



BLUE ENHANCED PHOTODIODES

Type No.	Min. Responsivity 0.45 μm @ A/W	Max. Resp. Time (@ 0V) μs	Min. Dyn. Resistance MΩ	Typ. Cap. (@ 0V) pF	Min. Break-down Volts (10 μA)	Typ. I _b @ 0V (nA)	Typ. NEP (Noise Equiv. Power) @ 450 nm (W.Hz ^{-1/2})	Pkg. (Fig. #)
OSD 1-5	0.15	1	100	40	10	0.2	6 x 10 ⁻¹⁴	TO-18(1)
OSD 3-5T	0.15	1	—	60	12	0.2	—	TO-18(1)
OSD 5-5	0.15	1	40	150	10	0.5	7 x 10 ⁻¹⁴	TO-5 (5)
OSD 7.5-5T	0.15	1	—	180	12	0.2	—	TO-5 (5)
OSD 15-5T	0.15	1	190	280	12	0.16	2 x 10 ⁻¹⁴	TO-5 (5)
OSD 50-5	0.15	1	1.5	1500	10	1	2 x 10 ⁻¹³	TO-8 (14)
OSD 60-5T	0.15	1	50	1200	12	1	5 x 10 ⁻¹⁴	TO-8 (14)
OSD 100-5T	0.15	1	1	2500	10	2	2 x 10 ⁻¹³	TO-8 (11)

HIGH SPEED, LOW COST PHOTODIODES

Type No.	I _{sh} (μA) Typ.	I _b (nA) Typ.	C _J (pF) Typ.	Δθ (deg) Typ.	t _{rise} Time ns	T _{opr} (°C)	Active Area mm ²	Pkg. (Fig. #)
CD-11H	8	1	4	±45	50	-20~+80	1	TO-18(1) Hermetic Seal
CD-11HL	70	1	4	±30	50	-20~+80	1	TO-18(2) With Lens
CD-33H	55	30	40	±45	300	-20~+80	9	TO-5 (6) Hermetic Seal
CD-33HF1	25	50	40	±45	300	-20~+70	9	TO-5 (6) Hermetic Seal
CD-33HL	200	50	40	±30	300	-20~+80	9	TO-5 (7) With Lens
CD-33HFL1	90	50	40	±30	300	-20~+70	9	TO-5 (7) With Lens
CD-2014C	20	50	50	±45	300	-20~+60	2.8	(9) Ceramic Epoxy
CEN-1210	35	50	140	±15	—	-25~+100	1	TO-18(2) Hermetic Seal
CEN-1211	12	50	140	±60	—	-20~+80	1	TO-18(3) Epoxy Resin
CEN-1220	10	50	140	±50	—	-25~+80	1	(4) Ceramic Epoxy
HP-3K	65	100	175	±65	150	-25~+100	7.2	TO-5 (6) Hermetic Seal

† Ev = 1000 Lux, V_r = 10V, λ = 500-1000 nm, λ_p = 830 nm, T_a = 25°C.
λ = 700-1000 nm, λ = 900 nm.
* Package dimensions vary from standard. Contact Centronic for exact specifications.

LOW COST PHOTODIODES

Type No.	V _{op} (V) Typ.	I _{sh} (μA) Typ.	I _b (μA) Typ.	C _J (pF) Typ.	Δθ (deg) Typ.	t _{rise} Time μsec	T _{opr} (°C)	Active Area mm ²	Pkg. (Fig. #)
SP-2ML	0.38	25	1.0	230	±70	0.2	-20~+80	2.8	TO-18(3) Epoxy Resin
SP-45ML	0.38	160	2.0	1000	±70	2.0	-20~+80	15.5	TO-5 Epoxy Resin
SP-2K	0.38	20	1.0	230	±50	0.2	-25~+100	2.8	TO-18(1) Hermetic Seal
SP-8K	0.40	300	5.0	3900	±60	10	-25~+100	47.1	TO-18(14) Hermetic Seal
SP-3MHL	0.39	150	1.0	600	±58	0.6	-20~+80	7.2	TO-5 Epoxy Resin

Ev = 1000 Lux, V_r = 10V, λ = 500-1000 nm, λ_p = 830 nm, T_a = 25°C.
* Package dimensions vary from standard. Contact Centronic for exact specifications.

LOW COST PHOTOVOLTAIC DIODES

Type No.	I _{sh} (μA) Typ.	I _b (μA) Max.	C _J (pF) Typ.	Active Area (mm ²)	Outside Dimension (mm)	Notes
SP-15S	32	1.0	320	4.4	1.5 x 5.7	Tin Coated Cu Wire 0.18φ x 50mm
SP-19S	25	1.0	300	3.5	1.5 x 4.0	Tin Coated Cu Wire 0.18φ x 50mm
SP-27S	80	1.0	750	10.78	2.7 x 6.0	Tin Coated Cu Wire 0.18φ x 50mm
SP-26S	92	1.0	1200	10.65	2.6 x 7.6	Tin Coated Cu Wire 0.18φ x 50mm
SP-550S	130	1.5	1600	15.75	5.0 x 5.0	Tin Coated Cu Wire 0.18φ x 50mm
SP-652S	670	1.5	9400	103.25	6.5 x 20.0	Tin Coated Cu Wire 0.18φ x 50mm
SP-60H	400	2.0	5500	61.25	6.5 x 20.0	Polyurethane Coat Cu Wire
SP-651V	330	2.0	4500	50.35	6.5 x 10.0	Vinyl Tube Coated Wire (7/0, 12φ)
SP-113V	1300	2.0	17,000	186.95	11.3 x 20.0	Vinyl Tube Coated Wire (7/0, 12φ)
HP-10S	590	10	1800	90.16	9.97 x 9.97	Tin Coated Cu Wire 0.18φ x 26mm
CP-55	150	.02	—	25	5 x 5	Tin Coated Cu Wire..
CP-1010B	650	.05	—	100	12 x 13.5	Mounted on PC Board

Ev = 1000 Lux, V_r = 1V, λ = 830 nm (typ.), T_a = 25°C.

PHOTOTRANSISTORS (NPN)

Type No.	Absolute Maximum Ratings			I _{CEL}		V _{CE} (V)	E _v (Lux)	I _{CEO} (μA) Max.	V _{CE} (V)	Δθ (Deg) Typ.	λ _p (nm) Typ.	λ (nm) Typ.	Pkg. (Fig. #)
	V _{CEO} (V)	P _c (mW)	T _{opr} (°C)	(mA) Min.	(mA) Max.								
CEN-810	40	150	-35~+125	2	15	200	2	10	±18	800	500-1000	(2)	
CEN-811	40	100	-25~+90	0.5	5	200	2	10	±70	800	500-1000	(3)	
CEN-820	20	75	-20~+90	0.5	3	1000	1	10	±50	800	500-1000	(4)	
ST-1MLAR	40	100	-25~+100	2.0	—	500	1.0	10	±70	900	700-1000	(3)	
ST-1MLBR1	40	100	-25~+100	2.0	—	500	1.0	10	±70	900	700-1000	(3*)	
ST-23F	30	150	-40~+100	0.5	—	1000	1.0	25	±35	830	500-1000	Epoxy	

* Package dimensions vary from standard.
Contact Centronic for exact specifications. (T_a = 25°C)

PHOTODARLINGTONS

Type No.	Absolute Maximum Ratings			I _{CEL}		V _{CE} (V)	E _v (Lux)	I _{CEO} (μA) Max.	V _{CE} (V)	Δθ (Deg) Typ.	λ _p (nm) Typ.	λ (nm) Typ.	Pkg. (Fig. #)
	V _{CEO} (V)	P _c (mW)	T _{opr} (°C)	(mA) Min.	(mA) Max.								
PTR-1ML	25	300	-25~+100	5	—	5	20	1.0	5	±70	830	500-1000	(3)
PTR-1F	25	100	-30~+85	5	—	5	20	1.0	5	±80	830	500-1000	*
PT-7L	25	150	-20~+65	5	—	5	200	1.0	10	±18	830	500-1000	*
PT-23F	30	150	-40~+100	5	—	5	200	1.0	25	±35	830	500-1000	*

* Clear Epoxy (T_a = 25°C)

GaAsP PHOTODIODES

Type No.	I _{sh} (nA) Typ.	I _b (pA) Typ.	t _{rise} Time (μs)	T _{opr} (°C)	Active Area mm ²	Pkg. (Fig. #)
CP-1812	130	5	250	-20~+60	2.1	Ceramic (9)
CP-1511	90	2	250	-20~+60	1.6	Ceramic (9)
CP-151C	110	2	250	-20~+60	1.6	Epoxy (8)

GERMANIUM IR PHOTODETECTORS

Type No.	Active Area mm ²	I _b μA	C _J pF	Responsivity A/W	Peak Response nm	Response Range nm	Pkg. (Fig. #)
CGP-0.3	0.3	1	6	.70	1500	500-1800	TO-18(1)
CGP-1.0	1.0	5	50	.70	1500	500-1800	TO-18(1)
CGP-3.0	3.0	30	450	.70	1500	500-1800	TO-8 (14)
CGP-5.0	5.0	60	1500	.70	1500	500-1800	TO-8 (14)

INFRARED LED'S

Type No.	Absolute Maximum Ratings				P _o (mW) Typ.	V _r (V) Max.	λ (nm) Typ.	Δθ (deg) Typ.	Pkg. (Fig. #)	
	I _F (mA)	V _r (V)	P (mW)	T _{opr} (°C)						
CEN-2010	100	6	150	-40~+100	6	100	1.4	940	±15	TO-18(2) Hermetic Seal
CEN-2020	40	4	70	-20~+65	3	100	1.2	940	±50	(4) Ceramic Epoxy
CEN-2040	100	5	100	-30~+70	5	100	1.4	940	±25	T 1% Epoxy Resin
EL-1ML2	100	6	170	-25~+100	2.7	50	1.5	940	±32	(3) Epoxy Resin
EL-1K3	100	6	200	-40~+100	4.0	100	1.7	940	±36	TO-18(1) Hermetic Seal
EL-1L1	100	5	100	-30~+100	10.0	100	1.7	940	±10	T 1% Epoxy Resin

(T_a = 25°C)

PHOTO INTERRUPTERS & PHOTOREFLECTORS

Type No.	Absolute Maximum Ratings							V _r (V) Max. I _F = 20mA	I _r (μA) Max. V _A = 6V	I _{CEO} (μA) Max. V _{CE} = 10V
	I _F (mA)	V _r (V)	P _o (mW)	V _{CEO} (V)	I _c (mA)	P _c (mW)	T _{opr} (°C)			
CEN-710	50	6	80	35	20	80	-25~+85	1.4	10	.1
CEN-720	50	6	75	35	20	100	-25~+85	1.4	10	.1
CEN-730	65	6	100	35	45	100	-25~+85	1.4	10	.1
SG-23FT	60	5	100	30	40	100	-25~+85	1.5	10	.1
SG-30FF	60	5	100	30	40	100	-25~+85	1.5	10	.1

CUSTOM-MADE DETECTORS

If your detector needs cannot be fulfilled by any of the products listed here, Centronic Engineers are ready to discuss your specific application and provide a cost effectively designed product. We will review:

- Package
- Active area design
- Number of active elements
- Speed of response
- Wavelength of measurement
- Environment
- Commercial or MIL-SPEC
- Integrated electronics



Complete product specifications are also available for CdS and CdSe detectors, Opto-couplers and Photomultipliers.

Product specifications and product availability subject to change without prior notice.