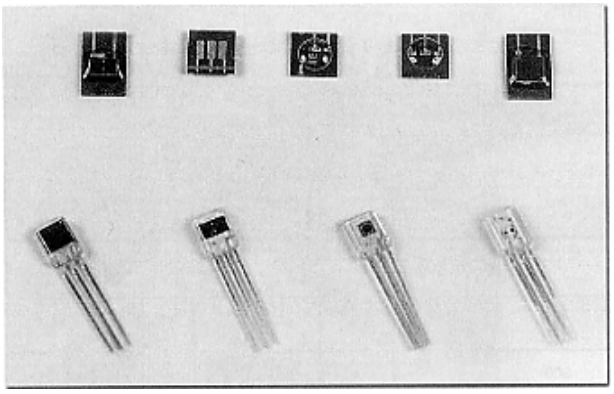
DUAL EMITTER / MATCHING PHOTODETECTOR SERIES

MOLDED LEAD FRAME AND LEADLESS CERAMIC SUBSTRATE



APPLICATIONS

- **SPO2**
- **Blood Analysis**
- **Medical Instrumentaion**
- **Ratiometric Instruments**

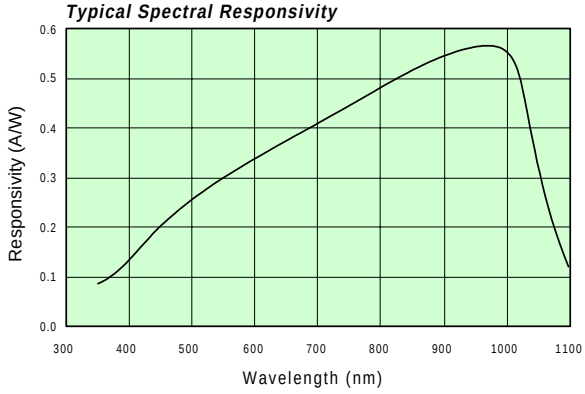
FEATURES

- **Leadless Ceramic Substrate**
- **Lead frame Molded Packages**
- **Two and Three Lead Design**
- **Bi-Wavelength LEDs**
- **Matching Detector Response**

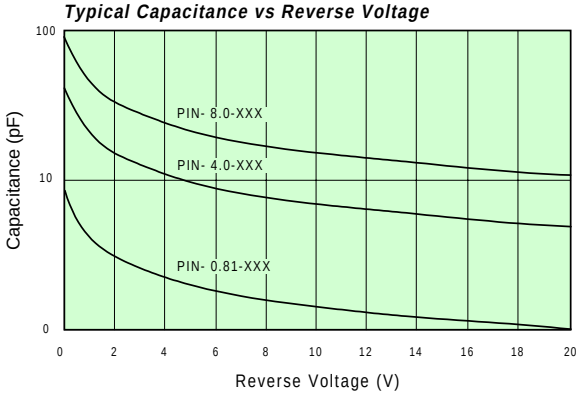
The Dual LED series consist of a 660 nm (red) LED and a companion IR LED such as 880, 895, 905 or 940 nm. They are widely used for ratiometeric measurements such as medical analytical and monitoring devices. They can also be used in applications requiring a low cost Bi-Wavelength light source. Two types of pin configuration is available: three leads with one common anode or cathode, or two leads parallel back-to-back connection. They are available in two types of packaging. Clear lead frame molded side looker, and leadless ceramic substrate.

The matching photodetectors' response are optimized for maximum responsivity at 660 nm as well as near IR wavelengths. They exhibit low capacitance and low dark currents and are available in three different active area sizes in the same two types of packaging as the dual emitters: Clear lead frame molded side looker and leadless ceramic substrate.

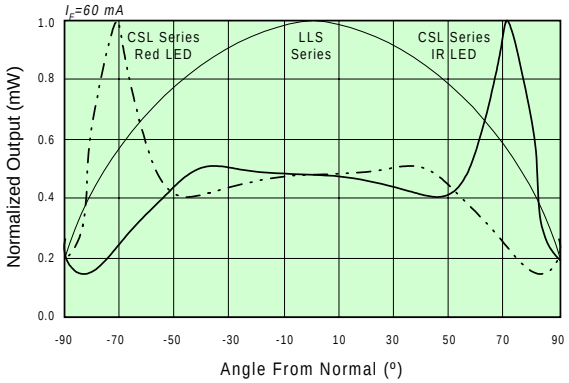
Typical Spectral Responsivity



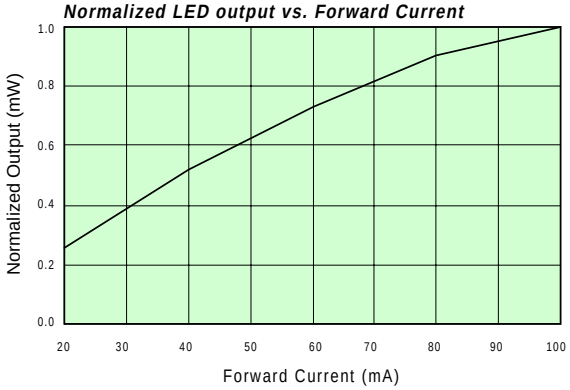
Typical Capacitance vs Reverse Voltage



Normalized LED Ouput vs. Angular Distribution



Normalized LED output vs. Forward Current



PHOTODIODE CHARACTERISITICS

Model No.	Active Area		Spectral Range	Responsivity		Capacitance	Dark Current	Max. Reverse Voltage	Operating Temeprature	Storage Temperature	Packaging Style ¶
	mm	mm²	nm	A/W	A/W	pF	nA	V	°C	°C	
	Dimension	Area		660 nm	900 nm	-10 V	-10 V	10 µA			
PIN-0.81-LLS	1.02φ	0.81	350-1100	0.33	0.55	2.0	2	20	-25 ~ +85	-40 ~ +100	59/Leadless Ceramic
PIN-0.81-CSL											55 / Molded Lead Frame
PIN-4.0-LLS	2.31 x 1.68	3.9				10	5				59/Leadless Ceramic
PIN-4.0-CSL											55 / Molded Lead Frame
PIN-8.0-LLS	2.9 Sq.	8.4				25	10				59/Leadless Ceramic
PIN-8.0-CSL											55 / Molded Lead Frame

DUAL EMITTER COMBINATION

Model No.	LEDs Used		Package Style ¶	Pin Configuration ¶	Operating Temperature	Storage Temperature
	nm				°C	°C
DLED-660/880-LLS-2	660	880	58 / Leadless Ceramic	2 Leads / Back to Back*	-25 ~ +85	-40 ~ +100
DLED-660/895-LLS-2	660	895				
DLED-660/905-LLS-2	660	905				
DLED-660/905-LLS-3	660	905		3 Leads / Common Anode		
DLED-660/940-LLS-3	660	940				
DLED-660/880-CSL-2	660	880	57 / Side Looker Mold	2 Leads / Back to Back*		
DLED-660/895-CSL-2	660	895				
DLED-660/905-CSL-2	660	905				
DLED-660/905-CSL-3	660	905		3 Leads / Common Anode		
DLED-660/935-CSL-2	660	935				
DLED-660/940-CSL-3	660	940				
DLED-660/905/905-LLS-3 ‡	660	905	58 / Leadless Ceramic			

* In Back-to-Back configuration the LEDs are connected in parallel.

‡ In this configuration TWO 905 nm LEDs are connected in series to increase the total radiant flux.

LED CHARACTERISTICS

Typical Electro-Optical Specifications at T_A=23 ºC

LED	Peak Wavelength	Radiant Flux	Spectral Bandwidth	Forward Voltage	Reverse Voltage
	nm	mW	nm	V	V
	I_F=20 mA	I_F=20 mA	I_F=20 mA FWHM	I_F=20 mA	I_R=10 µA
	typ	typ	typ	max	max
660 nm	660	1.8	25	2.4	5
880 nm	880	1.5	80	2.0	
895 nm	895	2.0	50	1.7	
905 nm	905				
935 nm	935	1.5		1.5	
940 nm	940				

For MECHANICAL DRAWINGS Click Here