

Spectral Response chart for Photodiodes

- Highly Wavelength Selective
- Addition Filters not required
- High signal to Noise Ratio
- Higher Responsivity than Traditional Silicon Photodiodes
- Rise / Fall times ~ 100ns
- Dark Currents <0.1nA
- Operating Temperature (TO can) -40 to +125°C

A range of highly wavelength selective photodiodes using patented technology which offers a responsivity of 0.5 A/W, this can be achieved without any additional filters. Unwanted signals from ambient light may be neglected because of the excellent selectivity of the devices. The following chart shows the spectral responsivity for the range of photodiodes. The range covers wavelengths from Infrared up into the UV region.

Typ Resp. at $\lambda_p$	Spectral Range (min)	Spectral Range (max)	Active Area	Dark Current $V_{R=0.1V}$	Case Style	Wavelength Peak Sensitivity $\lambda_p$	Mfrs. List No.
0.075A	245nm	400nm	1.96mm <sup>2</sup>	0.002nA	TO-46	365nm	EPD-365-0/1.4
0.125A	190nm	570nm	1.2mm <sup>2</sup>	0.020nA	TO-46	440nm	EPD-440-0/1.45
0.125A	430nm	510nm	0.13mm <sup>2</sup>	0.05nA	5mm plastic lens	440nm	EPD-470-5/0.5
0.145A	490nm	560nm	0.13mm <sup>2</sup>	0.05nA	5mm plastic lens	525nm	EPD-520-5/0.5
0.125A	620nm	700nm	0.13mm <sup>2</sup>	0.2nA	5mm plastic lens	660nm	EPD-660-5/0.5
.55A	700nm	780nm	0.13mm <sup>2</sup>	0.2nA	5mm plastic lens	740nm	EPD-740-5/0.5

Mfrs. List No.  
 EPD-365-0/1.4 = 120-0314 EPD-470-5/0.5(RoHS) = 120-0327 EPD-660-5/0.5 = 120-0329  
 EPD-440-0/1.45 = 120-0315 EPD-520-5/0.5 = 120-0328 EPD-740-5/0.5(RoHS) = 120-0330  
 241019

Peak Wavelength	Order Code	1+	3+	5+	10+	+
365	120-0314	2,584.00	2,386.00	2,267.00	--	--
440	120-0315	2,584.00	2,386.00	2,267.00	--	--
440	120-0327	399.00	334.00	314.00	292.00	--
525	120-0328	399.00	334.00	314.00	292.00	--
660	120-0329	643.00	536.00	504.00	470.00	--
740	120-0330	643.00	536.00	504.00	470.00	--

Infra-Red – 875nm  
 Surface Mount and 5mm/T1 1/4



5mm/T1 1/4  
 L=8.7 (body)  
 Lead pitch - 2.54, leads = 22.5 x 0.5sq  
 Cathode identified by shorter lead

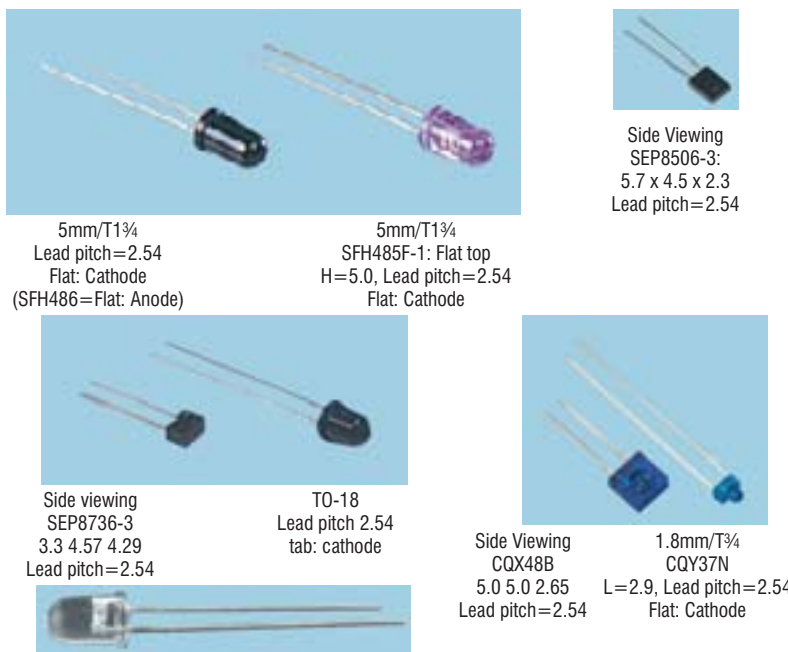
Subminiature Surface Mount:  
 H=2.16 (Flat top), 2.92 (Domed)  
 W=2.04, D=2.21  
 Overall width across leads (gull wing) = 3.81  
 Lead spacing (through hole) = 2.54, lead length=10.42  
 Cathode identified by stripe on body

Light Output @ 50mA	Half Angle	Peak Wavelength	Switching $t_r, t_f$ (µs)	Mfrs. List No.	Package	Order Code
38mW/Sr	30°	875nm	0.4, 0.4	HSDL-4220	5mm/T1 1/4	100-3402
75mW/Sr	17°	875nm	0.4, 0.4	HSDL-4230	5mm/T1 1/4	100-3413
<b>Emitters - Flat Top Lens, Subminiature Surface Mount</b>						
30mW/Sr	110°	875nm	0.4, 0.4	HSDL-4400-011	Gull Wing	100-3403
30mW/Sr	110°	875nm	0.4, 0.4	HSDL-4400-1L1	Through Hole	100-3404
<b>Emitters - Domed Lens, Subminiature Surface Mount</b>						
17mW/Sr	24°	875nm	0.4, 0.4	HSDL-4420-011	Gull Wing	100-3405
17mW/Sr	24°	875nm	0.4, 0.4	HSDL-4420-1L1	Through hole	100-3406
<b>Detectors - Flat Top Lens, Subminiature Surface Mount</b>						
0.5A/W @875nm	110°	875nm	0.75, 0.75	HSDL-5400-011	Gull Wing	100-3407
0.5A/W @875nm	110°	875nm	0.75, 0.75	HSDL-5400-1L1	Through Hole	100-3408
<b>Detectors - Domed Lens, Subminiature Surface Mount</b>						
0.5A/W @875nm	28°	875nm	0.75, 0.75	HSDL-5420-011	Gull Wing	100-3411
0.5A/W @875nm	28°	875nm	0.75, 0.75	HSDL-5420-1L1	Through Hole	100-3412

The HSDL-5400 series has an optical filter to reduce the effects of ambient light

Mfrs. List No.	Order Code	1+	10+	100+	500+	+
<b>Emitters - 5mm/T1 1/4</b>						
HSDL-4220	100-3402	63.00	54.00	42.00	31.00	--
HSDL-4230	100-3413	67.00	57.00	45.00	33.00	--
<b>Emitters - Flat Top Lens, Subminiature Surface Mount</b>						
HSDL-4400-011	100-3403	51.00	43.00	34.00	24.00	--
HSDL-4400-1L1	100-3404	48.00	41.00	32.00	24.00	--
<b>Emitters - Domed Lens, Subminiature Surface Mount</b>						
HSDL-4420-011	100-3405	51.00	43.00	34.00	24.00	--
HSDL-4420-1L1	100-3406	56.00	48.00	38.00	26.00	--
<b>Detectors - Flat Top Lens, Subminiature Surface Mount</b>						
HSDL-5400-011	100-3407	37.00	30.00	23.00	20.00	--
HSDL-5400-1L1	100-3408	42.00	34.00	24.00	21.00	--
<b>Detectors - Domed Lens, Subminiature Surface Mount</b>						
HSDL-5420-011	100-3411	37.00	30.00	21.00	18.00	--
HSDL-5420-1L1	100-3412	42.00	34.00	24.00	21.00	--

Infra-Red Emitters - Plastic Package



Light Output mW @ 1 <sub>F</sub> (mA)	Half Angle	Peak Wavelength	Switching $t_r, t_f$ (µs)	Mfr.	Mfrs. List No.
<b>5mm/T1 1/4</b>					
38W/sr@100	30°	875nm	0.4	AV	HSDL-4220
80W/sr@100	10°	940nm	25	KNON	OPE5594A
50W/sr@100	22°	850nm	25	KNON	OPE5685
90W/sr@100	10°	880nm	25	KNON	OPE5587
15mW/sr@100	50°	950nm	1	OSRAM	LD271
>40mW/sr@100	34°	950nm	0.5	OSRAM	SFH415-U
80-160mW/sr@100	16°	880nm	0.6, 0.5	OSRAM	SFH484-2
3.15-6.3mW/sr@100	80°	880nm	0.6, 0.5	OSRAM	SFH485P
60mW/Sr @ 100	22°	880nm	0.6, 0.5	OSRAM	SFH486
30-50mW/sr @ 100	12°	875nm	0.6	VISH	TSHA5201
25-40mW/sr @ 100	12°	875nm	0.6	VISH	TSHA5200
15mW/Sr @ 100	35°	950nm	0.4, 0.45	VISH	TSUS5202
11W/sr@100	50°	950nm	0.4	VISH	TSUS5400
30-50mW/sr @ 100	12°	875nm	0.6	VISH	TSHA5201
25-40mW/sr @ 100	12°	nm	0.6, 0.6	VISH	TSHA5200
15W/sr@100	15°	950nm	0.4	VISH	TSUS5202
11mW/Sr	22°	950	0.4	VISH	TSUS5400
<b>3mm/T1</b>					
16-30mW/sr @ 100	20°	875nm	0.6	VISH	TSHA4401
7-18mW/sr @ 100	16°	950nm	0.8	VISH	TSUS4300
16-30mW/sr @ 100	25°	940nm	0.8	VISH	TSAL4400
0.5mW/Sr @ 20	16°	940nm	0.6, 0.35	OPTEK	OP165D
2-4mW/cm <sup>2</sup> @100	15°	800nm	0.6	HWL	SEP8705-3
16-30mW/Sr @ 100	20°	875nm	0.6, 0.6	VISH	TSHA4401
7-18mW/sr @ 100	16°	950nm	0.8, 0.8	VISH	TSUS4300
16-30mW/cm <sup>2</sup> @100	25°	nm	0.8	VISH	TSAL4400
<b>1.8mm/T 1/4</b>					
2.2-5mW/sr @ 50	12°	950nm	0.4, 0.45	VISH	CQY37N
2.2-5mW/sr @ 50	12°	950nm	0.4, 0.45	VISH	CQY37N
<b>TO-18 Narrow angle</b>					
4.8mW @ 100	25°	890nm	0.5, 0.25	OPTEK	OP298B
<b>TO-18 Wide Angle</b>					
28mW/ @ 100	60°	890nm	0.5, 0.25	OPTEK	OP293B
<b>Side Viewing</b>					
0.4-1.2mW/cm <sup>2</sup>	40°	890nm	0.5, 0.25	OPTEK	OP240B
-mW/cm <sup>2</sup> @ 100	50°	935nm	0.6	HWL	SEP85063
1.7mW (min) @20	10°	880nm	0.7	HWL	SEP8736-3

Order Multiple=5	Mfrs. List No.	Order Code	1+	10+	100+	500+	+
<b>5mm/T1 1/4</b>							
	HSDL-4220	100-3402	63.00	54.00	42.00	31.00	--
	OPE5594A	489-0929	52.00	43.00	35.00	33.00	--
	OPE5685	489-0930	33.00	29.00	22.00	20.00	--
	OPE5587	489-0942	36.00	32.00	24.00	22.00	--

Optoelectronics, Indicators, Lamps & Displays

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Compliant Non-compliant  
 RoHS Limited stock - RoHS replacement available