

Silicon Photodiodes

Electrical/Optical Characteristics @ 25°C



Stock No.	Mfr.'s Type	Fig.	Active Area	Short Circuit Current I _{sc}		Spectral Sensitivity S _r	Dark Current I _o		Shunt Resist. R _{SH}	Spectral Application Range		EACH	
				H=100 fc 2850K			H=0			V=10 mV			
			In. ² (mm ²)	µA Min.	µA Typ.	Typ.	Max. nA	V _R (Volts)	Typ. (GΩ)	Min.	Max.	1-49	50-99
980-0066	VTB1012BH	A	0.0025 (1.600)	0.8	1.3	—	0.10	2	0.250	330	720	7.67	6.53
980-0067	VTB1013BH	A	0.0025 (1.600)	0.8	1.3	—	0.02	2	7.000	330	720	7.92	6.74
980-0068	VTB1112BH	B	0.0025 (1.600)	3.0	6.0	—	—	2	0.250	330	720	7.71	6.57
980-0084	VTP1112H	C	0.0025 (1.600)	30.0	90.0	0.55 @ 925	7.00	50	0.500	400	1150	3.90	3.32
980-0069	VTB1113H	C	0.0025 (1.600)	30.0	60.0	0.19 @ 365	0.02	2	7.000	320	1100	4.70	4.00
980-0070	VTB4051H	D	0.0230 (14.800)	100.0	200.0	0.10 @ 365	0.25	2	0.560	320	1100	3.10	2.64
980-0071	VTB5051BH	E	0.0230 (14.800)	8.0	13.0	—	0.25	2	0.560	330	720	31.58	26.89
980-0072	VTB5051UVJH	F	0.0230 (14.800)	85.0	130.0	0.10 @ 365	0.25	2	0.560	200	1100	31.24	26.60
980-0073	VTB6061BH	G	0.0580 (37.700)	26.0	35.0	—	2.00	2	0.100	330	720	37.29	33.56
980-0074	VTB6061H	H	0.0580 (37.700)	260.0	350.0	0.10 @ 365	2.00	2	0.100	320	1100	27.41	23.33
980-0114	VTB6061UVH	I	0.0580 (37.700)	260.0	350.0	0.10 @ 365	—	2	0.100	200	1100	47.37	40.33
980-0075	VTB6061UVJH	J	0.0580 (37.700)	260.0	350.0	0.10 @ 365	2.00	2	0.100	200	1100	41.90	35.67
980-0076	VTB8341H	J	0.0080 (5.160)	35.0	60.0	0.10 @ 365	0.10	2	1.400	320	1100	3.15	2.68
980-0091	VTP8350H	J	0.0120 (7.450)	65.0	80.0	0.55 @ Peak	30.00	30	100.000	400	1150	1.78	1.51
980-0077	VTB8440H	K	0.0080 (5.160)	35.0	45.0	0.10 @ 365	2.00	2	0.070	320	1100	3.49	2.97
980-0078	VTB8441BH	K	0.0080 (5.160)	4.0	5.0	—	0.10	2	1.400	330	720	4.11	3.50
980-0079	VTB9412BH	L	0.0025 (1.600)	0.8	1.3	—	0.02	2	0.250	330	720	2.56	2.18
980-0080	VTB9413H	L	0.0025 (1.600)	8.0	13.0	0.09 @ 365	0.02	2	7.000	320	1100	2.97	2.52
980-0081	VTB34H	—	0.0120 (7.450)	50.0	70.0	0.60 @ 900	30.00	10	—	400	1100	1.89	1.61
980-0082	VTP100H	M	0.0120 (7.450)	35.0	55.0	0.50 @ 925	30.00	10	0.250	725	1150	1.80	1.53
980-0083	VTP1012H	N	0.0025 (1.600)	10.0	17.0	0.55 @ 925	7.00	50	0.500	400	1150	2.99	2.54
980-0085	VTP1188SH	O	0.0170 (11.00)	—	200.0	0.55 @ 925	30.00	10	0.067	400	1100	2.12	1.81
980-0086	VTP1220FBH	—	0.0019 (1.219)	0.7	—	0.27 @ 550	10.00	10	—	400	700	1.21	1.03
980-0087	VTP3310LAH	P	0.0011 (0.684)	24.0	36.0	0.55 @ 925	35.00	50	10.000	400	1150	.84	.72
980-0088	VTP4085H	Q	0.3200 (21.000)	—	200.0	0.55 @ 925	100.00	100	0.002	400	1100	2.46	2.10
980-0089	VTP413H	—	0.0120 (7.450)	—	120.0	0.55 @ Peak	—	30	0.250	400	1150	1.69	1.44
980-0090	VTP7840H	R	0.0082 (5.270)	50.0	70.0	0.55 @ 925	20.00	20	0.250	725	1150	1.73	1.48
980-0092	VTP9412H	S	0.0025 (1.600)	10.0	17.0	0.55 @ 925	7.00	50	0.400	400	1150	2.51	2.14



IR Emitters and Phototransistors

PerkinElmer offers a broad line of high-performance IREDs and detectors in a variety of packages and specifications. IREDs are often used with solid-state phototransistor or phototransistor detectors having internal gains from 100 to more than 100,000.

IR Emitters — Electrical/Optical Characteristics @ 25°C



Stock No.	Mfr.'s Type	Fig.	Total Power P ₀	Irradiance E _s				Peak Radiant Intensity I _e	Forward Test Current I _{FT}	Forward Drop V _F @I _{FT}	Half Power Beam Angle θ ¹ / ₂	Wave-length	EACH	
			mW	mW/cm ²	dist.	Dia.	mW/sr	mA	Volts					
			Typ.	Min.	mm	mm	Min.		Typ.	Max.	Typ.		1-49	50-99
980-0093	VTE1063H	A	80.0	3.80	36.00	6.40	49.0	1	2.8	3.5	±35°	880	3.29	2.80
980-0094	VTE1261H	B	20.0	3.00	36.00	6.40	39.0	100	1.5	2.0	±10°	880	.48	.41
980-0095	VTE1285H	C	20.0	3.00	36.00	6.40	39.0	100	1.5	2.0	±8°	880	.46	.39
980-0096	VTE3175LH	—	—	0.65	13.60	5.10	1.2	20	1.3	1.8	±10°	880	2.12	1.81
980-0097	VTE3372LAH	D	3.0	2.00	10.16	2.10	2.0	20	1.3	1.8	±10°	880	.66	.56
980-0098	VTE7172H	E	2.5	0.40	16.70	4.60	1.1	20	1.3	1.8	±25°	880	1.39	1.19
980-0101	VTE7173H	E	5.0	0.60	16.70	4.60	1.7	20	1.3	1.8	±25°	880	1.73	1.48

Phototransistors — Electrical/Optical Characteristics @ 25°C

Stock No.	Mfr.'s Type	Fig.	Light Current I _c		Dark Current I _{CE0}		Collector Breakdown V _{BR(CE0)}	Emitter Breakdown V _{BR(CE0)}	Saturation Voltage V _{CE(SAT)}	Rise/Fall Time t _{R/F}	EACH	
			mA	H f _c (mw/cm ²) V _{CE} =5 V	H=0		I _c =100 μA H=0	I _c =100 μA H=0	I _c =1 mA H=400 f _c	I _c =1 mA RL=100Ω		
				Min.		nA Max.	V _{CE} (Volts)	Volts Min.	Volts Min.	Volts Max.	μsec. Typ.	1-49
980-0102	VTT1015H	F	0.4	100 (5)	25	20	40	6	0.40	5	2.78	2.37
980-0103	VTT3323LAH	G	2.0	20 (1)	100	10	30	5	0.25	3	.64	.54
980-0057	VTT7122H	H	1.0	100 (5)	100	10	30	5	0.25	2	.59	.51
980-0104	VTT7222H	J	0.9	100	100	10	30	5	0.25	2	.55	.47
980-0106	VTT9003H	K	5.0	100	100	10	30	6	0.55	6	2.53	2.16
980-0107	VTT9102H	L	6.0	100	100	5	30	4	0.55	6	2.62	2.23
980-0108	VTT9103H	L	13.0	100 (5)	100	5	30	4	0.55	10	2.67	2.27



Photodiodes with Solderable Contacts

PerkinElmer manufactures large-area photodiodes with solderable contacts. They serve a variety of applications. Many of our customers have found it cost-effective for us to do the value-added assemblies, such as PCB assembly and/or custom testing. A sampling of popular solderable contact photodiodes is listed below.

Electrical/Optical Characteristics @ 25°C



Stock No.	Mfr.'s Type	Active Area	Short Circuit Current I _{sc}	Spectral Sensitivity S _n	Open Circuit Volt. V _{OC}	Dark Current I _O		Shunt Resist. R _{SH}	Junction Cap. C _J	Dimensions L × W × T (Inches)	EACH	
			H=1000 Lux 2850 K	A/W @ nm	H=1000 Lux 2850K	H=0		V=10 mV H=0	V=0 V H=0			
		In. ² (mm ²)	µA Min.	Typ.	Volts Typ.	µA Max.	V _R (mV)	MΩ Typ.	nF Typ.		1-49	50-99
980-0116	VTS3082H	0.144 (93)	0.55	0.2 @ 400	0.45	0.2	100	1.2	1.75	0.400 × 0.400 × 0.016	10.70	9.11
980-0111	VTS3085H	0.032 (21)	0.13	0.2 @ 400	0.45	0.1	100	3.0	0.50	0.200 × 0.200 × 0.016	4.31	3.67
980-0113	VTS3185H	0.032 (21)	0.13	0.2 @ 400	0.45	0.1	100	3.0	0.50	0.200 × 0.200 × 0.016	3.47	2.95

