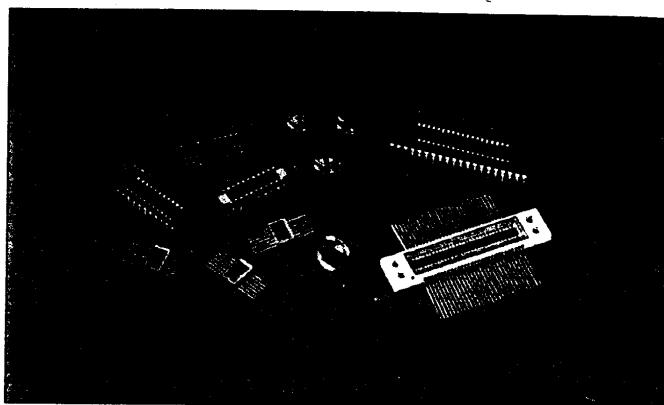


Silicon Photodetectors

Series 5T

BLUE SENSITIVE FOR BIASED OR UNBIASED OPERATION

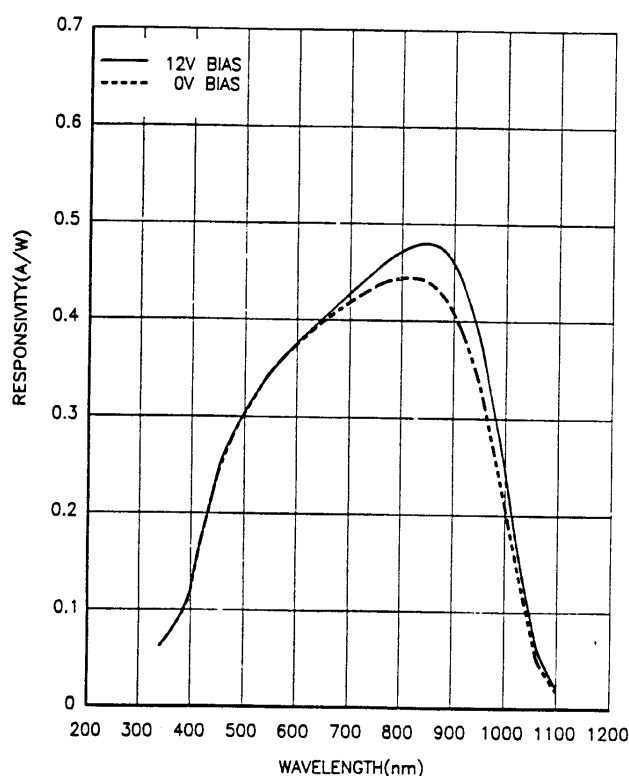
The Centronic Series 5T detectors offer high blue sensitivity coupled with high shunt resistance and low dark leakage current. They are particularly suited to low light level applications from 430-900 nm where the highest signal to noise ratio is important. They may be operated photovoltaically or with a reverse bias of up to 12V where lower capacitance is needed. The 5T range provides the most economic solution for all applications where high speed of response above 800 nm is not critical.



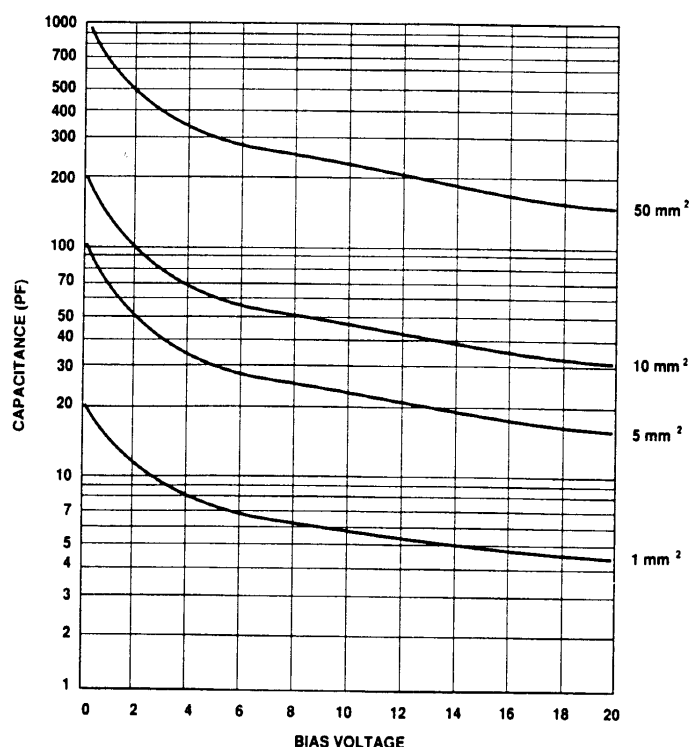
ABSOLUTE MAXIMUM RATINGS

	Max. Rating
DC Reverse Voltage	15V
Peak Pulse Current (1 μ s, 1% duty cycle)	200mA
Peak DC Current	10mA
Storage Temperature Range Except for those listed below.	-45°C to +100°C -25°C to +80°C
Operating Temperature Range Except for: LD12, LD16, LD20, LD35, MD25, MD100 and MD144-5T	-25°C to +75°C 0°C to +75°C
Soldering Temperature for 5 seconds max.	200°C

Series 5T - Typical Spectral Response



Series 5T - Typical Capacitance versus Bias Voltage for a given Detector Area.



Silicon Photodetectors

Series 5T

Electrical / Optical Specifications

Characteristics measured at 22° C (±2) ambient, and a reverse bias of 12 volts, unless otherwise stated.

Shunt Resistance measured at ± 10mV.

For rise time on Quadrants, Linear and Matrix Arrays take figure for single element diodes having equivalent active area.

Single Elements

Type No.	Active Area		Responsivity A/W $\lambda = 436 \text{ nm}$		Dark Current nA		NEP WHz $\lambda = 436 \text{ nm}$ Vr = 0V	Capacitance pF		Shunt Resistance Megohms		Risetime ns $\lambda = 820 \text{ nm}$ $R_L = 50 \Omega$	Package
	mm ²	mm	Min.	Typ.	Max.	Typ.	Typ.	Vr = 0V Max.	Vr = 12V Max.	Min.	Typ.	Typ.	
OSD1-5T	1	1.13 dia	0.18	0.21	2	0.5	2.5×10^{-14}	30	6	100	1000	7	1
OSD3-5T	3	2.16 x 1.4	0.18	0.21	10	2	3.0×10^{-14}	80	20	60	700	9	1
OSD5-5T	5	2.52 dia	0.18	0.21	10	2	3.3×10^{-14}	130	35	40	600	9	3
OSD7.5-5T	7.5	2.75 x 2.75	0.18	0.21	10	2	4.6×10^{-14}	150	40	30	300	10	3
OSD15-5T	15	3.8 x 3.8	0.18	0.21	10	3	8.8×10^{-14}	390	80	25	200	12	3
OSD35-5T	35	5.9 x 5.9	0.18	0.21	20	3	7.9×10^{-14}	950	200	10	100	20	8
OSD50-5T	50	7.98 dia	0.18	0.21	40	3	1.6×10^{-13}	1300	270	1.5	25	26	9
OSD60-5T	62	7.9 x 7.9	0.18	0.21	50	6	2.3×10^{-13}	1800	310	1	12	30	9
OSD100-5T	100	11.3 dia	0.18	0.21	100	8	2.1×10^{-13}	2500	520	1	15	45	13
OSD300-5T	300	19.54 dia	0.18	0.21	500	50	3.5×10^{-13}	7500	1500	0.5	5	125	15

Quadrants

(Values given are per element unless otherwise stated)

Type No.	Active Area (Total)			Responsivity A/W $\lambda = 436 \text{ nm}$		Dark Current nA		NEP WHz $\lambda = 436 \text{ nm}$ Vr = 0V	Capacitance pF		Shunt Resistance Megohms		Crosstalk % $\lambda = 900 \text{ nm}$		Package
	mm ²	mm	Sep. mm	Min.	Typ.	Max.	Typ.	Typ.	Vr = 0V Max.	Vr = 12V Max.	Min.	Typ.	Max.	Typ.	
QD7-5T	7	2.99 dia	0.2	0.18	0.21	50	2	2.3×10^{-14}	50	15	80	1200	5	1	7
QD50-5T	50	7.98 dia	0.2	0.18	0.21	150	10	4.6×10^{-14}	330	18	5	300	5	1	10
QD100-5T	100	11.3 dia	0.2	0.15	0.18	200	5	7.9×10^{-14}	650	130	2	100	1	1	11

Linear Arrays

(Values given are per element unless otherwise stated)

Type No.	No. of Elements	Array Dimensions				Responsivity A/W $\lambda = 436 \text{ nm}$ Vr = 0V		Shunt Resistance Megohms		NEP WHz $\lambda = 436 \text{ nm}$	Capacitance pF		Dark Current nA		Package
		Area mm ²	Width mm	Lgth. mm	Sep. mm	Min.	Typ.	Min.	Typ.	Typ.	Vr = 0V Max.	Vr = 12V Max.	Max.	Typ.	
LD2A-5T	2	1.00	2.7	0.5	0.05	0.18	0.21	100	1000	2.5×10^{-14}	30	6	2	0.7	4
LD2B-5T	2	2.02	1.422	1.422	0.45	0.18	0.21	50	1000	2.5×10^{-14}	60	12	5	1	4
LD2C-5T	2	0.483	1.27	0.38	0.05	0.15	0.18	100	1000	2.9×10^{-14}	15	4	2	0.5	2
LD4B-5T	4	15.0	3.0	5.0	0.05	0.15	0.18	15	400	4.5×10^{-14}	380	80	25	3	16
LD4C-5T	4	0.64	0.8	0.8	0.3	0.15	0.18	40	500	4.0×10^{-14}	38	10	10	1	6
LD5A-5T	5	0.10	0.125	0.8	0.05	0.15	0.18	100	1000	2.9×10^{-14}	4	2	5	0.5	6
LD12A-5T	12	0.25	0.5	0.5	0.05	0.15	0.18	100	2000	2.0×10^{-14}	10	3	5	0.5	21
LD16-5T	16	0.035	0.2	0.175	0.035	0.15	0.18	100	2000	2.0×10^{-14}	10	2	5	0.5	20
LD16(1.8)-5T	16	1.8	2.1	0.9	0.1	0.18	0.21	100	1500	2.0×10^{-14}	60	11	25	1	16
LD16(2.5)-5T	16	2.5	2.5	1	0.5	0.18	0.21	100	1500	2.0×10^{-14}	80	14	25	1	16
LD20-5T	20	3.60	4.0	0.90	0.05	0.18	0.21	10	1000	2.5×10^{-14}	130	20	50	2	16
LD20(0.36)-5T	20	0.36	0.6	0.6	0.1	0.18	0.21	100	2000	1.7×10^{-14}	15	5	20	1	16
LD35-5T	35	4.416	4.6	0.96	0.03	0.18	0.21	10	2000	1.7×10^{-14}	130	25	50	2	17

Matrix Arrays

(Values given are per element unless otherwise stated)

Type No.	No. of Elements	Array Dimensions				Responsivity A/W $\lambda = 436 \text{ nm}$		Dark Current nA		NEP WHz $\lambda = 436 \text{ nm}$	Capacitance pF		Shunt Resistance Megohms		Package
		Area mm ²	Width mm	Lgth. mm	Sep. mm	Min.	Typ.	Max.	Typ.	Typ.	Vr = 0V Max.	Vr = 12V Max.	Min.	Typ.	
MD25-5T	5 x 5	7.99	2.7	2.7	0.1	0.15	0.18	50	5	6.4×10^{-14}	240	47	5	200	18
MD100-5T	10 x 10	1.96	1.4	1.4	0.1	0.15	0.18	200	1	4.5×10^{-14}	55	12	1	400	19
MD144-5T	12 X 12	1.96	1.4	1.4	0.1	0.15	0.18	200	1	4.5×10^{-14}	55	12	1	400	19

Note: Recommended operating voltage range 0 to 12 volts, for all Series 5T Detectors.

Highlighted items are Centronic standard products generally available from stock