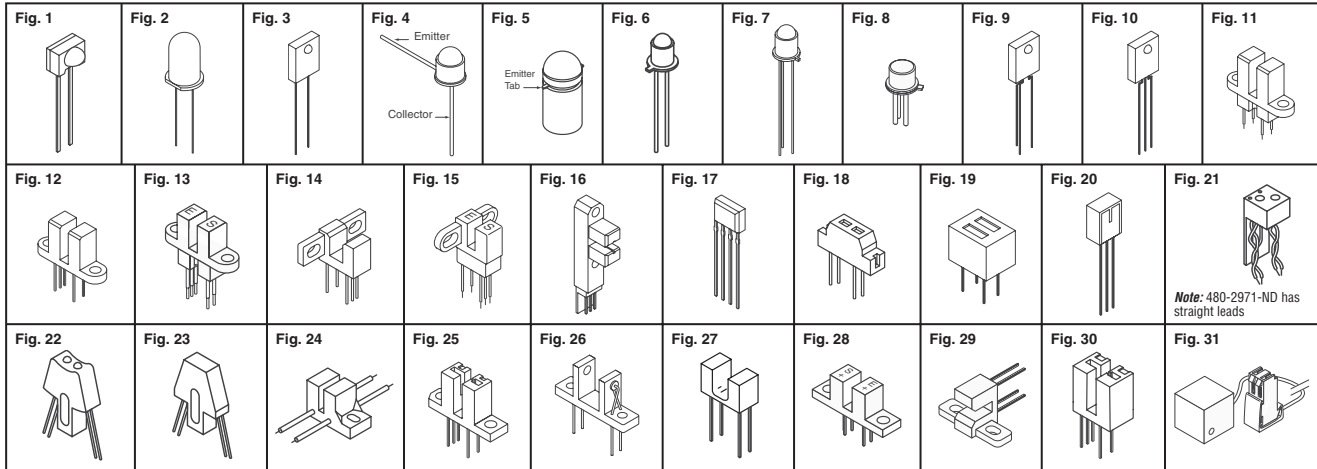


Honeywell Optical Sensors

Sensing and Control



Infrared Light Emitting Diodes

Fig.	Style/ Pkg.	V _{CEO} (V)	I _C (mA)	Peak Sensitivity Wavelength	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
AlGaAs									
1	Side-view	1.7	50	880nm	480-1968-ND	1.27	.62	.58	SEP8736-002
		1.7	50	880nm	480-1969-ND	1.39	.69	.65	SEP8736-003
2	T-1	1.7	50	880nm	480-1965-ND	1.39	.69	.65	SEP8705-003
		1.7	20	880nm	480-2985-ND	1.42	.73	.69	SEP8705-002
3	Side-view	1.7	50	880nm	480-1966-ND	1.14	.54	.51	SEP8706-002
		1.7	50	880nm	480-1967-ND	1.21	.57	.54	SEP8706-003
4	Coaxial	1.8	50	880nm	480-1977-ND	3.86	2.31	2.16	SE1470-003L
		1.8	50	880nm	480-1978-ND	3.95	2.36	2.21	SE1470-004L
5	Mini-pill	1.8	75	880nm	480-1980-ND	2.45	1.34	1.25	SE2470-002
6	TO-46	1.9	100	880nm	480-1981-ND	3.51	2.01	1.89	SE3470-003
		1.9	100	880nm	480-1983-ND	3.34	1.91	1.79	SE5470-003
		1.9	100	880nm	480-1984-ND	3.40	1.95	1.83	SE5470-004
GaAs									
2	T-1	1.5	50	935nm	480-1961-ND	1.23	.60	.56	SEP8505-002
		1.5	50	935nm	480-1962-ND	.99	.46	.44	SEP8506-001
3	Side-view	1.5	50	935nm	480-1963-ND	1.09	.53	.48	SEP8506-002
		1.5	50	935nm	480-1964-ND	1.14	.54	.51	SEP8506-003
4	Coaxial	1.6	50	935nm	480-1976-ND	3.71	2.16	2.03	SE1450-003L
		1.6	50	935nm	480-2980-ND	3.85	2.29	2.14	SE1450-004L
5	Mini-pill	1.6	75	935nm	480-1979-ND	2.27	1.23	1.16	SE2460-003
6	TO-46	1.7	100	935nm	480-1982-ND	3.09	1.74	1.60	SE5455-003
		1.7	100	935nm	480-2981-ND	3.25	1.86	1.74	SE3455-003
		1.7	100	935nm	480-2982-ND	3.25	1.86	1.74	SE5450-013
		1.7	100	935nm	480-2983-ND	3.25	1.86	1.74	SE5455-002
		1.7	100	935nm	480-2984-ND	3.19	1.83	1.71	SE5455-004

◆ RoHS Compliant

NPN Silicon Phototransistors

Fig.	Output Type	V _{CC} (V)	Max. Output Current (mA)	Rise/ Fall (µs)	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
Silicon									
1	Transistor	30	10.0	15	480-1957-ND	1.21	.57	.54	SDP8436-002
		30	17.5	15	480-1958-ND	1.21	.57	.54	SDP8436-003
2	Transistor	30	14	15	480-1951-ND	1.30	.65	.61	SDP8405-002
		30	24	15	480-1952-ND	1.30	.64	.59	SDP8405-003
		30	0.92	15	480-1953-ND	1.33	.66	.62	SDP8405-013
		30	1.85	15	480-1954-ND	1.21	.60	.56	SDP8405-014
3	Transistor	30	3.60	15	480-1955-ND	.99	.46	.44	SDP8406-002
		30	6.50	15	480-1956-ND	.99	.46	.44	SDP8406-003
4	Transistor	30	3.0	15	480-1970-ND	3.40	1.95	1.83	SD1440-003L
5	Transistor	30	4.0	15	480-1971-ND	2.12	1.13	1.06	SD2440-003
		30	7.0	15	480-1972-ND	2.18	1.16	1.09	SD2440-004
7	Transistor	15	8.0 min.	75	480-2976-ND	3.45	1.97	1.85	SD5410-003
		30	4.0 min.	15	480-2977-ND	3.10	1.75	1.61	SD5443-002
		30	8.0 min.	15	480-2978-ND	3.10	1.75	1.61	SD5443-003
		30	16.0 min.	15	480-2979-ND	3.04	1.74	1.63	SD5443-004
		30	8.0	2	480-1973-ND	3.82	2.23	2.09	SD5491-004
8	Transistor	30	2.0 min.	15	480-2975-ND	3.15	1.78	1.63	SD3443-003
Low Light Rejection									
3	Transistor	30	6.0	15	480-1959-ND	1.25	.61	.57	SDP8476-201

Optoschmitt Detectors

Fig.	Output Type	V _{CC} (V)	Max. Output Current (mA)	Rise/ Fall (ns)	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
7	TTL	16	18	60/15	480-1974-ND	3.68	2.15	2.01	SD5600-001
		16	18	60/15	480-1975-ND	3.64	2.12	1.99	SD5620-001
9	TTL	12	18	60/15	480-1960-ND	2.29	1.25	1.18	SDP8600-001
Open-Collector Output									
10	TTL	12	15	7	480-1950-ND	2.61	1.42	1.33	SDP8314-301

Slotted Optoschmitt Sensors

Fig.	Output Type	V _{CC} (V)	Max. Output Current (mA)	Rise/ Fall (ns)	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
Transmissive									
11	Diode	7	15	70	480-1945-ND	5.62	3.38	3.21	HOA6990-T51
12	Transistor	10	10	60/15	480-1933-ND	3.82	2.22	2.09	HOA0961-N51
	Transistor	10	10	60/15	480-1934-ND	3.70	2.16	2.02	HOA0971-N51
	Open-Collector	12	15	70	480-1943-ND	4.39	2.62	2.45	HOA6961-T51
13	Open-Collector	4.5-12	50	70	480-2974-ND	6.40	4.01	3.81	HOA6991-T51
14	Schmitt Trigger	12	12	60/15	480-1941-ND	4.25	2.54	2.37	HOA2004-001
15	Transistor	12	12	60/6	480-1942-ND	6.73	4.21	4.00	HOA2005-001
16	Totem Pole	7	15	70	480-1944-ND	3.79	2.25	2.11	HOA6972-N55
		12	15	70	480-1946-ND	7.68	5.01	4.68	HOA6991-T55
Connectorized Transmissive — RoHS Compliant									
16	Totem Pole	5.5	40	70	480-1947-ND	6.96	4.35	4.13	HOA7720-M22
Encoder Detector — RoHS Compliant									
17	Inverting Logic	5.5	7	100	480-1949-ND	2.57	1.45	1.34	HLC2701-001

◆ RoHS Compliant

Reflective Object Sensors

Fig.	Output Type	V _{CC} (V)	Max. Output Current (mA)	Rise/ Fall (µs)	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
18	Transistor	30	30	15	480-1928-ND	3.22	1.84	1.73	HOA0149-001
19	Transistor	30	30	15	480-1935-ND	3.38	1.94	1.82	HOA1397-002
	Darlington	15	30	75	480-1936-ND	3.43	1.97	1.85	HOA1397-032
20	Transistor	30	30	15	480-1948-ND	2.13	1.14	1.07	HLC1395-001
21	Transistor	30	30	15	480-1985-ND	9.48	6.11	5.90	HOA1180-002
	Transistor	30	50	15	480-2971-ND	6.91	4.33	4.11	HOA2498-002
	Darlington	15	50	75	480-2960-ND	10.82	7.13	6.89	HOA1180-003
22	Transistor	30	30	15	480-1986-ND	8.33	5.38	5.19	HOA1404-002
	Darlington	15	50	75	480-2961-ND	8.38	5.41	5.22	HOA1404-003
		30	0.2	15	480-1987-ND	3.75	2.19	2.05	HOA1405-001
		30	50	15	480-2962-ND	15.51	10.86	10.47	HOA1406-001
		30	0.8	15	480-1988-ND	3.80	2.22	2.08	HOA1405-002
		30	50	15	480-2957-ND	2.24	1.20	1.13	HLC1395-002
24	Photodarlington	15	50	75	480-2963-ND	5.90	3.55	3.37	HOA1870-033
Transmissive									
11	Transistor	30	50	15	480-2958-ND	5.13	3.15	2.98	HOA0881-T55
15	Transistor	30	50	15	480-2969-ND	5.76	3.61	3.43	HOA1887-012
25	TTL	4.5-5	50	100ns	480-2959-ND	5.81	3.49	3.31	HOA0901-012
26	Transistor	30	30	15	480-1989-ND	6.54	4.09	3.89	HOA1877-001
	Transistor	30	50	15	480-2966-ND	6.72	4.20	3.99	HOA1877-002
	Darlington	15	50	75	480-2967-ND	7.42	4.64	4.33	HOA1877-003
27	Transistor	30	50	15	480-2965-ND	6.72	4.20	3.99	HOA1875-002
28	10kΩ Pull-Up	12	50	60/15ms	480-2970-ND	3.75	2.19	2.05	HOA2001-001
29	Transistor	30	50	15	480-2968-ND	4.15	2.48	2.32	HOA1884-012
Emitter Detector Pair									
31	—	2-7	10	—	480-2972-ND†	10.06	6.63	6.41	HOA6299-002
	2.4kΩ Pull-Up	4.5-12	10	5	480-2973-ND‡	11.67	7.69	7.43	HOA6299-003

† Emitter ‡ Detector

Slotted Optical Sensors

Fig.	Output Type	V _{CC} (V)	Max. Output Current (mA)	Rise/ Fall (µs)	Digi-Key Part No.	Price Each			Honeywell Part No.
						1	100	250	
11	Transistor	30	15	15	480-1939-ND	4.75	2.91	2.76	HOA1881-012
		30	30	15	480-1931-ND	4.44	2.66	2.48	HOA0890-L51
12	Transistor	30	30	15	480-1938-ND	3.94	2.36	2.20	HOA1879-015
		30	30	15	480-1929-ND	2.94	1.66	1.53	HOA0866-T55
		30	30	15	480-1930-ND	3.33	1.91	1.79	HOA0875-N51
24	Transistor	30	30	15	480-1937-ND	5.86	3.52	3.34	HOA1870-031
27	Transistor	30	82	15	480-1940-ND	2.61	1.48	1.36	HOA1882-012
28	Darlington	15	50	75	480-2964-ND	3.48	2.00	1.87	HOA1873-013
Transmissive Encoder — RoHS Compliant									
30	TTL	5.5	12	20	480-1932-ND	6.24	3.90	3.71	HOA0902-011

◆ RoHS Compliant

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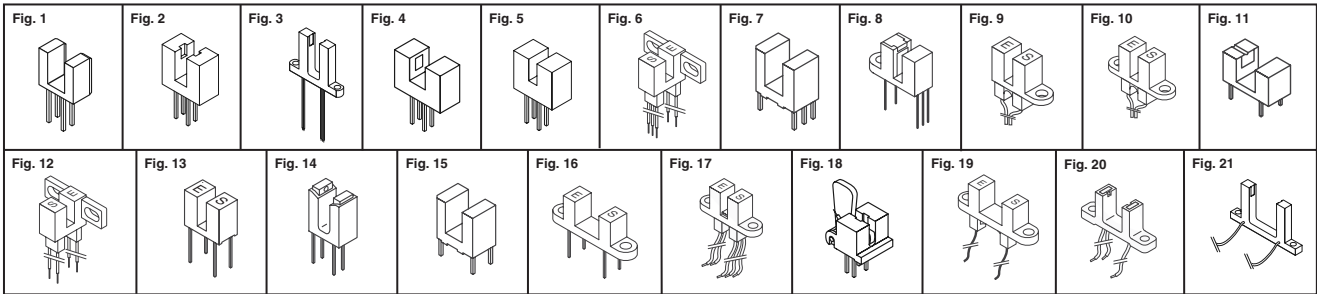


Fig.	Output Type	Slot Width Inch (mm)	Lead Spacing Inch (mm)	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.
Slotted Optical								
1	Rbe Phototransistor	.190 (4.83)	.320 (8.13)	365-1008-ND	1.56	.91	.88	PB620
2	Phototransistor	.150 (3.81)	.300 (7.62)	365-1017-ND	1.58	.93	.89	OPB804
3	Phototransistor	.20 (5.08)	—	365-1260-ND	4.04	2.36	2.26	OPB817Z
4	Phototransistor	.200 (5.08)	.400 (10.16)	365-1264-ND	5.51	3.21	3.09	OPB917BZ
5	Phototransistor	.100 (2.54)	.300 (7.62)	365-1019-ND	2.18	1.28	1.22	OPB818
6	Photologic	.125 (3.18)	—	365-1021-ND	2.02	1.18	1.14	OPB848
				365-1234-ND	5.15	3.00	2.89	OPB941W51Z
				365-1265-ND	5.13	3.00	2.88	OPB930W55Z
7	Photologic	.190 (4.83)	.320 (8.13)	365-1090-ND	2.02	1.18	1.14	OPB625
		.125 (3.18)		365-1111-ND	3.49	2.04	1.97	OPB970N11
		.125 (3.18)		365-1113-ND	3.08	1.80	1.73	OPB973N51
8	Photologic	.125 (3.18)	.320 (8.13)	365-1087-ND	2.84	1.66	1.59	OPB460L11
9	Phototransistor	.125 (3.18)	—	365-1341-ND	3.88	2.26	2.18	OPB880P51Z
				365-1246-ND	4.52	2.63	2.53	OPB900T55Z
				365-1235-ND	3.86	2.25	2.16	OPB891T51Z
				365-1401-ND	3.75	2.19	2.11	OPB829ZC
11	Phototransistor	.205 (5.21)	.380 (9.65)	365-1105-ND	1.94	1.14	1.09	OPB855
				365-1335-ND	4.17	2.44	2.34	OPB830W55Z
				365-1337-ND	5.33	3.11	2.99	OPB840W11Z
				365-1101-ND	2.92	1.70	1.64	OPB840L11
				365-1338-ND	4.20	2.44	2.36	OPB841W55Z
13	Phototransistor	.125 (3.18)	.220 (5.59)	365-1106-ND	3.09	1.81	1.74	OPB85N11
14	Phototransistor	.160 (4.06)	.300 (7.62)	365-1099-ND	1.68	.99	.95	OPB825
15	Phototransistor	.150 (3.81)	.275 (6.99)	365-1089-ND	1.56	.91	.88	OPB610
16	Photologic	.125 (3.18)	.320 (8.13)	365-1110-ND	3.57	2.09	2.01	OPB960T11
				365-1112-ND	2.93	1.72	1.65	OPB970T55
17	Photologic	.125 (3.18)	—	365-1402-ND	4.65	2.71	2.61	OPB81T51Z
		.125 (3.18)	—	365-1403-ND	4.57	2.67	2.57	OPB990T51Z
Slotted Optical Flag								
18	Transistor	.080 (2.03)	.275 (6.99)	365-1009-ND	3.88	2.26	2.18	OPB680
Wide Gap Slotted Optical								
16	Phototransistor	.375 (9.53)	.570 (14.48)	365-1094-ND	2.36	1.38	1.33	OPB800L55
				365-1095-ND	2.42	1.41	1.36	OPB810L51
				365-1097-ND	2.32	1.36	1.30	OPB811L55
				365-1331-ND	4.09	2.39	2.30	OPB810W51Z
19	Phototransistor	.375 (9.53)	—	365-1333-ND	3.91	2.28	2.20	OPB811W55Z
20	Phototransistor	.375 (9.53)	—	365-1400-ND	4.20	2.44	2.36	OPB815WZ
21	Phototransistor	.126 (3.2)	—	365-1262-ND	5.65	3.29	3.17	OPB819Z

Sensors

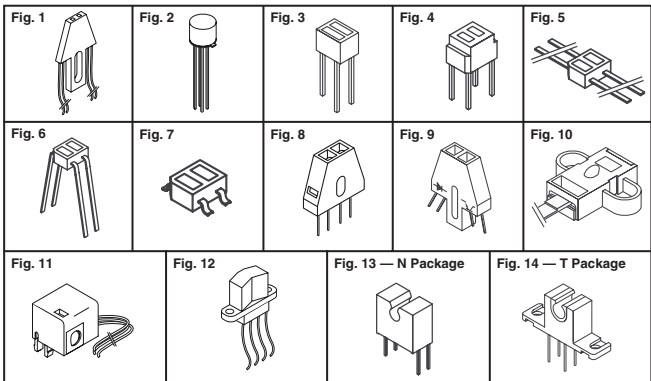


Fig.	Continuous Forward Curr. (mA)	Reverse DC Voltage	V(BR)CEO Voltage (Min.)	Min. Lead Wire Length Inch (mm)	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.	
5	50	5.0	30	.374 (9.5)	365-1407-ND		.36	.22	.21	OPB609AX
6	50	5.0	30	.370 (9.4)	365-1408-ND		.36	.22	.21	OPB609RA
7	50	5.0	30	.038 (.95)	365-1409-1-ND†		.62	.40	.34	OPB609GU
					365-1409-2-ND†		2.75	.88/1.00		
8	40	2.0	30	.15 (3.81)	365-1014-ND*		2.29	1.34	1.29	OPB742
					365-1015-ND*		2.85	1.67	1.60	OPB745
9	40	2.0	30	.165 (4.19)	365-1091-ND		2.64	1.54	1.49	OPB704

‡ Cut Tape † Tape and Reel * Collector Emitter Voltage: OPB742: 30V; OPB745: 15V

Reflective Color Sensor

Fig.	Continuous Forward Current (mA)	Supply Voltage VDD	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.
10	30	5	365-1378-ND	18.09	10.53	10.13	OPB780Z

Photologic® Reflective Object Sensors

Fig.	Operating DC Supply Voltage	Minimum Lead Wire Length Inch (mm)	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.
11	4.75 - 5.25	18.0 (457.2)	365-1255-ND	6.79	3.95	3.81	OPB716Z
12	4.75 - 5.25	12.0 (304.8)	365-1258-ND	7.07	4.12	3.96	OPB707Z

Liquid Tube Sensors

Fig.	Continuous Forward Current (mA)	Reverse DC Voltage	V(BR)CEO Voltage (Min.)	Min. Lead Wire Length Inch (mm)	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.
13	50	2.0	30	33 (8.38)	365-1236-ND	5.03	2.94	2.82	OPB350
				33 (8.38)	365-1237-ND	5.37	3.13	3.01	OPB350L187
				33 (8.38)	365-1238-ND	5.37	3.13	3.01	OPB350L250
				24	365-1405-ND	5.37	3.13	3.01	OPB350L062
14	50	2.0	24 (610)	24 (610)	365-1239-ND	7.01	4.09	3.93	OPB350W187Z
				25	365-1240-ND	7.01	4.09	3.93	OPB350W250Z
				24 (610)	365-1406-ND	7.01	4.09	3.93	OPB350W062Z

Reflective Object Sensors

Fig.	Continuous Forward Curr. (mA)	Reverse DC Voltage	V(BR)CEO Voltage (Min.)	Min. Lead Wire Length Inch (mm)	Digi-Key Part No.	1	Price Each 100	250	TT Electronics Part No.
1	100	2.0	25	18.0 (457.2)	365-1399-ND	8.97	5.22	5.02	OPB700ALZ
				4.0 (101.6)	365-1364-ND	7.93	4.62	4.44	OPB700Z
				18.0 (457.2)	365-1253-ND	10.36	6.04	5.81	OPB701ALZ
2	50	3.0	30	.50 (12.7)	365-1012-ND	6.07	3.54	3.40	OPB710
3	50	2.0	30	45 (11.43)	365-1093-ND	2.68	1.57	1.51	OPB707A
				45 (11.43)	365-1092-ND	2.08	1.22	1.17	OPB706A
4	50	2.0	30	.180 (4.57)	365-1088-ND	1.26	.74	.71	OPB606A

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