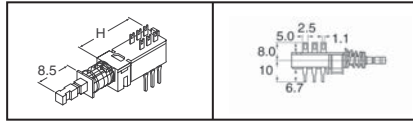




## Switch Products F Series Pushbutton Switches



Essential features of the F pushbutton switch are the bridge contact which is spring loaded, guaranteeing constant pressure on the contacts. **Travel:** 4.7/3.3mm **Operating Force:** 650 grams **Switching:** Voltage Maximum: 125VAC/30VDC (silver), 50VAC/30VDC (gold), Current Maximum: 0.5A (silver), 0.4A (gold) **Contact Resistance:** 10 - 20mΩ **Contact Material:** Silver or Gold **Operating Temperature:** -40°C - 70°C



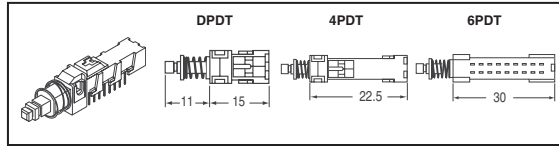
Circuit	Description	Dim. H (mm)	Digi-Key Part No.	1	25	100	C&K Part No.
DPDT	Alt Act., 650gF, .5A, PCB-Mnt, Silver Plating	21	401-1223-ND	1.40	1.13	.89	F2UEE
	Alt Act., 650gF, .4VA, PCB-Mnt, Gold Plating	21	401-1224-ND	3.66	2.93	2.32	F2UEE AU
	Mom., 650gF, .5A, PCB-Mnt, Silver Plating	21	401-1225-ND	1.25	1.00	.79	F2UOA
4PDT	Alt Act., 650gF, .5A, PCB-Mnt, Silver Plating	33	401-1226-ND	2.44	1.95	1.55	FAUEE
	Alt Act., 650gF, .4VA, PCB-Mnt, Gold Plating	33	401-1227-ND	6.92	5.54	4.39	FAUEE AU
	Mom., 650gF, .5A, PCB-Mnt, Silver Plating	33	401-1228-ND	2.38	1.91	1.51	FAUOA

## PHA Series Pushbutton Switches



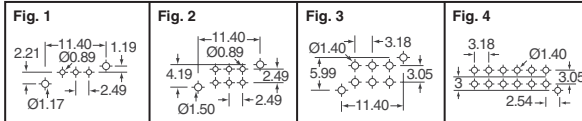
Small dimensions make it the ideal choice for today's demanding switch requirements. Non-shorting contacts.

**Switching:** Voltage Maximum: 30VDC, Current Maximum: 100mA DC **Operating Life:** 10<sup>4</sup> operations **Contact Resistance:** 20mΩ **Operating Temperature:** -10°C - 60°C



Circuit	Description	Digi-Key Part No.	1	25	100	C&K Part No.
DPDT	Alternate Action, 170gF	401-1192-ND	.97	.78	.62	PHA2UEE
	Momentary Action, 170gF	401-1195-ND	.83	.67	.53	PHA2UOA
4PDT	Alternate Action, 170gF	401-1193-ND	1.29	1.04	.82	PHA4UEE
	Momentary Action, 170gF	401-1196-ND	1.21	.97	.77	PHA4UOA
6PDT	Alternate Action, 170gF	401-1194-ND	1.78	1.43	1.13	PHA6UEE
	Momentary Action, 170gF	401-1197-ND	1.71	1.37	1.09	PHA6UOA

## PN Series Pushbutton Switches



**Specifications:** • Contact Rating: 0.2 Amp @ 30VDC maximum • Electrical Life: 10,000 Make-and-Break Cycles at Full Load • Operating/Storage Temperature: -10°C - 60°C. **Materials:** • Frame: Tin Plated Steel • Terminals: Silver Plated Brass • Movable Contacts: Silver Plated (or Clad) Phosphor Bronze • Terminal Seal: Epoxy

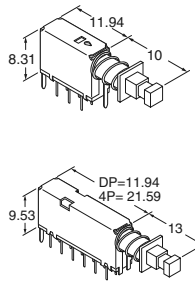


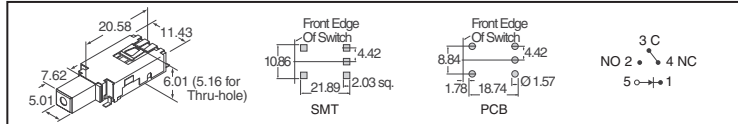
Fig.	Circuit	Description	Digi-Key Part No.	1	100	500	C&K Part No.
1	SPDT	Momentary, 230 gf, Nonshorting Alt. Action, 230 gf, Nonshorting	CKN1188-ND* CKN1189-ND*	.57 .62	.49 .53	.43	PN11SHNA030E PN12SHNA030E
2	DPDT	Momentary, 330gf, Nonshorting Alt. Action, 330gf, Nonshorting	CKN1190-ND* CKN1191-ND*	.67 .69	.58 .61	.51	PN21SUNA030E PN22SUNA030E
3	DPDT	Momentary, 300gf, Nonshorting Alt. Action, 300gf, Nonshorting	CKN1192-ND† CKN1193-ND†	.66 .70	.58 .61	.53	PN21LENA030E PN22LENA030E
4	4PDT	Momentary, 300gf, Nonshorting Alt. Action, 300gf, Nonshorting	CKN1194-ND† CKN1195-ND†	.80 .89	.68 .76	.60	PN41LENA020E PN42LENA020E

\* Use PHA caps † Use PVA caps

## ELUM Pushbutton Switch



**Features:** • Low height above PCB • Reliable self-cleaning contact • Central LED illumination • Long travel • Smooth feel **Materials:** • Fixed Contacts and Terminals: Stainless steel, silver plated with gold flash • Movable Contacts: Copper alloy, silver plated with gold flash • Base: Glass filled LCP (UL94V-0) • Actuator: Glass filled nylon 4/6 (UL94V-0) • Cover: Stainless steel **Electrical:** • Maximum Voltage: 50VDC • Maximum Current: 250mA **Mechanical:** • Operating Force: 250gF **Operating Environment:** • Operating Temperature: -40°C - 85°C • Operating Life: 30,000 Cycles



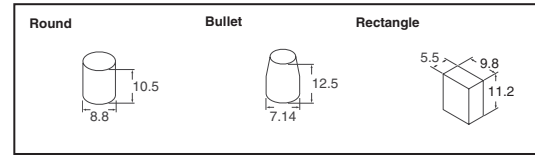
Terminal	LED Color	Maximum LED Intensity (mcd)†	Digi-Key Part No.	1	25	100	C&K Part No.
<b>Illuminated Momentary Pushbuttons</b>							
PCB	None	N/A	CKN9027-ND	3.59	2.87	2.28	ELUMOATHQ0C2
	Red	8	CKN9028-ND	4.28	3.43	2.72	ELUMOATHQ3C12
	Green	50	CKN9029-ND	4.28	3.43	2.72	ELUMOATHQ6C12
	Blue	1,500	CKN9030-ND	4.46	3.57	2.83	ELUMOATHQ7C12
	Green/Red	20	CKN9031-ND	3.90	3.12	2.47	ELUMOATHQ9C12
SMT	Red	8	CKN9032CT-ND CKN9032TR-ND*	4.34 1273.74/450	3.75	3.01	ELUMOASAQ3C12 ELUMOASAQ3C12
	Green	50	CKN9033CT-ND CKN9033TR-ND*	4.34 1273.74/450	3.75	3.01	ELUMOASAQ6C12 ELUMOASAQ6C12
SMT	Blue	1,500	CKN9034CT-ND CKN9034TR-ND*	5.30 1174.03/400	4.57	3.67	ELUMOASAQ7C12 ELUMOASAQ7C12
	Green/Red	20	CKN9035CT-ND	5.44	4.69	3.77	ELUMOASAQ2C12
<b>Illuminated Latching Pushbuttons</b>							
PCB	None	N/A	CKN9036-ND	3.78	3.03	2.40	ELUMEETHQ0C2
	White	5,000	CKN9037-ND	5.04	4.04	3.20	ELUMEETHQ1C12

Terminal	LED Color	Maximum LED Intensity (mcd)†	Digi-Key Part No.	1	25	100	C&K Part No.
PCB	Red	8	CKN9038-ND	4.47	3.58	2.84	ELUMEETHQ3C12
	Amber	50	CKN9039-ND	4.48	3.59	2.84	ELUMEETHQ5C12
	Green	50	CKN9040-ND	4.47	3.58	2.84	ELUMEETHQ6C12
	Blue	1,500	CKN9041-ND	4.65	3.72	2.95	ELUMEETHQ7C12
	Amber/Green	10	CKN9042-ND	4.79	3.84	3.04	ELUMEETHQ8C12
SMT	Green/Red	20	CKN9043-ND	4.78	3.83	3.03	ELUMEETHQ2C12
	Red	8	CKN9044CT-ND CKN9044TR-ND*	4.52 1325.49/450	3.90	3.13	ELUMEESAQ3C12 ELUMEESAQ3C12
SMT	Green	50	CKN9045CT-ND CKN9045TR-ND*	5.32 1325.49/450	4.59	3.69	ELUMEESAQ6C12 ELUMEESAQ6C12
	Blue	1,500	CKN9046CT-ND CKN9046TR-ND*	4.68 1372.53/450	4.04	3.25	ELUMEESAQ7C12 ELUMEESAQ7C12
SMT	Green/Red	20	CKN9047CT-ND CKN9047TR-ND*	4.80 1196.70/450	4.14	3.33	ELUMEESAQ9C12 ELUMEESAQ9C12

\* Tape and Reel † LED Forward Current: 20 mA LED Forward Voltage: 2.0 V Typical

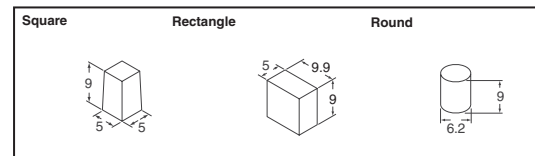
## Switch Caps

### Switch Caps for F Series



Description	Digi-Key Part No.	1	25	100	C&K Part No.
<b>Switch Caps for F Series</b>					
Round, Black, 8.8mm Diameter	401-1215-ND	.37	.30	.24	F0201
Round, Grey, 8.8mm Diameter	401-1217-ND	.41	.33	.26	FG/GY
Round, Red, 8.8mm Diameter	401-1218-ND	.38	.31	.25	FG/RD
Round, White, 8.8mm Diameter	401-1216-ND	.38	.31	.25	F0202
Bullet, Black, 7mm Diameter	401-1212-ND	.36	.29	.23	F0101
Bullet, Grey, 7mm Diameter	401-1214-ND	.38	.31	.24	FMR GY
Bullet, White, 7mm Diameter	401-1213-ND	.38	.31	.24	FMR/WHT
Rectangle, Black, 9.8 x 5.5mm	401-1219-ND	.36	.29	.23	FSC/BK
Rectangle, Grey, 9.8 x 5.5mm	401-1221-ND	.41	.33	.26	FSC/GY
Rectangle, Red, 9.8 x 5.5mm	401-1222-ND	4.17	3.34	2.64	FSC/RD
Rectangle, White, 9.8 x 5.5mm	401-1220-ND	.38	.31	.25	FSC/WHT

### Switch Caps for PHA Series



Description	Digi-Key Part No.	1	25	100	C&K Part No.
<b>Switch Caps for PHA Series</b>					
Square, Indexed, Black, 5mm sq. x 9mm(H)	401-1198-ND	.33	.27	.22	G001A
Square, Indexed, Grey, 5mm sq. x 9mm (H)	401-1199-ND	.34	.28	.22	G001G
Square, Indexed, Red, 5mm sq. x 9mm (H)	401-1200-ND	.34	.27	.22	G001R
Rectangle, Black, 5mm(W) x 10mm(L)	401-1201-ND	.38	.31	.24	G002A
Rectangle, Grey, 5mm(W) x 10mm(L)	401-1202-ND	.38	.31	.24	G002G
Rectangle, Red, 5mm(W) x 10mm(L)	401-1203-ND	.38	.31	.25	G002R
Round, Black, 6.2mm Dia.	401-1204-ND	.38	.31	.24	G003A
Round, Blue, 6.2mm Dia.	401-1207-ND	.38	.31	.25	G003B
Round, Grey, 6.2mm Dia.	401-1205-ND	.38	.31	.24	G003G
Round, Red, 6.2mm Dia.	401-1206-ND	.38	.31	.24	G003R

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## Pushbutton Switches

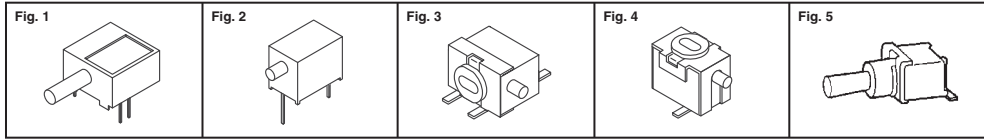


Fig.	Circuit	Switching Function	Termination	Contact Material	Dimensions Inch (mm) L x W x D	Digi-Key Part No.	Price Each			C&K Part No.
							1	25	100	
<b>Subminiature Pushbutton Switches — RoHS Compliant</b>										
1	SPDT	Off-Mom	PCB	B	.52 x .54 x .385 (13.21 x 13.72 x 9.78)	CKN4062-ND	3.85	3.08	2.44	KM1202A08BE
	SPDT	Off-Mom	PCB	Q	.52 x .54 x .385 (13.21 x 13.72 x 9.78)	CKN4061-ND	2.89	2.32	1.83	KM1202A08QE

### Contact Materials

**B** Contacts & Terminals: Copper alloy, with gold plate over nickel plate. Rating: 0.4VA maximum @ 20VAC or DC maximum  
**Q** Contacts: Coin silver, silver plated. Terminals: Copper alloy, silver plated. Rating: 1A @ 120VAC

Fig.	Circuit	Switching Function	Actuator Height Inch (mm)	Terminals	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape & Reel Pricing 600	C&K Part No.
						1	25	100			
<b>Ultra-Miniature Pushbutton Switches (Washable)</b>											
2	SPST	Off-Mom	.078 (1.98)	PC Mount	CKN9056-ND	4.63	3.71	2.94	—	—	GP11MCBE
	SPST	Off-Mom	.078 (1.98)	PC Mount	CKN9055-ND	5.26	4.21	3.33	—	—	GP11MABE
	SPDT	On-Mom	.078 (1.98)	PC Mount	CKN9060-ND	5.08	4.07	3.22	—	—	GP12MCBE
3	SPDT	On-Mom	.078 (1.98)	Gull Lead	CKN9062CT-ND	5.39	4.65	3.74	CKN9062TR-ND	1790.84	GP12MSCBE(T&R)
	SPST	Off-Mom	.078 (1.98)	Gull Lead	CKN9058CT-ND	5.54	4.78	3.84	CKN9058TR-ND	1841.80	GP11MSABE
	SPDT	On-Mom	.078 (1.98)	Gull Lead	CKN9061CT-ND	6.00	5.18	4.16	CKN9061TR-ND	1995.48	GP12MSABE(T&R)
	SPST	Off-Mom	.078 (1.98)	Gull Lead	CKN9057CT-ND	6.59	5.69	4.57	CKN9057TR-ND	2191.50	GP11MSA1BE
4	SPST	Off-Mom	.058 (1.47)	Gull Lead	CKN9059CT-ND	6.93	5.98	4.80	CKN9059TR-ND	2302.84	GP11MSV1BE
	SPDT	On-Mom	.058 (1.47)	Gull Lead	CKN4080CT-ND	6.61	5.70	4.58	—	—	GP12MSV1KE
	SPDT	On-Mom	.058 (1.47)	Gull Lead	CKN9063CT-ND	7.34	6.33	5.09	CKN9063TR-ND	2439.27	GP12MSV1BE
<b>Surface Mount (Process Sealed, Washable) — RoHS Compliant</b>											
5	SPST	Off-Mom	.215 (5.46)	Gull Lead	CKN9052CT-ND	4.39	3.79	3.05	CKN9052TR-ND	1460.74	EP11SD1SAPE(T&R)
	SPDT	On-Mom	.215 (5.46)	Gull Lead	CKN9054CT-ND	5.41	4.66	3.75	CKN9054TR-ND	1796.33	EP12SD1SAPE(T&R)
	SPST	Off-Mom	Flush	Gull Lead	CKN9051CT-ND	4.39	3.79	3.05	CKN9051TR-ND	1460.74	EP11FPD1SAPE(T&R)
	SPDT	On-Mom	Flush	Gull Lead	CKN9053CT-ND	5.41	4.66	3.75	CKN9053TR-ND	1796.33	EP12FPD1SAPE

◆ RoHS Compliant

## Pushbutton Switch Accessories



Cap Color	Cap Diameter Inch (mm)	Cap Height - Dim. A Inch (mm)	Plunger Diameter Inch (mm)	Digi-Key Part No.	Price Each			C&K Part No.
					1	25	100	
<b>Fig. 1 — Pushbutton Caps for 8X2X, 8X6X, EX1X, EX2X, KM11, TP and L</b>								
White Gloss	.375 (9.53)	.250 (6.35)	.122 (3.10)	CKN1103-ND	.55	.44	.35	752701000
Black Gloss	.375 (9.53)	.250 (6.35)	.122 (3.10)	CKN1104-ND	.34	.28	.22	752702000
Red Gloss	.375 (9.53)	.250 (6.35)	.122 (3.10)	CKN1105-ND	.54	.44	.35	752703000
Green Gloss	.375 (9.53)	.250 (6.35)	.122 (3.10)	CKN1108-ND	.41	.34	.27	752706000
Blue Gloss	.375 (9.53)	.250 (6.35)	.122 (3.10)	CKN1109-ND	.41	.33	.26	752707000
White Gloss	.310 (7.87)	.250 (6.35)	.122 (3.10)	CKN1397-ND	.73	.59	.46	801801000
Black Gloss	.310 (7.87)	.250 (6.35)	.122 (3.10)	CKN1398-ND	.34	.28	.22	801802000
Red Gloss	.310 (7.87)	.250 (6.35)	.122 (3.10)	CKN1399-ND	.73	.59	.46	801803000
White Gloss	.200 (5.08)	.155 (3.94)	.122 (3.10)	CKN1394-ND	.54	.44	.35	708901000
Black Gloss	.200 (5.08)	.155 (3.94)	.122 (3.10)	CKN1395-ND	.32	.26	.21	708902000
Red Gloss	.200 (5.08)	.155 (3.94)	.122 (3.10)	CKN1396-ND	.54	.44	.35	708903000
<b>Fig. 2 — Pushbutton Caps EP, TP Series</b>								
White Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1112-ND	.64	.52	.41	465801000
Black Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1113-ND	.36	.29	.23	465802000
Red Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1114-ND	.63	.51	.41	465803000
Orange Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1115-ND	.61	.49	.39	465804000
Yellow Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1116-ND	.84	.68	.54	465805000
Green Gloss	.310 (7.87)	.152 (3.86)	.100 (2.54)	CKN1117-ND	.83	.67	.53	465806000
Black Gloss	.200 (5.08)	.155 (3.94)	.100 (2.54)	CKN1748-ND	.68	.55	.44	508102000
Red Gloss	.200 (5.08)	.155 (3.94)	.100 (2.54)	CKN1749-ND	.68	.55	.44	508103000
Black Gloss	.200 (5.08)	.155 (3.94)	.100 (2.54)	CKN1751-ND*	.73	.59	.47	538702000
<b>Pushbutton Caps For Snap-Fitting Actuators</b>								
White Gloss	.395 (10.03)	.325 (8.26)	.122 (3.10)	CKN1209-ND	2.01	1.61	1.28	894101000
Black Gloss	.395 (10.03)	.325 (8.26)	.122 (3.10)	CKN1210-ND	.73	.59	.46	894102000
Red Gloss	.395 (10.03)	.325 (8.26)	.122 (3.10)	CKN1211-ND	2.01	1.61	1.28	894103000
<b>Fig. 3 — Square Pushbutton Caps 8020, 8060, E010, E020, KM11, L, and TP</b>								
Black Gloss	.450 (11.43)	.240 (6.10)	.122 (3.10)	CKN1757-ND	.50	.40	.32	798202263

\* Recommended for MS9 plunger

Fig. 1 — Series 8X2X, 8X6X, EX1X, EX2X, KM11, TP and L

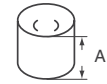
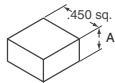


Fig. 2 — Series EP, TP



Fig. 3 — Series 8020, 8060, E010, E020, KM11, L, TP



## Switch Accessories — Snap-in Frames

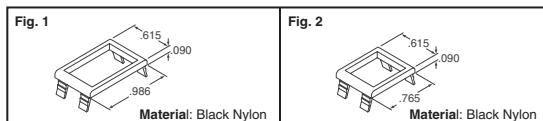


Fig.	Panel Thickness	Panel Shape	Digi-Key Part No.	Price Each			C&K Part No.
				1	25	100	
1	.062" (1.57mm)	Rectangle	CKN1746-ND	.54	.44	.35	452702263
	.090" (2.29mm)	Rectangle	CKN1747-ND	.54	.44	.35	452802263
	.125" (3.18mm)	Rectangle	CKN1745-ND	.54	.44	.35	452602263
2	.062" (1.57mm)	Square	CKN1742-ND	.73	.59	.46	432602263
	.090" (2.29mm)	Square	CKN1743-ND	.73	.59	.46	432702263
	.125" (3.18mm)	Square	CKN1744-ND	.73	.59	.47	432802263

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