



## General Purpose Balanced Detector

Noisy Labs' general purpose balanced detectors are engineered for precision measurements of signals carried by cw laser light. These systems exhibit very low electronic dark noise, resulting in a high dark noise clearance of more than 20 dB with maximally 20 mW of local oscillator power in the MHz frequency range. The common mode suppression ratio surpasses 50 dB at 1 MHz.

Our general purpose balanced detectors are available at 1064 nm, 1550 nm and in the 400 nm to 1030 nm range.

### Characteristics at 1064 nm

Characteristics		Symbol	Min.	Typ.	Max.	Unit
Central wavelength	-	$\lambda$	-	1064	-	nm
Quantum efficiency	-	$\eta$	-	> 70%	-	-
Diameter of active area	-	-	-	500	-	$\mu\text{m}$
Common mode rejection ratio @1 MHz	-	-	-	> 50	-	dB
Maximum total input power	-	-	-	20	-	mW
3dB bandwidth	-	-	-	18	-	MHz
Dark noise clearance @ 5MHz	With max. 20 mW total optical power	-	-	20	-	dB

### Characteristics at 1550 nm

Characteristics		Symbol	Min.	Typ.	Max.	Unit
Central wavelength	-	$\lambda$	-	1550	-	nm
Quantum efficiency	-	$\eta$	-	> 70%	-	-
Diameter of active area	-	-	-	500	-	$\mu\text{m}$
Common mode rejection ratio @1 MHz	-	-	-	> 50	-	dB
Maximum total input power	-	-	-	20	-	mW
3dB bandwidth	-	-	-	28	-	MHz
Dark noise clearance @ 5MHz	With max. 20mW total optical power	-	-	20	-	dB

### General characteristics

Characteristics		Symbol	Min.	Typ.	Max.	Unit
AC high pass cutoff	Customizable	f	-	300	-	kHz
Output impedance	-	Z	-	50	-	$\Omega$
DC output voltage	-	-	-	$\pm 5$	-	V
Supply Voltage	-	-	-	$\pm 12$	-	V
Operating temperature range	-	T	15	-	35	$^{\circ}\text{C}$
Humidity	-	-	30	40	50	%
Dimensions	W x H x D	-	-	80 x 138 x 29	-	mm

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