Blue Sensitive Photodetectors for Biased or Unbiased Operation

The Series 5T range of 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 ration 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 800nm is not critical. Typical applications include electronic weighing, encoders, etc.

Electrical / Optical Specifications

Unless otherwise stated, characteristics are measured at 22°C (±2) ambient, a reverse bias of 12 volts and all values are given per element. 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 λ=436nm		Dark Current nA		NEP $WHz^{-½}$ λ=436nm Vr=0V Typ	Capacitance pF		Shunt Resistance Megohms		Risetime ns λ=900nm Rl=50ohm Typ	Package
	mm^2	mm	Min	Typ	Max	Typ		Vr=0V Typ	Vr=12V Max	Min	Typ		
OSD1-5T	1	Ø1.13	0.18	0.21	1	0.2	2.5e-14	35	7	250	1000	7	TO18
OSD3-5T	3	2.16x1.4	0.18	0.21	2	0.5	3.0e-14	80	20	100	700	9	TO18
OSD5-5T	5	Ø2.52	0.18	0.21	2	0.5	3.3e-14	130	35	100	600	9	TO5
OSD15-5T	15	3.8x3.8	0.18	0.21	5	1	5.5e-14	390	80	50	200	12	TO5
OSD35-5T	35	5.9x5.9	0.18	0.21	10	2	7.5e-14	950	200	20	100	20	TO8 or ceramic
OSD50-5T	50	Ø7.98	0.18	0.21	15	5	1.6e-13	1300	270	5	25	26	TO8
OSD60-5T	62	7.9x7.9	0.18	0.21	25	6	2.3e-13	1800	310	3	12	30	TO8
OSD100-5T	100	Ø11.3	0.18	0.21	30	8	2.1e-13	2500	520	2	15	45	metal can

Quadrants

Type No	Active Area			Responsivity A/W λ=436nm		Dark Current nA		NEP $WHz^{-½}$ λ=436nm Vr=0V Typ	Capacitance pF		Shunt Resistance Megohms		Crosstalk % λ=900nm		Package
	mm^2	mm	Sep mm	Min	Typ	Max	Typ		Vr=0V Max	Vr=12V Max	Min	Typ	Max	Typ	
QD7-5T	7	Ø2.99	0.2	0.18	0.21	6	2	2.3e-14	50	15	80	1200	5	1	TO5
QD50-5T	50	Ø7.98	0.2	0.18	0.21	30	3	4.6e-14	330	80	10	300	5	1	TO8
QD100-5T	100	Ø11.3	0.2	0.18	0.21	50	5	7.9e-14	650	130	5	100	5	1	metal can

Linear Arrays

Type No	No of elements	Array Dimensions				Responsivity A/W λ=436nm Vr=0V		Shunt Resistance Megohms		NEP WHz$^{-½}$ λ=436nm Typ	Capacitance pF		Dark Current nA		Package
		Area mm^2	Width mm	Lgth mm	Sep mm	Min	Typ	Min	Typ		Vr=0V Typ	Vr=12V Max	Max	Typ	
LD2A-5T	2	1.00	2.0	0.5	0.05	0.18	0.21	100	1000	2.5e-14	30	6	2	0.7	TO5
LD2B-5T	2	2.02	1.422	1.422	0.45	0.18	0.21	50	1000	2.5e-14	60	12	5	1	TO5
LD12A-5T	12	0.25	0.5	0.5	0.05	0.15	0.18	100	2000	2.0e-14	10	3	5	0.5	*
LD16(1.8)-5T	16	1.8	2.1	0.9	0.1	0.18	0.21	100	1500	2.0e-14	60	11	5	0.5	DIL
LD20(0.36)-5T	20	0.36	0.6	0.6	0.1	0.18	0.21	100	2000	1.7e-14	15	5	5	0.5	DIL
LD35-5T	35	4.42	4.6	0.96	0.03	0.18	0.21	40	2000	1.7e-14	130	25	5	0.5	DIL

Matrix Arrays

Type No	No of elements	Array Dimensions				Responsivity A/W λ=436nm		Dark Current nA		NEP WHz$^{-½}$ λ=436nm Typ	Capacitance pF		Shunt Resistance Megohms		Package
		Area mm^2	Width mm	Lgth mm	Sep mm	Min	Typ	Min	Typ		Vr=0V Typ	Vr=12V Max	Max	Typ	
MD25-5T	5x5	7.99	2.7	2.7	0.1	0.15	0.18	50	5	6.4e-14	240	47	5	200	*
MD100-5T	10x10	1.96	1.4	1.4	0.1	0.15	0.18	200	1	4.5e-14	55	12	1	400	*

Note: * Contact your agent or Centronic for package type

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