

Series 0

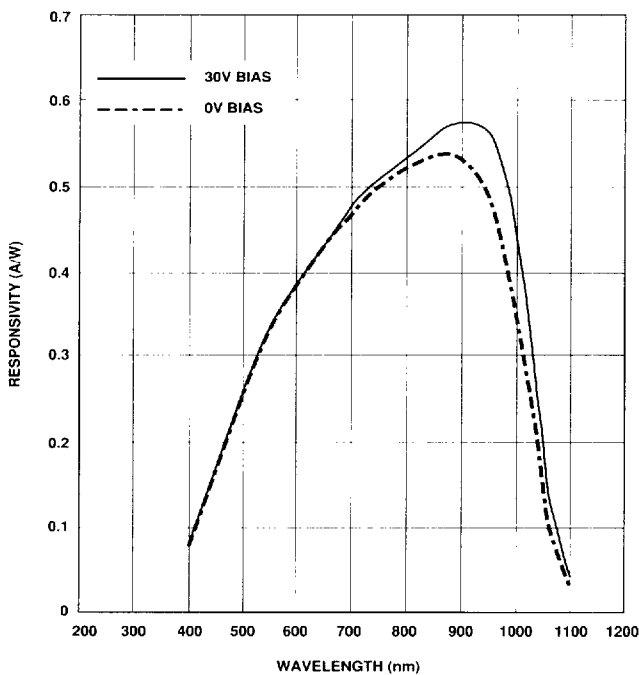
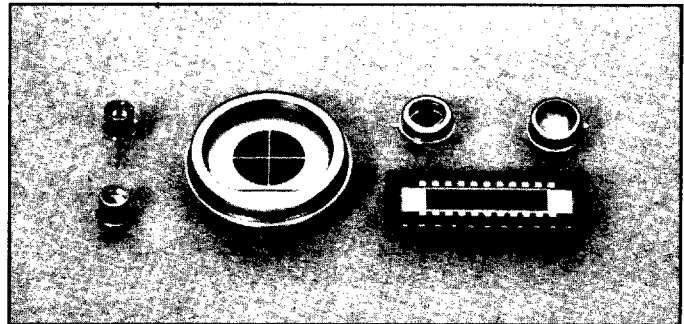
General Purpose

The Series 0 general purpose silicon photodiodes are designed to operate with a reverse bias voltage of up to 30 volts for applications where low capacitance or fast speed of response are important.

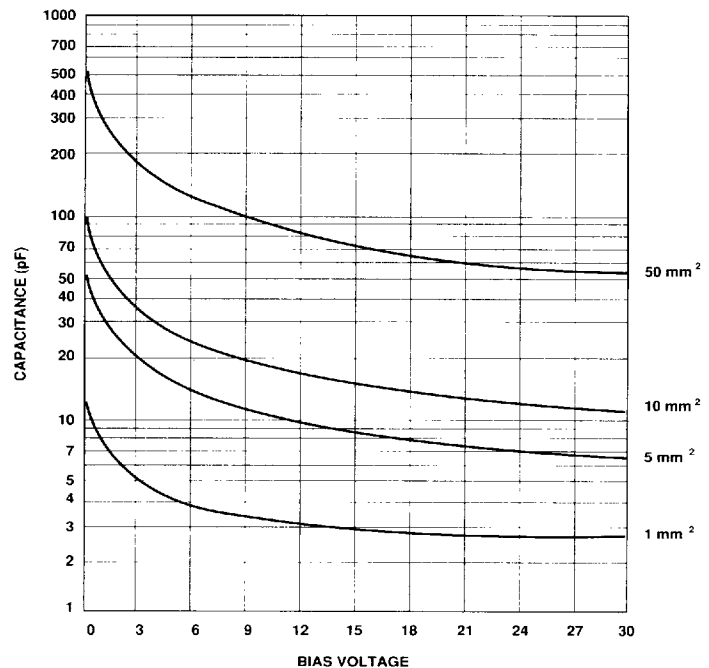
These photodiodes are fabricated to maximize their responsivity in the 780-930nm range. The typical responsivity at 900nm is .54 A/W. For pulsed applications, the devices exhibit good performance throughout the 430nm to 1064nm spectral range.

ABSOLUTE MAXIMUM RATINGS

	Max. Rating	Unit
DC Reverse Voltage	50	V
Storage Temperature Range	-45 to +100	°C
Except for: LD20-0, LD35-0, MD25-0, MD100-0	-25 to +80	°C
Operating Temperature Range	-25 to +75	°C
Except for: LD20-0, LD35-0, MD25-0, MD100-0	0 to +75	°C



SERIES 0 - TYPICAL SPECTRAL RESPONSE



SERIES 0 - TYPICAL CAPACITANCE VERSUS
BIAS VOLTAGE FOR A GIVEN
ACTIVE AREA

CENTRONIC

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Series 0

Electrical / Optical Specifications

Characteristics measured at 22° C (±2) ambient, and a reverse bias of 30 volts, unless otherwise stated.

Series 0 responsivity tested at 900nm is .47 A/W min., typical .54 A/W

Single Elements

Type No.	Active Area		Dark Current nA		NEP WHz ^{-1/2} λ = 900 nm Typ.	Capacitance pF		Risettime ns λ = 900 nm R _L = 50 Ω Typ.	Package
	mm ²	mm	Max.	Typ.		Vr=0V Typ.	Vr=30V Max.		
OSD1-0	1	1.13 dia	3	1	4.5 x 10 ⁻¹⁴	12	3	10	4
OSD5-0	5	2.52 dia	10	5	1.0 x 10 ⁻¹³	50	8	8	9
OSD15-0	15	3.8 x 3.8	15	8	1.3 x 10 ⁻¹³	150	20	9	9
OSD35-0	35	5.9 x 5.9	30	12	1.6 x 10 ⁻¹³	350	46	12	15
OSD50-0	50	7.98 dia	50	15	1.7 x 10 ⁻¹³	500	65	13	17
OSD100-0	100	11.3 dia	70	30	2.5 x 10 ⁻¹³	1000	130	19	20

Quadrants

(Values given are per element unless otherwise stated)

Type No.	Active Area (Total)			Dark Current nA		NEP WHz ^{-1/2} λ = 900 nm Typ.	Capacitance pF		Risettime ns λ = 900 nm R _L = 50 Ω Typ.	Crosstalk % λ = 900 nm		Package
	mm ²	mm	Sep. mm	Max.	Typ.		Vr=0V Typ.	Vr=30V Max.		Max.	Typ.	
QD7-0	7	2.99 dia	0.2	15	4	9.0 x 10 ⁻¹⁴	20	4	10	5	1	14
QD50-0	50	7.98 dia	0.2	30	15	1.3 x 10 ⁻¹³	125	18	9	5	1	18
QD100-0	100	11.3 dia	0.2	50	25	2.2 x 10 ⁻¹³	250	30	10	5	1	19

Linear Arrays

(Values given are per element unless otherwise stated)

Type No.	No. of Elements	Array Dimensions				Dark Current nA		NEP WHz ^{-1/2} λ = 900 nm Typ.	Capacitance pF		Risettime ns λ = 900 nm R _L = 50 Ω Typ.	Package
		Area mm ²	Width mm	Lgth. mm	Sep. mm	Max.	Typ.		Vr=0V Typ.	Vr=30V Max.		
LD2A-0	2	1.00	2.00	0.5	0.05	5	1	4.5 x 10 ⁻¹⁴	12	3	15	11
LD2B-0	2	2.02	1.42	1.42	0.45	10	2	6.3 x 10 ⁻¹⁴	22	4	11	11
LD20-0	20	3.6	4.0	0.9	0.05	25	4	9.0 x 10 ⁻¹⁴	37	7	10	24
LD35-0	35	4.42	4.6	0.96	0.03	30	5	1.0 x 10 ⁻¹³	45	8	10	25

Matrix Arrays

(Values given are per element unless otherwise stated)

Type No.	No. of Elements	Array Dimensions				Dark Current nA		NEP WHz ^{-1/2} λ = 900 nm Typ.	Capacitance pF		Risettime ns λ = 900 nm R _L = 50 Ω Typ.	Package
		Area mm ²	Width mm	Lgth. mm	Sep. mm	Max.	Typ.		Vr=0V Typ.	Vr=30V Max.		
MD25-0	5 X 5	7.99	2.7	2.7	0.1	200	4	8.6 x 10 ⁻¹⁴	92	15	9	26
MD100-0	10 X 10	1.96	1.4	1.4	0.1	200	4	8.6 x 10 ⁻¹⁴	22	4	11	27

Note: Recommended operating voltage range 0 to 30 volts, for all Series 0 Detectors.



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