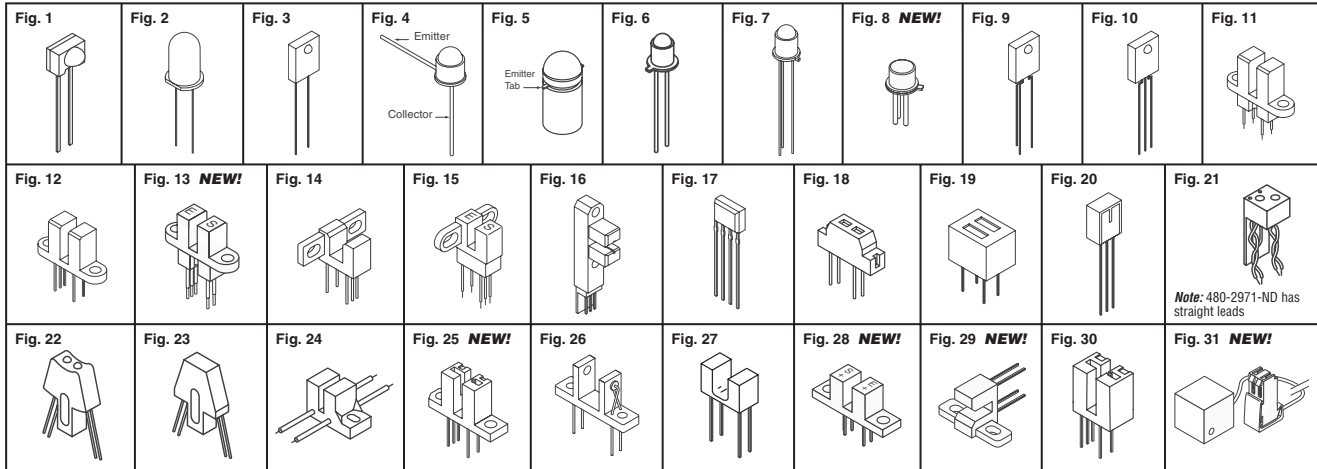


Honeywell Optical Sensors

Sensing and Control



Infrared Light Emitting Diodes

Fig.	Style/ Pkg.	V _{CEO} (V)	IC (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	1.76	.88	.83	SEP8736-002
		1.7	50	880nm	480-1969-ND	1.89	.94	.89	SEP8736-003
2	T-1	1.7	50	880nm	480-1965-ND	1.89	.94	.89	SEP8705-003
		1.7	20	880nm	480-2985-ND NEW!	2.15	1.10	1.01	SEP8705-002
3	Side-view	1.7	50	880nm	480-1966-ND	1.55	.74	.69	SEP8706-002
		1.7	50	880nm	480-1967-ND	1.64	.78	.73	SEP8706-003
4	Coaxial	1.8	50	880nm	480-1977-ND	5.24	3.13	2.93	SE1470-003L
		1.8	50	880nm	480-1978-ND	5.37	3.20	3.00	SE1470-004L
5	Mini-pill	1.8	75	880nm	480-1980-ND	3.33	1.81	1.70	SE2470-002
6	TO-46	1.9	100	880nm	480-1981-ND	4.77	2.73	2.56	SE3470-003
		1.9	100	880nm	480-1983-ND	4.54	2.60	2.43	SE5470-003
		1.9	100	880nm	480-1984-ND	4.62	2.65	2.48	SE5470-004
GaAs									
2	T-1	1.5	50	935nm	480-1961-ND	1.76	.86	.80	SEP8505-002
		1.5	50	935nm	480-1962-ND	1.34	.62	.59	SEP8506-001
3	Side-view	1.5	50	935nm	480-1963-ND	1.47	.71	.65	SEP8506-002
		1.5	50	935nm	480-1964-ND	1.55	.74	.69	SEP8506-003
4	Coaxial	1.6	50	935nm	480-1976-ND	5.04	2.93	2.75	SE1450-003L
		1.6	50	935nm	480-2980-ND NEW!	5.59	3.34	3.12	SE1450-004L
5	Mini-pill	1.6	75	935nm	480-1979-ND	3.02	1.61	1.52	SE2460-003
		1.7	100	935nm	480-1982-ND	4.19	2.36	2.17	SE5455-003
		1.7	100	935nm	480-2981-ND NEW!	4.80	2.80	2.63	SE3455-003
		1.7	100	935nm	480-2982-ND NEW!	4.80	2.80	2.63	SE5450-013
		1.7	100	935nm	480-2983-ND NEW!	4.80	2.80	2.63	SE5455-002
		1.7	100	935nm	480-2984-ND NEW!	4.81	2.76	2.58	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	1.64	.78	.73	SDP8436-002
		30	17.5	15	480-1958-ND	1.64	.78	.73	SDP8436-003
2	Transistor	30	14	15	480-1951-ND	1.65	.81	.75	SDP8405-002
		30	24	15	480-1952-ND	1.76	.86	.80	SDP8405-003
		30	0.92	15	480-1953-ND	1.81	.90	.85	SDP8405-013
		30	1.85	15	480-1954-ND	1.65	.81	.75	SDP8405-014
3	Transistor	30	3.60	15	480-1955-ND	1.34	.62	.59	SDP8406-002
		30	6.50	15	480-1956-ND	1.34	.62	.59	SDP8406-003
4	Transistor	30	3.0	15	480-1970-ND	4.62	2.65	2.48	SD1440-003L
		30	4.0	15	480-1971-ND	2.88	1.54	1.44	SD2440-003
		30	7.0	15	480-1972-ND	2.96	1.58	1.48	SD2440-004
5	Transistor	30	4.0	15	480-1971-ND	2.88	1.54	1.44	SD2440-003
		30	7.0	15	480-1972-ND	2.96	1.58	1.48	SD2440-004
7	Transistor	30	8.0 min.	75	480-2976-ND NEW!	5.10	2.97	2.79	SD5410-003
		30	4.0 min.	15	480-2977-ND NEW!	4.51	2.58	2.42	SD5443-002
		30	8.0 min.	15	480-2978-ND NEW!	4.51	2.58	2.42	SD5443-003
		30	16.0 min.	15	480-2979-ND NEW!	4.13	2.36	2.22	SD5443-004
		30	8.0	2	480-1973-ND	4.40	2.52	2.36	SD5491-004
8	Transistor	30	2.0 min.	15	480-2975-ND NEW!	4.59	2.63	2.46	SD3443-003
Low Light Rejection									
3	Transistor	30	6.0	15	480-1959-ND	1.47	.71	.65	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	5.00	2.91	2.73	SD5600-001
		16	18	60/15	480-1975-ND	4.93	2.87	2.69	SD5620-001
9	TTL	12	18	60/15	480-1960-ND	2.56	1.36	1.28	SDP8600-001
Open-Collector Output									
10	TTL	12	15	7	480-1950-ND	3.33	1.81	1.70	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	7.63	4.58	4.35	HOA6990-T51
12	Transistor	10	10	60/15	480-1933-ND	5.02	2.92	2.74	HOA0961-N51
	Transistor	10	10	60/15	480-1934-ND	5.02	2.92	2.74	HOA0971-N51
	Open-Collector	12	15	70	480-1943-ND	5.96	3.56	3.33	HOA6991-T51
13	Open-Collector	4.5-12	50	70	480-2974-ND NEW!	9.66	6.04	5.64	HOA6991-T51
14	Schmitt Trigger	12	12	60/15	480-1941-ND	5.76	3.44	3.22	HOA2004-001
15	Transistor	12	12	60/6	480-1942-ND	9.13	5.71	5.43	HOA2005-001
16	Totem Pole	7	15	70	480-1944-ND	5.14	3.05	2.86	HOA6972-N55
		12	15	70	480-1946-ND	7.55	4.53	4.31	HOA6991-T55
Connectorized Transmissive — RoHS Compliant									
16	Totem Pole	5.5	40	70	480-1947-ND	9.44	5.90	5.61	HOA7720-M22
Encoder Detector — RoHS Compliant									
17	Inverting Logic	5.5	7	100	480-1949-ND	3.49	1.97	1.81	HLCT201-001

◆ 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	4.59	2.63	2.47	HOA0149-001
19	Transistor	30	30	15	480-1935-ND	4.59	2.63	2.47	HOA1397-002
	Darlington	15	30	75	480-1936-ND	4.66	2.67	2.50	HOA1397-032
20	Transistor	30	30	15	480-1948-ND	2.89	1.54	1.45	HLCT1395-011
21	Transistor	30	30	15	480-1985-ND	13.24	8.73	8.43	HOA1180-002
	Transistor	30	50	15	480-2971-ND NEW!	9.99	6.52	6.09	HOA2498-002
	Darlington	15	50	75	480-2960-ND NEW!	16.31	10.75	10.38	HOA1180-003
22	Transistor	30	30	15	480-1986-ND	11.32	7.30	7.05	HOA1404-002
	Darlington	15	50	75	480-2961-ND NEW!	12.64	8.15	7.87	HOA1404-003
		30	0.2	15	480-1987-ND	5.09	2.96	2.78	HOA1405-001
		30	50	15	480-2962-ND NEW!	23.39	16.38	15.79	HOA1406-001
		30	0.8	15	480-1988-ND	5.16	3.01	2.82	HOA1405-002
		30	50	15	480-2957-ND NEW!	3.28	1.78	1.68	HLCT1395-002
24	Photodarlington	15	50	75	480-2963-ND NEW!	8.55	5.35	5.08	HOA1870-033
Transmissive									
11	Transistor	30	50	15	480-2958-ND NEW!	7.74	4.65	4.42	HOA0881-T55
15	Transistor	30	50	15	480-2969-ND NEW!	8.69	5.44	5.16	HOA1887-012
25	TTL	4.5-5	50	100ns	480-2959-ND NEW!	8.40	5.26	5.00	HOA0901-012
26	Transistor	30	30	15	480-1989-ND	8.88	5.55	5.27	HOA1877-001
	Transistor	30	50	15	480-2966-ND NEW!	9.70	6.33	5.91	HOA1877-002
	Darlington	15	50	75	480-2967-ND NEW!	10.72	7.00	6.53	HOA1877-003
27	Transistor	30	50	15	480-2965-ND NEW!	9.70	6.33	5.91	HOA1875-002
28	10kΩ Pull-Up	12	50	60/15ms	480-2970-ND NEW!	5.35	3.19	2.99	HOA2001-001
29	Transistor	30	50	15	480-2968-ND NEW!	6.25	3.73	3.49	HOA1884-012
NEW! Emitter Detector Pair NEW!									
31	—	2-7	10	—	480-2972-ND†	15.17	10.00	9.66	HOA6299-002
	2.4kΩ Pull-Up	4.5-12	10	5	480-2973-ND‡	17.59	11.40	11.20	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	6.45	3.95	3.74	HOA1881-012
		30	30	15	480-1931-ND	6.03	3.60	3.37	HOA0890-L51
12	Transistor	30	30	15	480-1938-ND	5.35	3.19	2.99	HOA1879-015
		30	30	15	480-1929-ND	4.00	2.25	2.07	HOA0866-T55
		30	30	15	480-1930-ND	4.52	2.59	2.43	HOA0875-N51
24	Transistor	30	30	15	480-1937-ND	7.95	4.77	4.53	HOA1870-031
27	Transistor	30	82	15	480-1940-ND	3.55	2.00	1.84	HOA1882-012
28	Darlington	15	50	75	480-2964-ND NEW!	5.17	3.01	2.82	HOA1873-013
Transmissive Encoder — RoHS Compliant									
30	TTL	5.5	12	20	480-1932-ND	8.46	5.29	5.03	HOA0902-011

◆ RoHS Compliant

More Product Available Online: www.digikey.com

Toll-Free: 1-800-344-4539 • Phone 218-6

Panasonic PIR Motion Sensors



Panasonic Electric Works

MP motion sensors are passive infrared sensors which detect changes in infrared rays when there is movement from a person or object. Intended as human body and animal detection with the world's smallest built-in amplifier design and small size. Perfect for connecting directly into a microprocessor. **Sensor Types:** • Standard Detection for most general purpose movement detection • Slight Detection for movements as low as 7.8" • Spot Detection for detecting movements in a much smaller area or focused spot. • 10 Meter Detection for long distance, wide area movement detection **Output Types:** • Digital for automated On-Off controls, energy saving for vending machines, ATMs, video games and theme parks • Analog for fine motion detection, slight movements and small detection • Lens color does not affect sensor operation

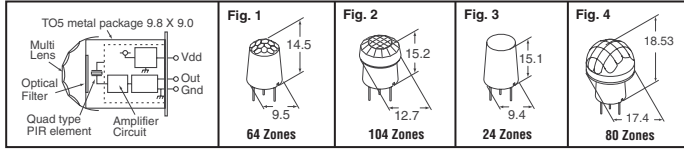


Fig.	Sensor Type	Detection Distance	Output Type	Lens Color	Digi-Key Part No.	Price Each	Panasonic Part No.
						1	25
1	Standard Detection	16.4" Max	Digital - 5V	Black	255-1849-ND	34.69	AMN11111
			Digital - 5V	White	255-1812-ND	34.69	AMN11112
			Digital - 3V Low Power	Black	255-1808-ND	35.38	AMN4121
			Analog	Black	255-1815-ND	34.69	AMN2111
2	Slight Detection	6.56" Max	Digital - 5V	White	255-1813-ND	34.69	AMN12112
			Digital - 3V Low Power	Black	255-1809-ND	35.38	AMN4212
			Analog	Black	255-1816-ND	34.69	AMN2211
			Analog	White	255-1806-ND	34.69	AMN2212
3	Spot Detection	16.4" Max	Digital - 5V	Black	255-1850-ND	34.69	AMN13111
			Digital - 5V	White	255-1814-ND	34.69	AMN13112
			Digital - 3V Low Power	Black	255-1810-ND	35.38	AMN4312
			Analog	Black	255-1804-ND	35.38	AMN2311
4	10 meter Detection	32.8" Max	Digital - 5V	White	255-1803-ND	36.63	AMN14112
			Digital - 3V Low Power	Black	255-1811-ND	38.64	AMN4412
			Analog	Black	255-1817-ND	36.63	AMN2411
			Analog	White	255-1818-ND	36.63	AMN2412

TT electronics Switches

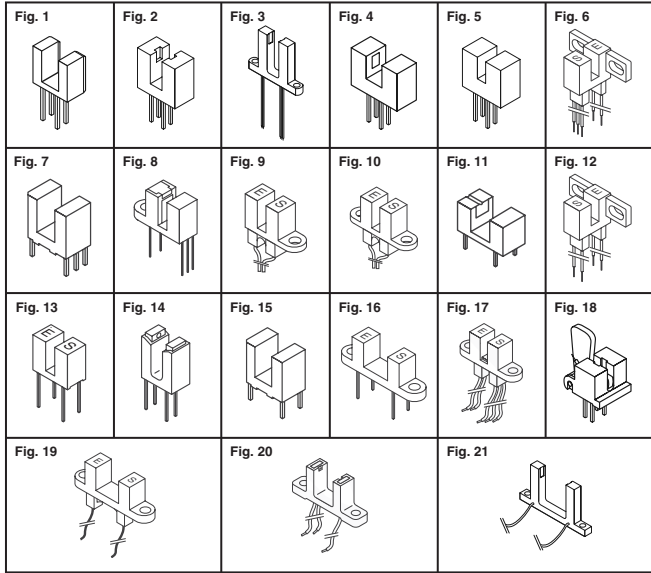


Fig.	Output Type	Slot Width Inch (mm)	Lead Spacing Inch (mm)	Digi-Key Part No.	Price Each	TT Electronics Part No.		
Slotted Optical								
1	Rbe Phototransistor	.190 (4.83)	.320 (8.13)	365-1008-ND	2.15	1.20	OPB620	
2	Phototransistor	.150 (3.81)	.300 (7.62)	365-1017-ND	2.17	1.27	OPB804	
3	Phototransistor	.20 (5.08)	—	365-1260-ND	5.56	3.24	3.11	OPB817Z
4	Phototransistor	.200 (5.08)	.400 (10.16)	365-1019-ND	3.00	1.75	1.68	OPB818
5	Phototransistor	.100 (2.54)	.300 (7.62)	365-1021-ND	2.78	1.62	1.56	OPB848
6	Photologic	.125 (3.18)	—	365-1234-ND	7.10	4.13	3.97	OPB941W51Z
				365-1265-ND	7.07	4.12	3.96	OPB930W55Z
7	Photologic	.125 (3.18)	.320 (8.13)	365-1090-ND	2.78	1.62	1.56	OPB625
				365-1111-ND	4.81	2.80	2.70	OPB970N11
8	Photologic	.125 (3.18)	.320 (8.13)	365-1113-ND	4.24	2.47	2.37	OPB973N51
				365-1087-ND	3.91	2.28	2.19	OPB460L11
9	Phototransistor	.125 (3.18)	—	365-1341-ND	5.34	3.11	2.99	OPB880P51Z
				365-1246-ND	6.22	3.62	3.48	OPB990T55Z
10	Phototransistor	.125 (3.18)	—	365-1235-ND	5.31	3.09	2.97	OPB891T51Z
				365-1401-ND	5.17	3.01	2.90	OPB829CZ
11	Phototransistor	.205 (5.21)	.380 (9.65)	365-1105-ND	2.67	1.56	1.50	OPB855
				365-1335-ND	5.75	3.35	3.22	OPB930W55Z
12	Phototransistor	.125 (3.18)	.320 (8.13)	365-1337-ND	7.34	4.28	4.11	OPB840W11Z
				365-1101-ND	4.02	2.34	2.25	OPB840L11
13	Phototransistor	.125 (3.18)	.220 (5.59)	365-1338-ND	5.78	3.36	3.24	OPB841W55Z
				365-1106-ND	4.26	2.48	2.39	OPB865N11
14	Phototransistor	.160 (4.06)	.300 (7.62)	365-1099-ND	2.31	1.35	1.30	OPB825
				365-1089-ND	2.15	1.25	1.20	OPB610
16	Photologic	.125 (3.18)	.320 (8.13)	365-1110-ND	4.92	2.87	2.76	OPB960T11
				365-1112-ND	4.04	2.36	2.27	OPB970T55
17	Photologic	.125 (3.18)	—	365-1402-ND	6.41	3.73	3.59	OPB981T51Z
				365-1403-ND	6.30	3.67	3.53	OPB990T51Z
Slotted Optical Flag								
18	Transistor	.080 (2.03)	.275 (6.99)	365-1009-ND	5.34	3.11	2.99	OPB680
Wide Gap Slotted Optical								
16	Phototransistor	.375 (9.53)	.570 (14.48)	365-1094-ND	3.25	1.89	1.82	OPB800L55
				365-1095-ND	3.33	1.94	1.87	OPB810L51
				365-1097-ND	3.19	1.86	1.79	OPB811L55
19	Phototransistor	.375 (9.53)	—	365-1331-ND	5.64	3.28	3.16	OPB810W51Z
				365-1333-ND	5.39	3.14	3.02	OPB811W55Z
20	Phototransistor	.375 (9.53)	—	365-1400-ND	5.78	3.36	3.24	OPB815WZ
				365-1262-ND	7.78	4.53	4.36	OPB819Z

Sensors

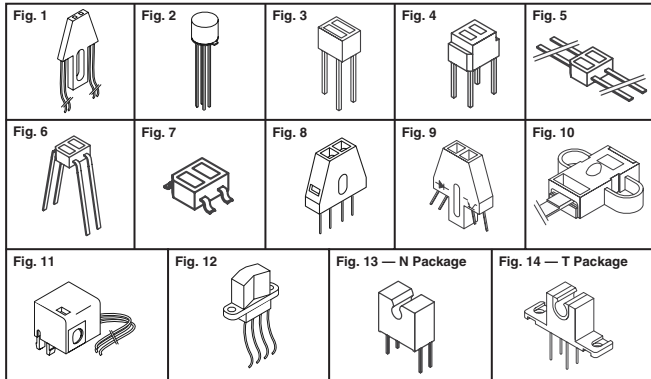


Fig.	Continuous Forward Curr. (mA)	Reverse DC Voltage	V(BR)CEO Voltage (Min.)	Min. Lead Wire Length Inch (mm)	Digi-Key Part No.	Price Each	TT Electronics Part No.		
						1	250		
5	50	5.0	30	.374 (9.5)	365-1407-ND	.50	.29	.28	OPB609AX
6	50	5.0	30	.370 (9.4)	365-1408-ND	.50	.29	.28	OPB609RA
7	50	5.0	30	.038 (.95)	365-1409-1-ND†	.85	.47	.42	OPB609GU
8	40	2.0	30	.15 (3.81)	365-1014-ND*	3.16	1.84	1.77	OPB742
					365-1015-ND*	3.93	2.29	2.20	OPB745
9	40	2.0	30	.165 (4.19)	365-1091-ND	3.63	2.12	2.04	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.	Price Each	TT Electronics Part No.		
				1	250		
10	30	5	365-1378-ND	24.92	14.50	13.94	OPB780Z

Photologic® Reflective Object Sensors

Fig.	Operating DC Supply Voltage	Minimum Lead Wire Length Inch (mm)	Digi-Key Part No.	Price Each	TT Electronics Part No.		
				1	250		
11	4.75 - 5.25	18.0 (457.2)	365-1255-ND	9.35	5.44	5.24	OPB716Z
12	4.75 - 5.25	12.0 (304.8)	365-1258-ND	9.74	5.67	5.45	OPB770TZ

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.	Price Each	TT Electronics Part No.		
						1	250		
13	50	2.0	30	.33 (8.38)	365-1236-ND	6.93	4.04	3.88	OPB350
					365-1237-ND	7.40	4.31	4.14	OPB350L187
					365-1238-ND	7.40	4.31	4.14	OPB350L250
					365-1405-ND	7.40	4.31	4.14	OPB350L062
					365-1239-ND	9.65	5.62	5.40	OPB350W187Z
14	50	2.0	30	.24 (6.10)	365-1240-ND	9.65	5.62	5.40	OPB350W250Z
					365-1406-ND	9.65	5.62	5.40	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.	Price Each	TT Electronics Part No.		
						1	100	250	
1	100	2.0	25	18.0 (457.2)	365-1399-ND	12.35	7.19	6.91	OPB700ALZ
					365-1364-ND	10.92	6.36	6.11	OPB700Z
					365-1253-ND	14.27	8.31	7.99	OPB701ALZ
					365-1012-ND	8.36	4.87	4.68	OPB710
2	50	3.0	30	.50 (12.7)	365-1093-ND	3.69	2.15	2.07	OPB707A
					365-1092-ND	2.86	1.67	1.60	OPB706A
4	50	2.0	30	.180 (4.57)	365-1088-ND	1.73	1.01	.97	OPB606A

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

More Product Available Online: www.digkey.com

2416 (T083)

Toll-Free: 1-800-344-4539 • Phone 218-681-6674 • Fax: 218-681-3380