

Product Range

Pushbutton Switches

- **Tiny Push Buttons:** TP, TSP Series
- **Panel Mount Push Buttons:** MSP, MPA Series
- **Higher Current Push Buttons:** MP Green-, A 60 Series

Main features:

- Up to 4 poles
- N/O or C/O contact configuration
- Gold or silver contacts
- Sealed or unsealed versions
- Right angle versions
- Single or dual actuator
- Round or rectangular actuator buttons
- Flush actuator versions
- Snap action versions
- Bushing versions with and without thread
- Hermetically sealed versions
- THT or wire lug terminals
- Panel mounting versions
- Accessories: boot seals, caps, ...



TSP Series, Tiny, Process Sealedpage D3



TP Series, Tinypage D6



TP_ES Series, Tiny, Process Sealedpage D15



MSPM Series, Magnetic Reed, Long Life, Hermetically Sealedpage D18

Product Range (Continued)



MSPF Series, Front or Rear Mount, 15/32 Bushingpage D20



MPA103 Series, Panel Mountpage D22



MSP103 Series, 2.5mm Travel, Panel Mountpage D23



MPS Series, Snap Actionpage D25



MP / A / E / G Green Seriespage D28



A60 Seriespage D33



Accessoriespage D35



BP Series Boot Sealspage D37



BP Series Panel Sealspage D39

Pushbutton Switches

- Washable process sealed construction (internal "O" ring)
- Compact design



Contact configuration	SPST SPDT
Contact timing	Break-Before-Make
Contact rating max.	gold 0.4VA @20VAC/DC
Electrical life	function C: 80,000 cycles function F: 60,000 cycles
Contact resistance, initial	max.20 mOhms
Insulation resistance	1,000 MOhms @ 500VDC
Dielectric strength	function C: 1,000 Volts rms @ sea level function F: 500 Volts rms @ sea level
Actuator travel	momentary .035" (0.89)

Operating temperature	-30°C to +85°C
Storage temperature	-55°C to +85°C
Solder heat resistance	wave solder capable to 265° C
Seal	process sealed with internal "O" ring

Contacts	copper or brass, gold over nickel finish
Actuator	thermoplastic
Terminals	brass with gold over nickel in contact area
.....	tin over nickel in solder area
Case	thermoplastic (LCP)
Spring	music wire zinc plated
Support bracket	steel tin plated
Seal	"O" ring rubber
RoHS Directive 2002/95/EC	compliant

Product key		Typical product key		TSP	D		1	1	C	G	RA	0	04	
Type														
TSP	Tiny pushbutton, process sealed													
Bushing														
D	plain, not threaded													
Actuator														
blank	length .200 (5.08)													
F	flush													
Number of Poles														
1	single pole													
Contact rating														
1	0.4VA Gold													
Function														
C	SPST, Off (On)											F	SPDT, On (On)	
Plating														
G	Gold													
Terminals														
PC	printed circuit board											RA	right angle	
PCV	printed circuit board, w bracket											VRA	vertical right angle	
												WW	wire wrap	
Button Color														
0	black											2	red	
Material														
04	RoHS compliant													

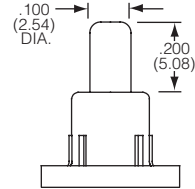
TSP Series, Tiny, Process Sealed (Continued)

Actuator

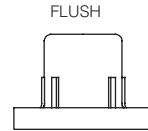
blank, F

standard actuator, flush actuator

blank, standard actuator



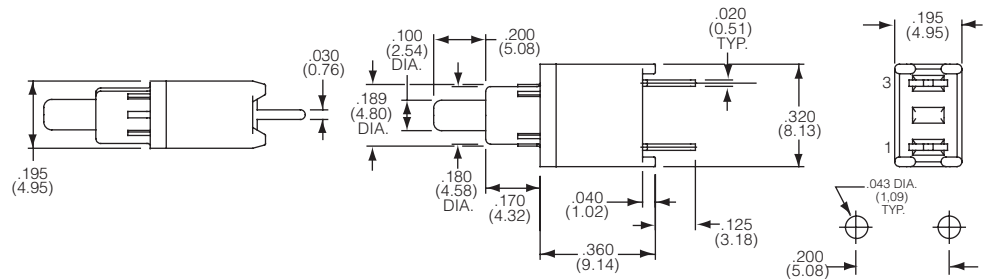
F, flush actuator



Terminations

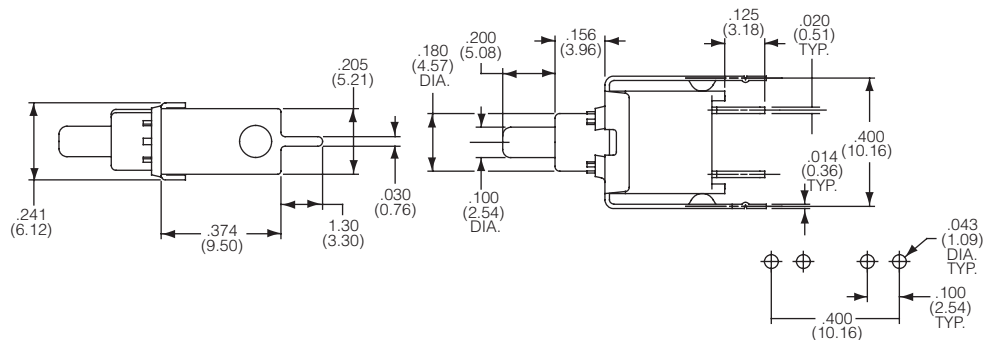
PC

printed circuit board



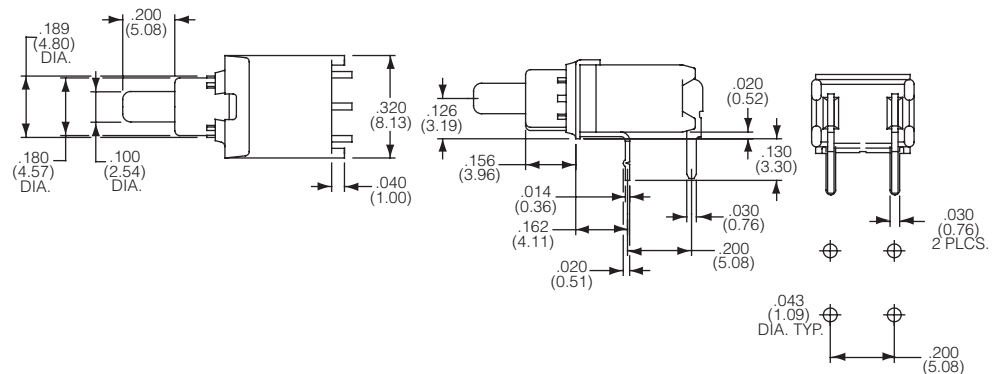
PCV

printed circuit board with vertical bracket



RA

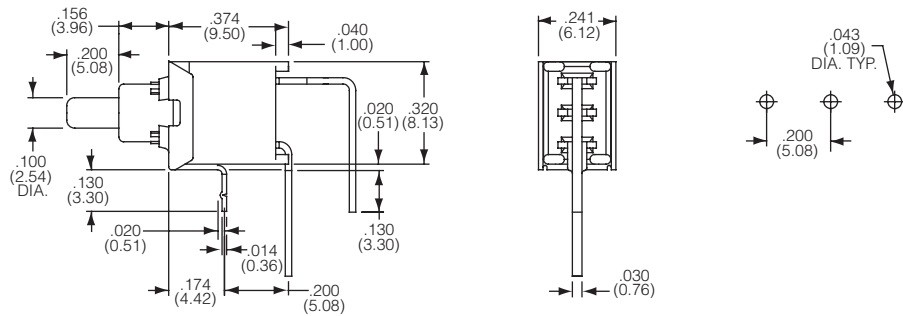
right angle



TSP Series, Tiny, Process Sealed (Continued)

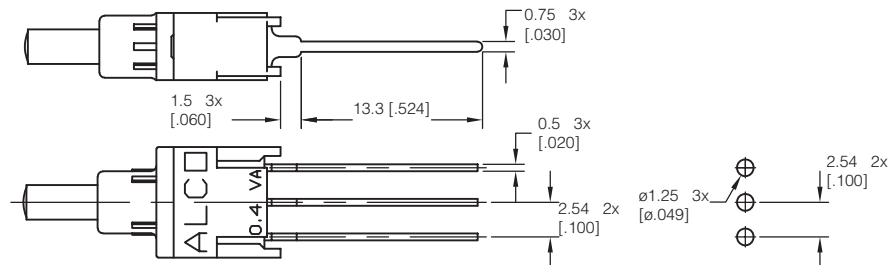
VRA

vertical right angle



WW

wire wrap



Product key	Bushing	Act.	Poles	Rating	Function	Conn.	Conn.	Plating	Terminals	Btn.	Material	Part Number
TSPD11CGPC004	plain,	length	1	0.4VA	Off (On)	Off	1-3	Gold	pcb	black	RoHS	1571990-1
TSPD11CGPC204	not	.200								red	compliant	1571990-2
TSPD11CGPCV004	threaded	(5.08)								black		1571990-3
TSPD11CGRA004									right angle			1571990-4
TSPD11CGRA204										red		1571990-5
TSPD11CGVRA004									vertical r.a.	black		1-1571990-3
TSPD11CGWW004									wire wrap			1-1571990-4
TSPD11FGPC004					On (On)	1-2	2-3		pcb			1-1571990-5
TSPD11FGPCV004									pcb w brack.			1-1571990-6
TSPD11FGRA004									right angle			1-1571990-7
TSPD11FGVRA004									vertical r.a.			2-1571990-1
TSPDF11CGPC004		flush			Off (On)	Off	1-3		pcb			2-1571990-2
TSPDF11CGRA004									right angle			2-1571990-5
TSPDF11CGVRA004									vertical r.a.			2-1571990-7
TSPDF11FGPC004					On (On)	1-2	2-3		pcb			2-1571990-8
TSPDF11FGRA004									right angle			2-1571990-9

TP Series, Tiny

Features

- Compact design
- Round or rectangular actuator buttons.
- Vertical or right angle versions



Typical performance characteristics

Contact configuration SPST, SPDT, DPDT
 Contact timing Break-Before-Make
 Contact rating max. gold: 0.4VA @20VDC or peak AC
 silver: 1A @ 125VAC or 28 VDC resistive
 Electrical life 1 pole2 ..2 pole
 gold 100,000 ..80,000 cycles
 silver 60,000 ..50,000 cycles
 Contact resistance, initial max.20 mOhms
 Insulation resistance 1,000 MOhms @ 500VDC
 Dielectric strength 1,000 Volts rms @ sea level
 Actuation force 0.5 to 4N (50-400gf)
 Actuator travel momentary .030" (.762)

Environmental specification

Operating temperature -30°C to +65°C
 Storage temperature -30°C to +65°C
 Solder heat resistance wave solder capable to 265° C

Material specifications

Contacts copper or brass, gold over nickel finish or silver
 clad with silver over nickel finish
 Actuator thermoplastic
 Terminals brass with gold over nickel or silver over nickel
 Case thermoplastic
 Frame and support bracket steel with tin over copper finish
 RoHS Directive 2002/95/EC compliant

Product key		Typical product key		TP	A	1	1	C	G	PC	0	04	
Type		TP		Tiny pushbutton series									
Bushing		blank		square, no bushing									
		A		round, no bushing									
		B		round .188 (4.78) dia. bushing not threaded									
		C		round 10/48 UNS 2B thread									
		D		.250" (6.35) dia. bushing, not threaded									
		F		round 1/4-40 UNS 2B thread									
Actuator		blank		standard									
		F		flush (available with B and C bushings only)									
Number of Poles		1		single pole				2		double pole			
Contact rating		1		0.4VA Gold									
		2		1.0 A Silver (Silver available only in wire lug and PC termination)									
Function		single pole				double pole							
		C		single throw, momentary		M		single throw, momentary					
		F		double throw, momentary		R		double throw, momentary					
		CC		dual function C - 2 x single throw, momentary									
		FF		dual function F - 2 x double throw, momentary									
Plating		G		Gold		blank		Silver (Silver available only in wire lug and PC termination)					
Terminals		blank		wire lug		RA		right angle					
		PC		printed circuit board		VRA		vertical, right angle (available only in single pole)					
Button Color		0		black		2		red		6		blue	
Material		04		RoHS compliant									

TP Series, Tiny (Continued)

Bushing



blank, square, no bushing

printed circuit board

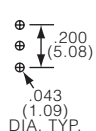
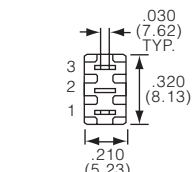
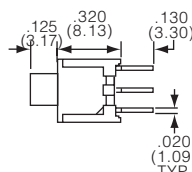
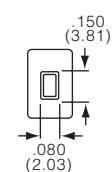


TP11CGPC004

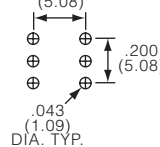
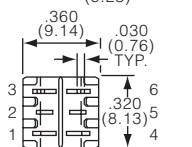
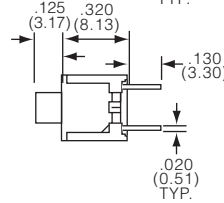
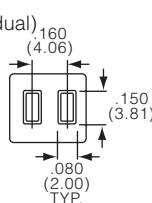


TP21CCGPC004

Single pole



2 x Single pole (dual)



Note: no center terminal on 'C' and 'M' function switch

right angle

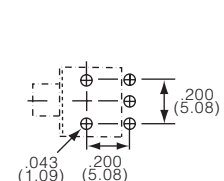
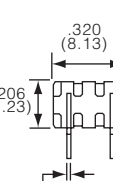
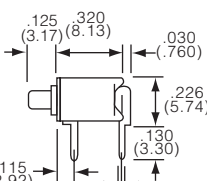
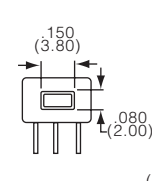


TP11CGRA004



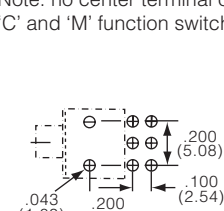
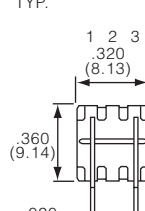
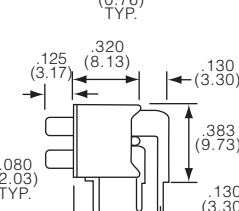
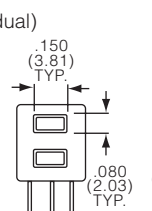
TP21CCGRA004

Single pole



Note: no center terminal on 'C' and 'M' function switch

2 x Single pole (dual)



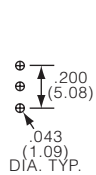
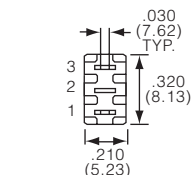
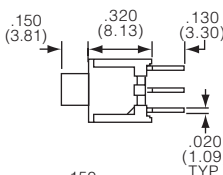
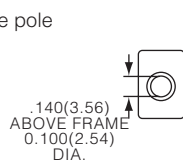
A, Round, no bushing

printed circuit board

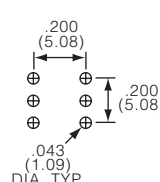
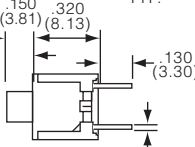
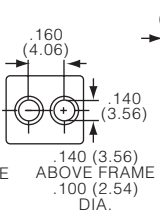
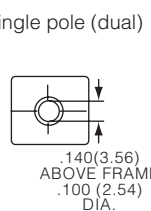


TPA11CGPC004

Single pole



2 x Single pole (dual)



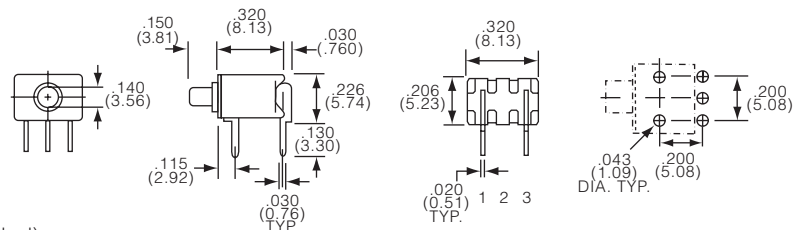
Note: no center terminal on 'C' function switch

TP Series, Tiny (Continued)

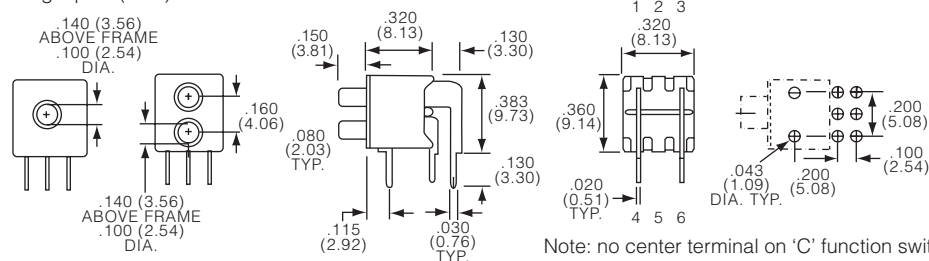
right angle



Single pole

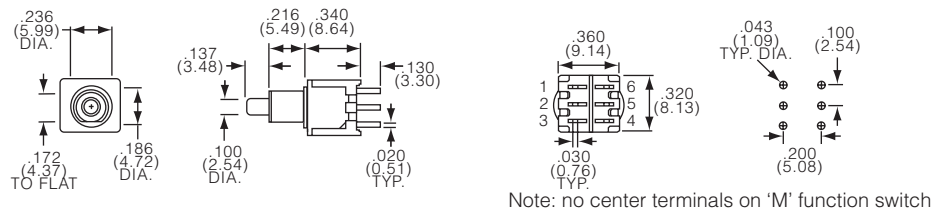
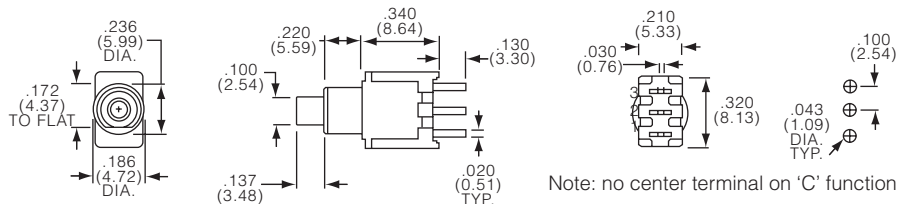


2 x Single pole (dual)

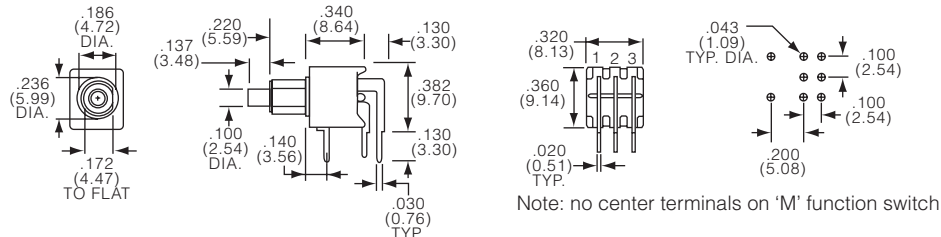
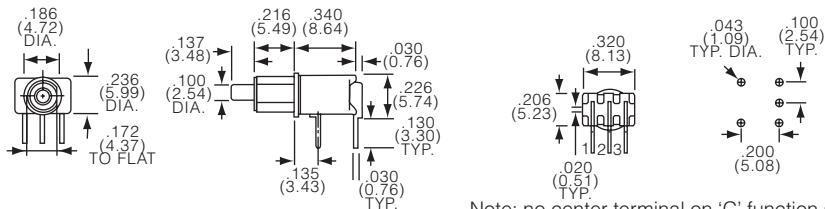


B, Round .188 (4.78) dia. bushing not threaded

printed circuit board

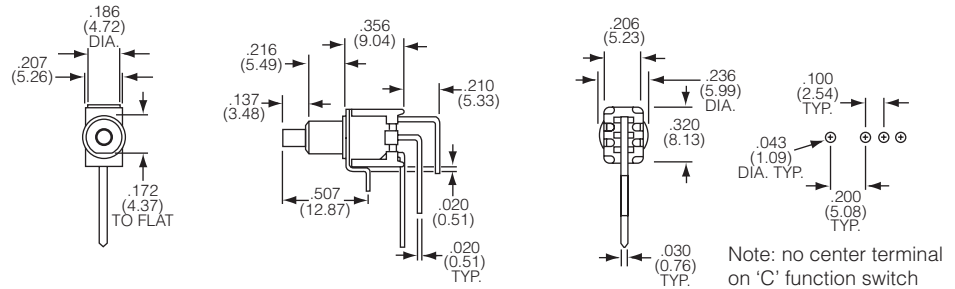


right angle

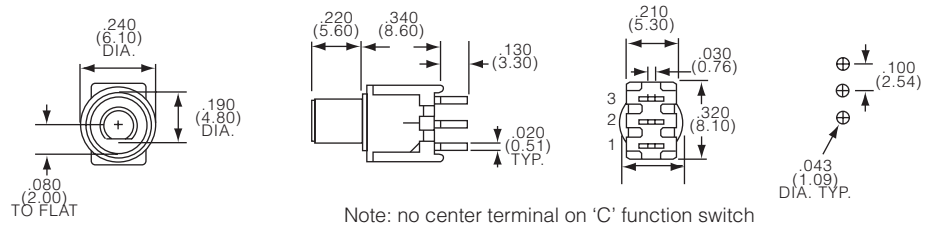


TP Series, Tiny (Continued)

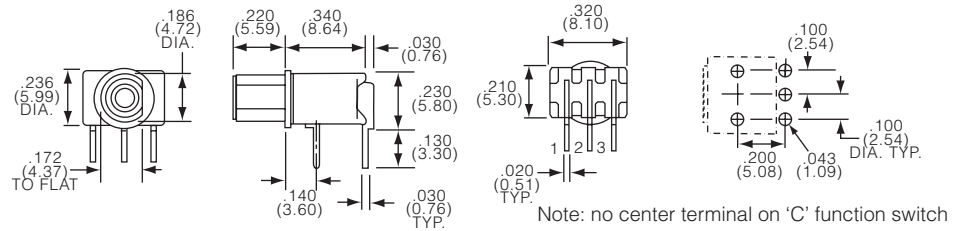
vertical right angle



printed circuit board, flush actuator

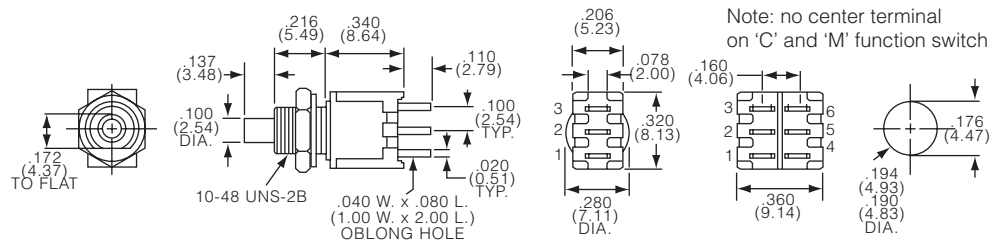


right angle, flush actuator

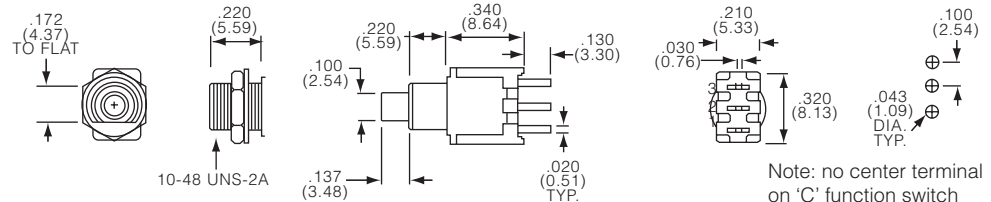


C, Round 10/48 UNS 2B thread

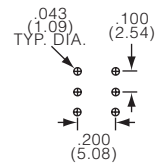
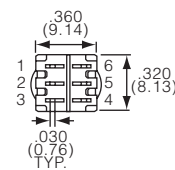
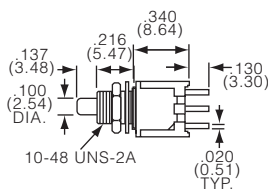
wire lug



printed circuit board

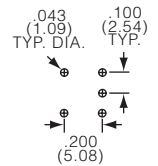
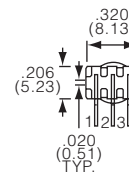
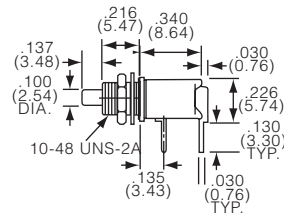


TP Series, Tiny (Continued)

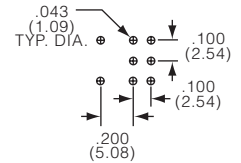
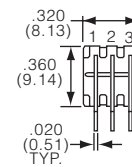
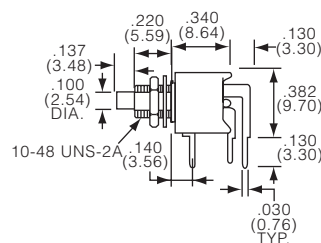


Note: no center terminals on 'M' function switch

right angle

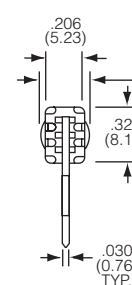
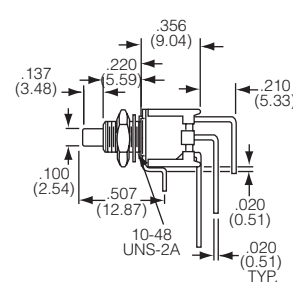
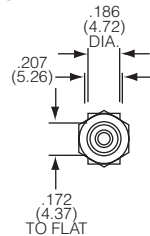


Note: no center terminal on 'C' function switch

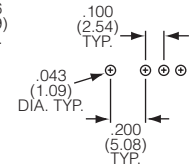


Note: no center terminals on 'M' function switch

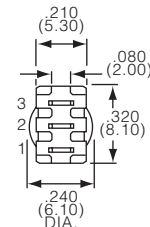
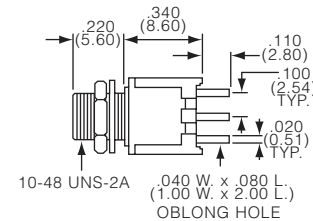
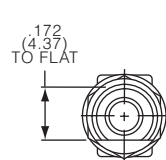
vertical right angle



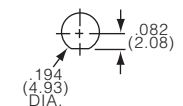
Note: no center terminal on 'C' function switch



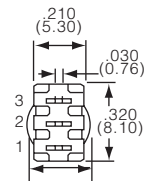
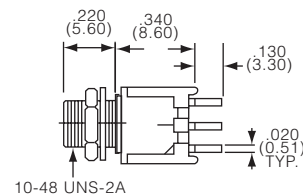
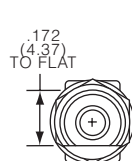
wire lug, flush actuator



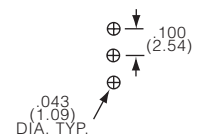
Note: no center terminal on 'C' function switch



printed circuit board, flush actuator

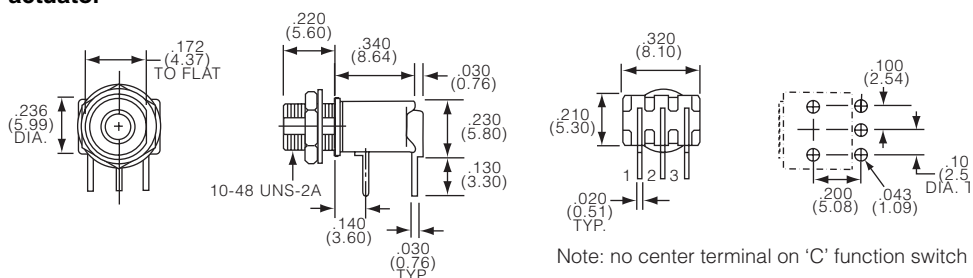


Note: no center terminal on 'C' function switch



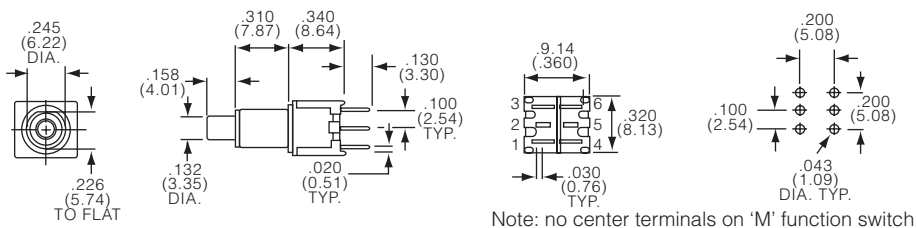
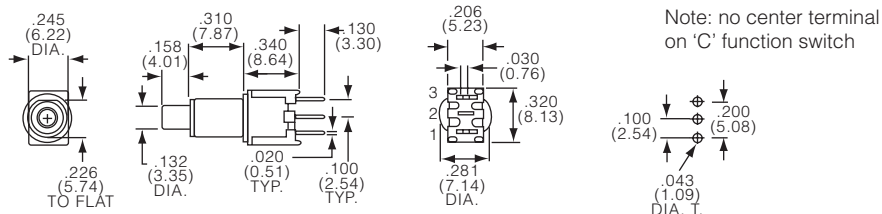
TP Series, Tiny (Continued)

right angle, flush actuator

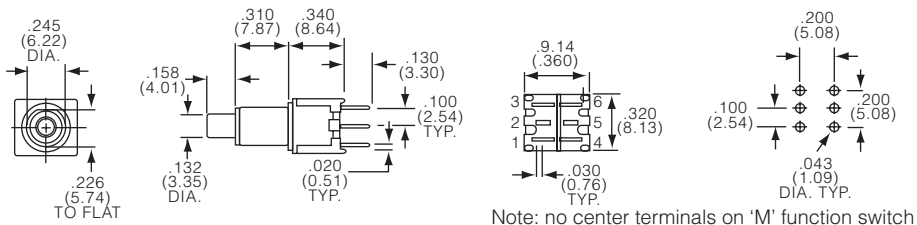
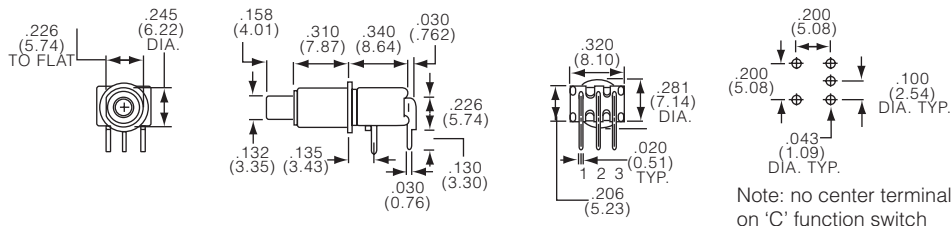


D, .250" (6.35) dia. bushing, not threaded

printed circuit board



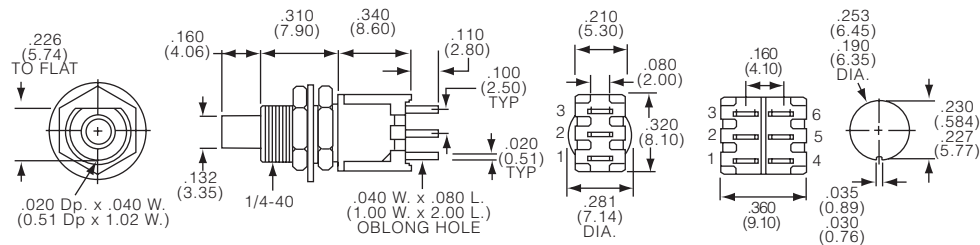
right angle



F, Round 1/4-40 UNS 2B thread

TPF13C

TPF23M



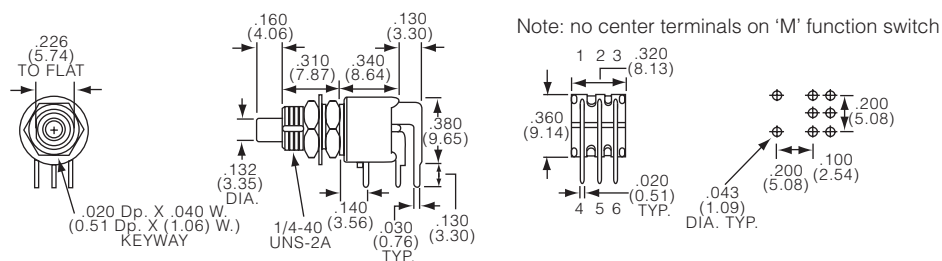
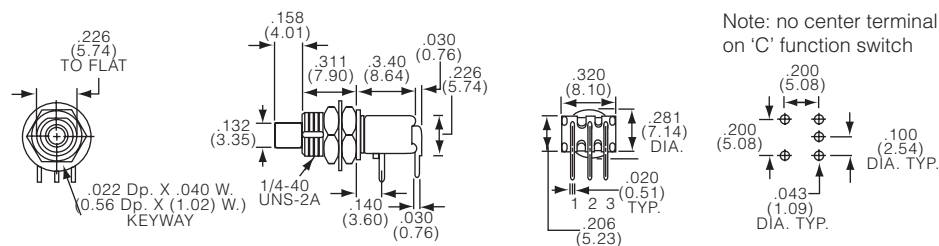
Note: no center terminal on 'C' and 'M' function switch

Technical drawings of UNS-2A and UNS-2B connectors. The drawings include side and end views with dimensions in inches and millimeters. Key features include a keyway, dimensions for pin spacing and lengths, and a note about the center terminal on the 'C' function switch.

UNS-2A Dimensions:

- Overall length: .158 (4.01)
- Pin 1 to Pin 2: .311 (7.90)
- Pin 2 to Pin 3: .340 (8.60)
- Pin 3 to Pin 4: .130 (3.30)
- Pin 4 to Pin 5: .100 (2.54)
- Pin 5 to Pin 6: .020 (0.51) TYP.
- Pin 6 to Pin 7: .020 (0.51) TYP.
- Pin 7 to Pin 8: .020 (0.51) TYP.
- Pin 8 to Pin 9: .020 (0.51) TYP.
- Pin 9 to Pin 10: .020 (0.51) TYP.
- Pin 10 to Pin 11: .020 (0.51) TYP.
- Pin 11 to Pin 12: .020 (0.51) TYP.
- Pin 12 to Pin 13: .020 (0.51) TYP.
- Pin 13 to Pin 14: .020 (0.51) TYP.
- Pin 14 to Pin 15: .020 (0.51) TYP.
- Pin 15 to Pin 16: .020 (0.51) TYP.
- Pin 16 to Pin 17: .020 (0.51) TYP.
- Pin 17 to Pin 18: .020 (0.51) TYP.
- Pin 18 to Pin 19: .020 (0.51) TYP.
- Pin 19 to Pin 20: .020 (0.51) TYP.
- Pin 20 to Pin 21: .020 (0.51) TYP.
- Pin 21 to Pin 22: .020 (0.51) TYP.
- Pin 22 to Pin 23: .020 (0.51) TYP.
- Pin 23 to Pin 24: .020 (0.51) TYP.
- Pin 24 to Pin 25: .020 (0.51) TYP.
- Pin 25 to Pin 26: .020 (0.51) TYP.
- Pin 26 to Pin 27: .020 (0.51) TYP.
- Pin 27 to Pin 28: .020 (0.51) TYP.
- Pin 28 to Pin 29: .020 (0.51) TYP.
- Pin 29 to Pin 30: .020 (0.51) TYP.
- Pin 30 to Pin 31: .020 (0.51) TYP.
- Pin 31 to Pin 32: .020 (0.51) TYP.
- Pin 32 to Pin 33: .020 (0.51) TYP.
- Pin 33 to Pin 34: .020 (0.51) TYP.
- Pin 34 to Pin 35: .020 (0.51) TYP.
- Pin 35 to Pin 36: .020 (0.51) TYP.
- Pin 36 to Pin 37: .020 (0.51) TYP.
- Pin 37 to Pin 38: .020 (0.51) TYP.
- Pin 38 to Pin 39: .020 (0.51) TYP.
- Pin 39 to Pin 40: .020 (0.51) TYP.
- Pin 40 to Pin 41: .020 (0.51) TYP.
- Pin 41 to Pin 42: .020 (0.51) TYP.
- Pin 42 to Pin 43: .020 (0.51) TYP.
- Pin 43 to Pin 44: .020 (0.51) TYP.
- Pin 44 to Pin 45: .020 (0.51) TYP.
- Pin 45 to Pin 46: .020 (0.51) TYP.
- Pin 46 to Pin 47: .020 (0.51) TYP.
- Pin 47 to Pin 48: .020 (0.51) TYP.
- Pin 48 to Pin 49: .020 (0.51) TYP.
- Pin 49 to Pin 50: .020 (0.51) TYP.
- Pin 50 to Pin 51: .020 (0.51) TYP.
- Pin 51 to Pin 52: .020 (0.51) TYP.
- Pin 52 to Pin 53: .020 (0.51) TYP.
- Pin 53 to Pin 54: .020 (0.51) TYP.
- Pin 54 to Pin 55: .020 (0.51) TYP.
- Pin 55 to Pin 56: .020 (0.51) TYP.
- Pin 56 to Pin 57: .020 (0.51) TYP.
- Pin 57 to Pin 58: .020 (0.51) TYP.
- Pin 58 to Pin 59: .020 (0.51) TYP.
- Pin 59 to Pin 60: .020 (0.51) TYP.
- Pin 60 to Pin 61: .020 (0.51) TYP.
- Pin 61 to Pin 62: .020 (0.51) TYP.
- Pin 62 to Pin 63: .020 (0.51) TYP.
- Pin 63 to Pin 64: .020 (0.51) TYP.
- Pin 64 to Pin 65: .020 (0.51) TYP.
- Pin 65 to Pin 66: .020 (0.51) TYP.
- Pin 66 to Pin 67: .020 (0.51) TYP.
- Pin 67 to Pin 68: .020 (0.51) TYP.
- Pin 68 to Pin 69: .020 (0.51) TYP.
- Pin 69 to Pin 70: .020 (0.51) TYP.
- Pin 70 to Pin 71: .020 (0.51) TYP.
- Pin 71 to Pin 72: .020 (0.51) TYP.
- Pin 72 to Pin 73: .020 (0.51) TYP.
- Pin 73 to Pin 74: .020 (0.51) TYP.
- Pin 74 to Pin 75: .020 (0.51) TYP.
- Pin 75 to Pin 76: .020 (0.51) TYP.
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- Pin 79 to Pin 80: .020 (0.51) TYP.
- Pin 80 to Pin 81: .020 (0.51) TYP.
- Pin 81 to Pin 82: .020 (0.51) TYP.
- Pin 82 to Pin 83: .020 (0.51) TYP.
- Pin 83 to Pin 84: .020 (0.51) TYP.
- Pin 84 to Pin 85: .020 (0.51) TYP.
- Pin 85 to Pin 86: .020 (0.51) TYP.
- Pin 86 to Pin 87: .020 (0.51) TYP.
- Pin 87 to Pin 88: .020 (0.51) TYP.
- Pin 88 to Pin 89: .020 (0.51) TYP.
- Pin 89 to Pin 90: .020 (0.51) TYP.
- Pin 90 to Pin 91: .020 (0.51) TYP.
- Pin 91 to Pin 92: .020 (0.51) TYP.
- Pin 92 to Pin 93: .020 (0.51) TYP.
- Pin 93 to Pin 94: .020 (0.51) TYP.
- Pin 94 to Pin 95: .020 (0.51) TYP.
- Pin 95 to Pin 96: .020 (0.51) TYP.
- Pin 96 to Pin 97: .020 (0.51) TYP.
- Pin 97 to Pin 98: .020 (0.51) TYP.
- Pin 98 to Pin 99: .020 (0.51) TYP.
- Pin 99 to Pin 100: .020 (0.51) TYP.
- Pin 100 to Pin 101: .020 (0.51) TYP.
- Pin 101 to Pin 102: .020 (0.51) TYP.
- Pin 102 to Pin 103: .020 (0.51) TYP.
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- Pin 105 to Pin 106: .020 (0.51) TYP.
- Pin 106 to Pin 107: .020 (0.51) TYP.
- Pin 107 to Pin 108: .020 (0.51) TYP.
- Pin 108 to Pin 109: .020 (0.51) TYP.
- Pin 109 to Pin 110: .020 (0.51) TYP.
- Pin 110 to Pin 111: .020 (0.51) TYP.
- Pin 111 to Pin 112: .020 (0.51) TYP.
- Pin 112 to Pin 113: .020 (0.51) TYP.
- Pin 113 to Pin 114: .020 (0.51) TYP.
- Pin 114 to Pin 115: .020 (0.51) TYP.
- Pin 115 to Pin 116: .020 (0.51) TYP.
- Pin 116 to Pin 117: .020 (0.51) TYP.
- Pin 117 to Pin 118: .020 (0.51) TYP.
- Pin 118 to Pin 119: .020 (0.51) TYP.
- Pin 119 to Pin 120: .020 (0.51) TYP.
- Pin 120 to Pin 121: .020 (0.51) TYP.
- Pin 121 to Pin 122: .020 (0.51) TYP.
- Pin 122 to Pin 123: .020 (0.51) TYP.
- Pin 123 to Pin 124: .020 (0.51) TYP.
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- Pin 125 to Pin 126: .020 (0.51) TYP.
- Pin 126 to Pin 127: .020 (0.51) TYP.
- Pin 127 to Pin 128: .020 (0.51) TYP.
- Pin 128 to Pin 129: .020 (0.51) TYP.
- Pin 129 to Pin 130: .020 (0.51) TYP.
- Pin 130 to Pin 131: .020 (0.51) TYP.
- Pin 131 to Pin 132: .020 (0.51) TYP.
- Pin 132 to Pin 133: .020 (0.51) TYP.
- Pin 133 to Pin 134: .020 (0.51) TYP.
- Pin 134 to Pin 135: .020 (0.51) TYP.
- Pin 135 to Pin 136: .020 (0.51) TYP.
- Pin 136 to Pin 137: .020 (0.51) TYP.
- Pin 137 to Pin 138: .020 (0.51) TYP.
- Pin 138 to Pin 139: .020 (0.51) TYP.
- Pin 139 to Pin 140: .020 (0

TPF11CGRA



TP Series, Tiny (Continued)

Product key	Bushing	Act.	Poles	Rating	Function			Plating	Terminals	Btn.	Material	Part Number
TP11CGPC004	square	n/a	1	0.4VA	Off-(On)	Off	1-3	Gold	pcb	black	RoHS	1825095-1
TP11CGPC204	no bushing									red	compliant	1825095-2
TP11CGRA004									right angle	black		1825095-3
TP11CGRA204										red		1825095-4
TP11CGRA604										blue		1825095-5
TP11FGPC004					On-(On)	1-2	2-3		pcb	black		1825095-6
TP11FGPC204										red		1825095-7
TP11FGRA004									right angle	black		1825095-8
TP11FGRA204										red		1825095-9
TP11FGRA604										blue		1-1825095-0
TP21CCGRA004			2 (1+1)		Off-(On)	Off	1-3			black		1-1825095-1
TP21CCGRA204										red		1-1825095-2
TP21FFGRA004					On-(On)	1-2	2-3			black		1-1825095-3
TPA11CGPC004	round		1		Off-(On)	Off	1-3		pcb			1825096-1
TPA11CGPC204	no bushing									red		1825096-2
TPA11CGPC604										blue		1825096-3
TPA11CGRA004									right angle	black		1825096-4
TPA11CGRA204										red		1825096-5
TPA11CGRA604										blue		1825096-6
TPA11FGPC004					On-(On)	1-2	2-3		pcb	black		1825096-7
TPA11FGPC204										red		1825096-8
TPA11FGPC604										blue		1825096-9
TPA11FGRA004									right angle	black		1-1825096-0
TPA11FGRA204										red		1-1825096-1
TPA11FGRA604										blue		1-1825096-2
TPA21CCGPC004			2 (1+1)		Off-(On)	Off	1-3, 4-6		pcb	black		1-1825096-3
TPA21CCGRA004									right angle			1-1825096-4
TPA21FFGRA204					On-(On)	1-2, 4-5	2-3, 5-6			red		1-1825096-5
TPA21MGRA004			2		Off-(On)	Off	1-3, 4-6			black		1-1825096-6
TPB11CGPC004	round	std	1				1-3		pcb			1825097-1
TPB11CGPC204	.188 (4.78)									red		1825097-2
TPB11CGRA004	dia								right angle	black		1825097-6
TPB11CGRA204	bushing,									red		1825097-4
TPB11CGVRA004	not								vertical r.a.	black		1825097-8
TPB11FGPC004	threaded				On-(On)	1-2	2-3		pcb			1825097-9
TPB11FGRA004									right angle			1-1825097-1
TPB11FGRA204										red		1-1825097-2
TPB11FGRA604										blue		1-1825097-3
TPB11FGVRA004									vertical r.a.	black		1-1825097-6
TPB21MGPC004			2		Off-(On)	Off	1-3, 4-6		pcb			1-1825097-7
TPB21MGPC204										red		1-1825097-8
TPB21MGRA004									right angle	black		2-1825097-8
TPB21RGRA004					On-(On)	1-2, 4-5	2-3, 5-6					1-1825097-9
TPB21RGRA0EDC04												1825112-1
TPBF11CGRA004		flush	1		Off-(On)	Off	1-3					2-1825097-1
TPBF11FGRA004					On-(On)	1-2	2-3					2-1825097-4
TPBF11FGRA204										red		2-1825097-5

Preferred parts in bold print

TP Series, Tiny (Continued)

Product key	Bushing	Act.	Poles	Rating	Function	☐	☐	Plating	Terminals	Btn.	Material	Part Number
TPC11CGPC004	round	std	1	0.4VA	Off-(On)	Off	1-3	Gold	pcb	black	RoHS compliant	1825098-1
TPC11CGRA004	10/48								right angle	red		1825098-2
TPC11CGRA204	UNS 2B											1825098-3
TPC11CGVRA004	thread								vertical r.a.	black		1825098-4
TPC11FGPC004					On-(On)	1-2	2-3		pcb			1825098-5
TPC11FGRA004									right angle			1825098-6
TPC11FGVRA004									vertical r.a.			1825098-7
TPC11FGVRA204										red		1825098-8
TPC13C004				1.0 A	Off-(On)	Off	1-3	Silver	wire lug	black		1825098-9
TPC13C204										red		1-1825098-0
TPC13CPC004									pcb	black		1-1825098-1
TPC13F004					On-(On)	1-2	2-3		wire lug			1-1825098-2
TPC21MGRA204			2	0.4VA	Off-(On)	Off	1-3, 4-6	Gold	right angle	red		1-1825098-3
TPC21RGPC004					On-(On)	1-2, 4-5	2-3, 5-6		pcb	black		1-1825098-4
TPC23M004				1.0 A	Off-(On)	Off	1-3, 4-6	Silver	wire lug			1-1825098-5
TPC23R204					On-(On)	1-2, 4-5	2-3, 5-6			red		1-1825098-6
TPCF11CGPC004		flush	1	0.4VA	Off-(On)	Off	1-3	Gold	pcb	black		1-1825098-7
TPCF11CGRA004									right angle			1-1825098-8
TPCF11FGRA004					On-(On)	1-2	2-3					1-1825098-9
TPCF13C004				1.0 A	Off-(On)	Off	1-3	Silver	wire lug			2-1825098-0
TPCF13F004					On-(On)	1-2	2-3					2-1825098-1
TPD11CGPC004	.259 (6.35)	n/a		0.4VA	Off-(On)	Off	1-3	Gold	pcb			1825099-1
TPD11CGPC204	dia									red		1825099-2
TPD11CGRA004	bushing,								right angle	black		1825099-3
TPD11CGRA204	not									red		1825099-4
TPD11CGRA604	threaded									blue		1825099-5
TPD11FGPC004					On-(On)	1-2	2-3		pcb	black		1825099-6
TPD11FGRA004									right angle			1825099-7
TPD11FGRA204										red		1825099-8
TPD21MGRA004			2		Off-(On)	Off	1-3, 4-6			black		1825099-9
TPD21RGPC004					On-(On)	1-2, 4-5	2-3, 5-6		pcb			1-1825099-0
TPF11CGPC004	round		1		Off-(On)	Off	1-3					1825100-1
TPF11CGPC204	1/4-40									red		1825100-2
TPF11CGRA004	UNS 2B								right angle	black		1825100-4
TPF11CGRA204	thread									red		1825100-5
TPF11CGRA604										blue		1825100-6
TPF11FGPC004					On-(On)	1-2	2-3		pcb	black		1825100-7
TPF11FGPC204										red		1825100-8
TPF11FGPC604										blue		1825100-9
TPF11FGRA004									right angle	black		1-1825100-1
TPF13C004				1.0 A	Off-(On)	Off	1-3	Silver	wire lug			1-1825100-2
TPF13C204										red		1-1825100-3
TPF13F204					On-(On)	1-2	2-3					1-1825100-4
TPF13F604										blue		1-1825100-5
TPF21MGPC004			2	0.4VA	Off-(On)	Off	1-3, 4-6	Gold	pcb	black		1-1825100-6
TPF21RGRA004					On-(On)	1-2, 4-5	2-3, 5-6		right angle			1-1825100-7
TPF23M004				1.0 A	Off-(On)	Off	1-3, 4-6	Silver	wire lug			1-1825100-8

TP_ES Series, Tiny, Process Sealed

Features

- Process and non-process sealed
- Compact design
- Vertical or right angle versions



Typical performance characteristics

Contact configuration SPST, SPDT, DPDT
 Contact timing Break-Before-Make
 Contact rating max. gold: 0.4VA @20VDC or peak AC
 silver: 1A @ 125VAC or 28 VDC resistive
 Electrical life 1 pole2 ..2 pole
 gold 100,000 ..80,000 cycles
 silver 60,000 ..50,000 cycles
 Contact resistance, initial. max.20 mOhms
 Insulation resistance 1,000 MOhms @ 500VDC
 Dielectric strength 1,000 Volts rms @ sea level
 Actuation force 0.5 to 4N (50-400gf)
 Actuator travel momentary .030" (.762)

Environmental specification

Operating temperature -30°C to +65°C
 Storage temperature -30°C to +65°C
 Solder heat resistance wave solder capable to 265° C
 Seal versions with process seal, with disposable cap

Material specifications

Contacts copper or brass, gold over nickel finish or silver
 clad with silver over nickel finish
 Actuator thermoplastic
 Terminals brass with gold over nickel or silver over nickel
 Case thermoplastic
 Frame and support bracket steel with tin over copper finish
 RoHS Directive 2002/95/EC compliant

Product key		Typical product key		TP	B		1	1	C	G	RA	ES	0	04
Type	TP	Tiny pushbutton series												
Bushing	B	round .188 (4.78) dia. bushing not threaded												
	F	round 1/4-40 UNS 2B thread												
Actuator	blank	standard												
	F	flush (available with B bushings only)												
Number of Poles	1	single pole												
Contact rating	1	0.4VA Gold												
Function	C	single throw, momentary												
	F	double throw, momentary												
Plating	G	Gold												
Terminals	PC	printed circuit board				RA	right angle (right angle, ES available with B and C bushing only)							
Process Seal	ES	process sealed with disposable boot, epoxied double case												
Button Color	0	black		2	red		6	blue						
Material	04	RoHS compliant												

TP_ES Series, Tiny, Process Sealed (Continued)

Bushing

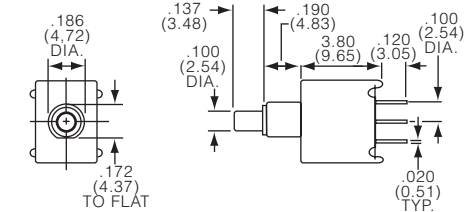


B, Round .188 (4.78) dia. bushing not threaded

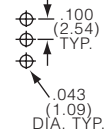
printed circuit board



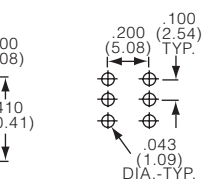
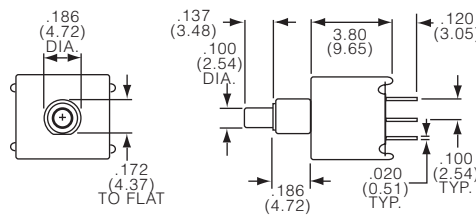
TPB11CGPCES



Note: no center terminal on 'C' function switch



TPB21RGPCES

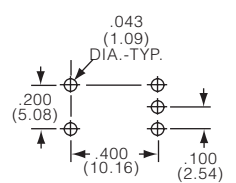
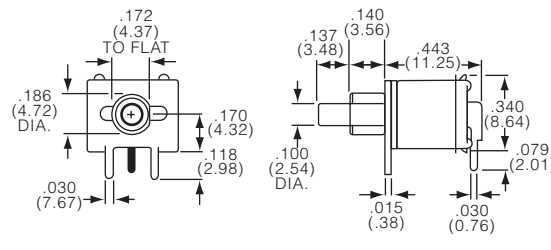


Note: no center terminals on 'M' function switch

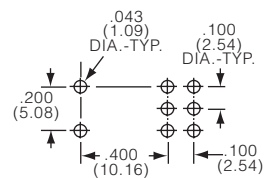
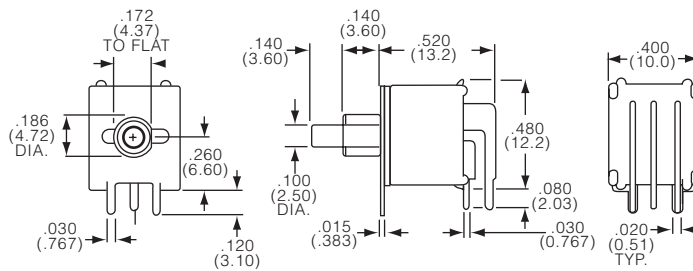
right angle



TPB11CGRAES



Note: no center terminal on 'C' function switch

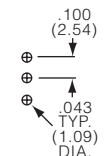
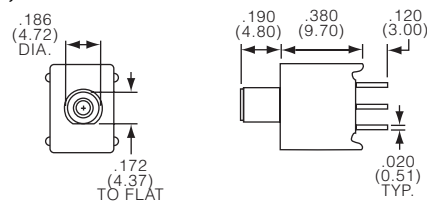


Note: no center terminals on 'M' function switch

printed circuit board, flush actuator



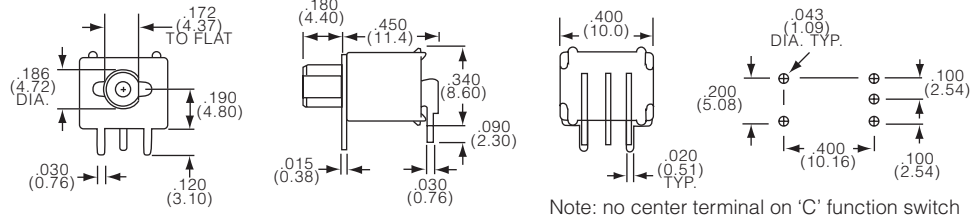
TPBF11CGPCES



Note: no center terminal on 'C' function switch

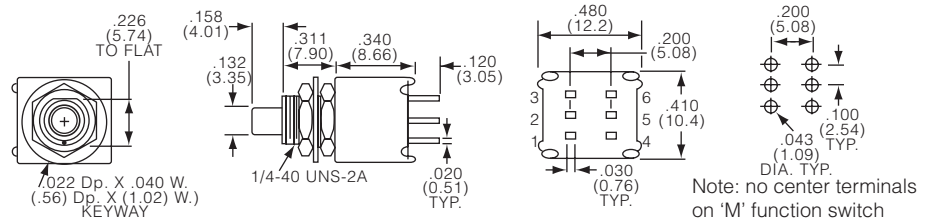
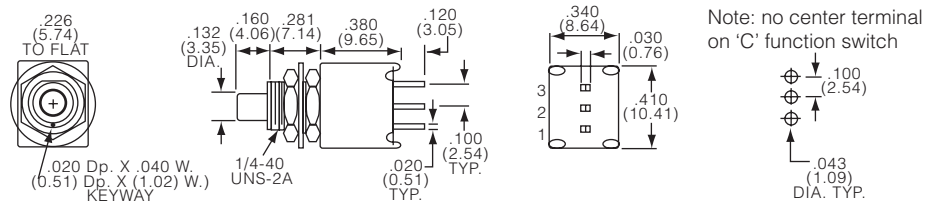
TP_ES Series, Tiny, Process Sealed (Continued)

right angle, flush actuator



F, Round 1/4-40 UNS 2B thread

printed circuit board



Product key	Bushing	Act.	Poles	Rating	Function			Plating	Terminals	Btn.	Material	Part Number
TPB11CGPCES004	round	std	1	0.4VA	Off-(On)	Off	1-3	Gold	pcb	black	RoHS compliant	1825097-3
TPB11CGRAES004	.188 (4.78)								right angle			1825097-5
TPB11CGRAES204	dia									red		1825097-7
TPB11FGPCES204	bushing, not threaded				On-(On)	1-2	2-3		pcb			1-1825097-0
TPB11FGRAES004									right angle	black		1-1825097-4
TPB11FGRAES604										blue		1-1825097-5
TPBF11CGPCES004		flush			Off-(On)	Off	1-3		pcb	black		2-1825097-0
TPBF11CGRAES004									right angle			2-1825097-2
TPBF11FGPCES004					On-(On)	1-2	2-3		pcb			2-1825097-3
TPBF11FGRAES004									right angle			2-1825097-6
TPF11CGPCES004	1/4-40	std			Off-(On)	Off	1-3		pcb			1825100-3
TPF11FGPCES004	UNS 2B				On-(On)	1-2	2-3					1-1825100-0

MSPM Series, Magnetic Reed, Long Life, Hermetically Sealed

Features

- Glass to metal hermetic seal
- Magnetic return (no springs)
- Wire lug or pc terminals
- Actuator cap and mounting hardware supplied



Typical performance characteristics

Contact configuration	SPST
Contact timing	Break-Before-Make
Contact rating max.	1.0 VA (100 mA max. 100 VDC max.)
Electrical life	at 0.1 VA: 5,000,000 cycles at 5 VA: 50,000 cycles
Contact resistance, initial	max. 100 mOhms
Insulation resistance	1,000 Mohms min.
Dielectric strength	1,000 Volts rms @ sea level
Actuation force	tactile "keyboard feel" 1.15 to 2 N (115 to 200 gf.) "breakaway reducing immediately to 0.43 N (43gf.) "follow-through"
Actuator travel	0.78" (2.0 mm)

Environmental specification

Operating temperature	-10°C to +80°C
Storage temperature	-10°C to +80°C
Solder heat resistance	hand solder
Seal	glass to metal

Material specifications

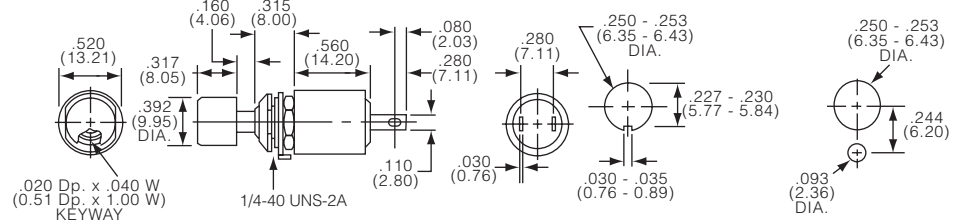
Contacts	copper alloy gold plated over nickel
Actuator	polyamide
Terminals	copper alloy gold plated over nickel
Case	steel
RoHS Directive 2002/95/EC	compliant

Product key	Typical product key		MSPM	101	B	1	04
Type							
MSPM	Pushbutton, magnetic reed, long life, hermetically sealed						
Version							
101	standard version						
Action							
B	normally closed, black button						
C	normally open, red cap						
Button							
blank	with button soft detent						
S	without button audible detent						
Terminals							
blank	pin	2	pin				
0	pin	1	wire lug				
Material							
04	RoHS compliant						

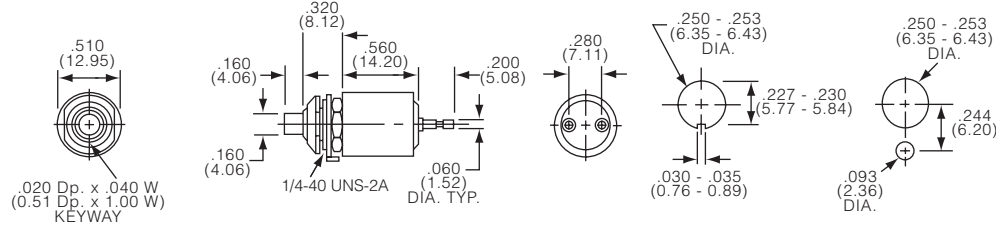
MSPM Series, Magnetic Reed, Long Life, Hermetically Sealed (Continued)

Button 

blank with button, soft detent, normally open or normally closed



S without button, audible detent, normally open or normally closed



Product key	Action	Button	Terminals	Material	Part Number
MSPM101B004	normally closed	with button	pin	RoHS	1825538-1
MSPM101B104	black button	soft detent	wire lug	compliant	1825538-2
MSPM101C104	normally open				1825538-3
MSPM101C204	red button		pin		1825538-4
MSPM101BS04	normally closed	without button			1825539-1
MSPM101BS104	black button	audible detent	wire lug		1825539-2
MSPM101CS04	normally open		pin		1825539-3
MSPM101CS104	red button		wire lug		1825539-4

MSPF Series, Front or Rear Mount, 15/32 Bushing

Features

- Versatile front or rear entry mounting
- Relative small depth for 15/32-32 size threaded switch
- Decroitive mounting hardware supplied, others available
- Various button (actuator) colors



Typical performance characteristics

Contact configuration SPST and 2 circuit
Contact timing Break-Before-Make
Contact rating max. 0.5 A @ 125 VAC
Electrical life 10,000 cycles
Contact resistance, initial max.100 mOhms
Insulation resistance 1,000 MOhms min.
Dielectric strength 1,000 Volts rms @ sea level
Actuation force 4.5 N (450 gf.)
Actuator travel098" (2.5 mm)

Environmental specification

Operating temperature -20°C to +80°C
Storage temperature -20°C to +80°C
Solder heat resistance hand solder
Seal epoxy sealed terminals

Material specifications

Contacts copper alloy silver plated
Actuator (button) thermoplastic
Terminals copper alloy silver plated
Case thermoset plastic
RoHS Directive 2002/95/EC compliant

Product key

Typical product key

MSPF 101 B

Type
MSPF Pushbutton switch, front or rear mount, 15/32-32 bushing

Version
101 standard version

Action
B NC, normally closed, black button
C NO, normally open, red button
BC NO & NC, 2 circuit normally open and normally closed

Button color (BC Action only)
0 black **6** blue
2 red **9** white

MSPF Series, Front or Rear Mount, 15/32 Bushing (Continued)

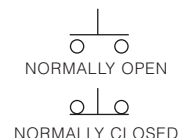
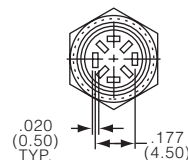
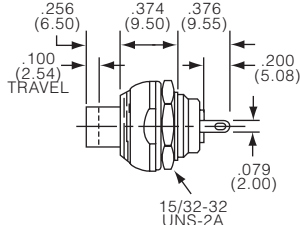
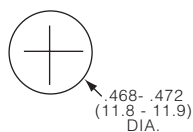
Action



Codes B, C normally closed or normally open, 1 circuit



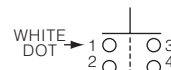
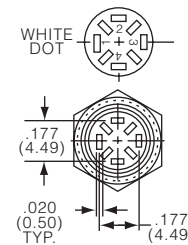
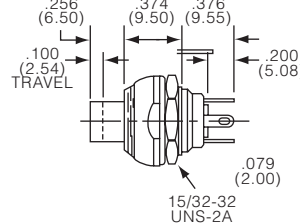
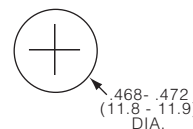
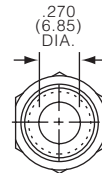
MSPF101B



Code BC normally closed and normally open, 2 circuits

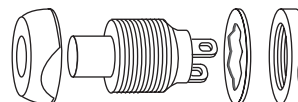


MSPF101BC



Mounting

Application note: Illustration shows versatile front or rear entry usage with hardware supplied



Product key	Action	Type	Button color	Terminals	Part Number
MSPF101B	normally closed	SPST	black	wire lug	8-1437567-8
MSPF101C	normally open		red		9-1437567-3
MSPF101BC0	NO/NC	2 circuit	black		8-1437567-9
MSPF101BC2			red		9-1437567-0
MSPF101BC6			bluw		9-1437567-1
MSPF101BC9			white		9-1437567-2

MPA103 Series, Panel Mount

Features

- Relatively high current carrying capacity for size of switch
- One piece bushing and shoulder designed to reduce tear off
- Decorative hardware supplied



Typical performance characteristics

Contact configuration	SPST SPDT
Contact timing	Break-Before-Make
Contact rating max.	3A @ 125VAC
Electrical life	10,000 cycles
Contact resistance, initial	20 mOhms max
Insulation resistance	1,000 MOhms min
Dielectric strength	1,000 Volts rms @ sea level
Actuator travel	.098" (2.5mm)
Actuator Force	SPST: 2.8 N (.283)
	SPDT: 4.5 N (.453kg)

Environmental specification

Operating temperature	-20°C to +70°C
Storage temperature	-40°C to +80°C
Solder heat resistance	hand solder 420°C max. 3 seconds max.

Material specifications

Contacts	copper alloy silver clad
Actuator (button)	phenol resin
Terminals	copper alloy silver plated
Case	thermoset plastic
RoHS Directive 2002/95/EC	compliant

Product key

Typical product key

MPA 103 C 04

Type

MPA Sub-Miniature Pushbutton

Version

103 standard

Action

B Normally Closed, momentary

C Normally Open, momentary

D

Push on/Push off - (tactile)

F

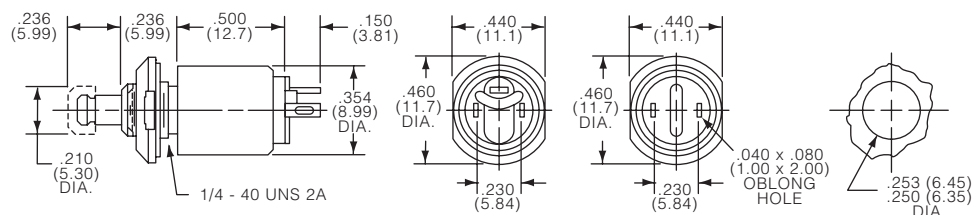
Momentary - (tactile)

Material

04 RoHS compliant



MPA103C



Black cap supplied. Other colors available, order separately (see accessories pushbuttons).

Product key	Action	Type	Terminals	Material	Part Number
MPA103B04	N/C	SPST	Wire Lug	RoHS compliant	1825403-1
MPA103C04	N/O				1825403-2
MPA103D04	Push on/Push off	SPDT			1825404-1
MPA103F04	Momentary				1825404-2

MSP103 Series, 2.5mm Travel, Panel Mount

Features

- MSP series over-travel design (self cleaning contacts) 3A
- MSPS butt contact design 0.5 A
- One piece bushing and sholder designed to reduce tear off
- Mounting hardware supplied, decorative hardware available



Typical performance characteristics

Contact configuration SPST
 Contact timing Break-Before-Make
 Contact rating max. MSP: 3 A @ 125 VAC
 MSPS: 0.5 A @ 125 VAC
 Electrical life 10,000 cycles
 Contact resistance, initial 100 mOhms max.
 Insulation resistance 1,000 mega ohms min.
 Dielectric strength 1,000 Volts rms @ sea level
 Actuator travel098" (2.5 mm)

Environmental specification

Operating temperature -20°C to +80°C
 Storage temperature -20°C to +80°C
 Solder heat resistance hand solder 420°C max. 3 seconds max.

Material specifications

Contacts copper alloy silver plated
 Actuator (Button) thermoplastic
 Terminals copper alloy silver plated
 Case MPS: phenol resin, MSPS: thermoset plastic
 RoHS Directive 2002/95/EC compliant

Product key

Typical product key

MSP

103

B

04

Type

MSP Pushbutton switch, 2.5mm travel, panel mount

Contact

103 3 A @125 VAC

S103 0.5 A @125 VAC

Action/button color

B NC, normally closed, black actuator

C NO, normally open, red actuator (contact version 103 only)

C0 NO, normally open, black actuator

C2 NO, normally open, red actuator, long bushing

Material

04 RoHS compliant

blank RoHS compliant

MSP103 Series, 2.5mm Travel, Panel Mount (Continued)

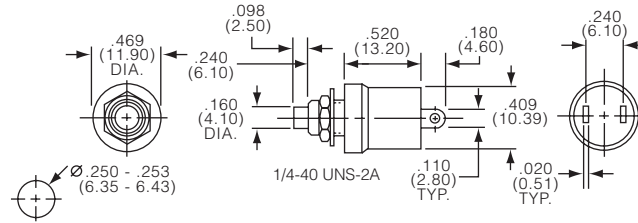
Contact



103 3 A contact



MSP103B

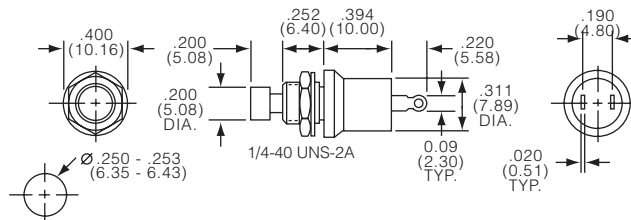


Contact	Action	Bushing len.
103	B	6.00mm (.236)
	C	6.00mm (.236)
	C0	6.00mm (.236)
	C2	9.50mm (.374)

S103 0.5 A contact



MSPS103B



Contact	Action	Bushing len.
S103	B	6.22mm (.245)
	C0	6.22mm (.245)
	C2	6.22mm (.245)

Product key	Contact	Action	Type	Button color	Terminals	Material	Part Number
MSP103B04	3 A	N/C	SPST	black	wire lug	RoHS	1825516-1
MSP103C04	@125 VAC	N/O		red		compliant	1825516-2
MSP103C004				black			1825516-3
MSP103C204				red			1825516-4
MSPS103B	0.5 A	N/C		black			1437568-5
MSPS103C0	@125 VAC	N/O					1437568-7
MSPS103C2				red			1437568-6

MPS Series, Snap Action

Features

- Wire lug or pc terminals
- Customer selected actuator cap size and color
- Entire series epoxy sealed terminals
- Actuator guards, decorative hardware, and silicone boot seals available



Typical performance characteristics

Contact configuration..... SPDT, DPDT
 Contact timing..... Break-Before-Make
 Contact rating max..... 3 A @ 125 VAC
 Electrical life..... 50,000 cycles
 Contact resistance, initial..... 10 mOhms max.
 Insulation resistance..... 1,000 MOhms min.
 Dielectric strength..... 1,500 Volts rms @ sea level
 Actuation force..... 200-700 gf
 Actuator travel..... momentary .04 (1.0mm)
 push on/off .098 (2.5mm)

Environmental specification

Operating temperature..... -15°C to +70°C
 Storage temperature..... -15°C to +70°C
 Solder heat resistance..... wave solder capable to 265°C
 and hand solder
 Seal..... epoxy sealed terminals

Material specifications

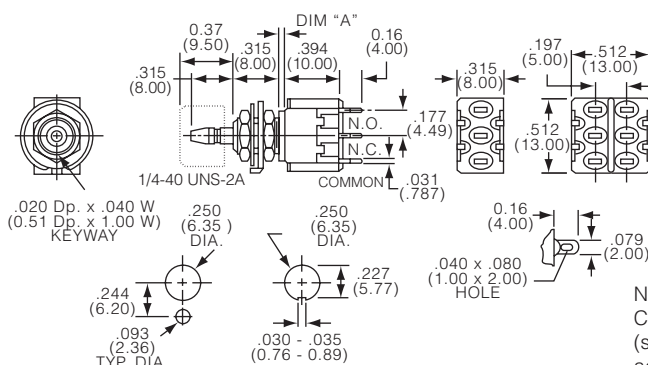
Contacts..... phosphor bronze silver clad
 Actuator..... copper alloy nickel plated
 Terminals..... copper alloy silver plated
 Case..... epoxy resin
 Frame..... stainless steel
 Support Bracket..... brass tin plated
 RoHS Directive 2002/95/EC..... compliant

Product key		Typical product key		MPS	1	03	F	PC	04
Type									
MPS	Pushbutton Switches, Snap Action, 3Amp								
Poles									
1	1 pole			2	2 poles				
Contact									
03	3 A @125 VAC								
Function									
D	single pole			N	double pole				
F	Push-On/Push-Off momentary			R	Push-On/Push-Off momentary				
Terminals									
blank	wire lug			RA	right angle PC terminal				
PC	printed circuit board			WW	wire wrap or extended PC				
PCV	printed citrcuit board, with support								
Material									
04	RoHS compliant								

Fct.	Poles				
D	1	On	On	3-2	3-1
F	1	On	(On)	3-2	3-1
N	2	On	On	3-2, 6-5	3-1, 6-4
R	2	On	(On)	3-2, 6-5	3-1, 6-4

Off	indicates a mechanical position with no electrical connection
(On)	indicates momentary connection

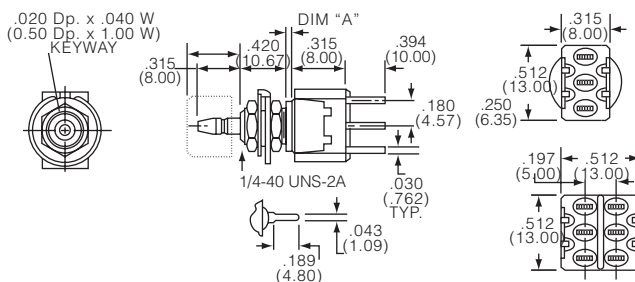
blank wire lug



Funct	Action	Dim A
D	1p, push-On/Off	2.54 (.100)
F	1p, momentary	1.016 (.040)
N	2p, push-On/Off	2.54 (.100)
R	2p, momentary	1.016 (.040)

Note: hardware included with switches.
Caps not supplied, order separately
(see cap model C22 and C23 under
accessories)

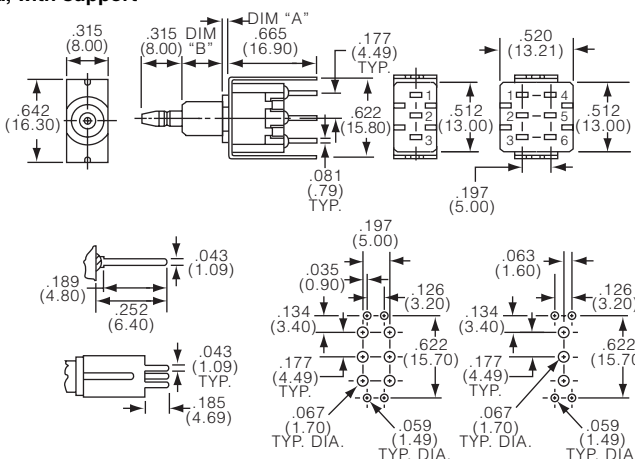
MPS103FPC



Funct	Action	Dim A
D	1p, push-On/Off	2.54 (.100)
F	1p, momentary	1.016 (.040)
N	2p, push-On/Off	2.54 (.100)
R	2p, momentary	1.016 (.040)

Caps not supplied, order separately (see cap model C22 and C23 under accessories)

MPS103FPCV

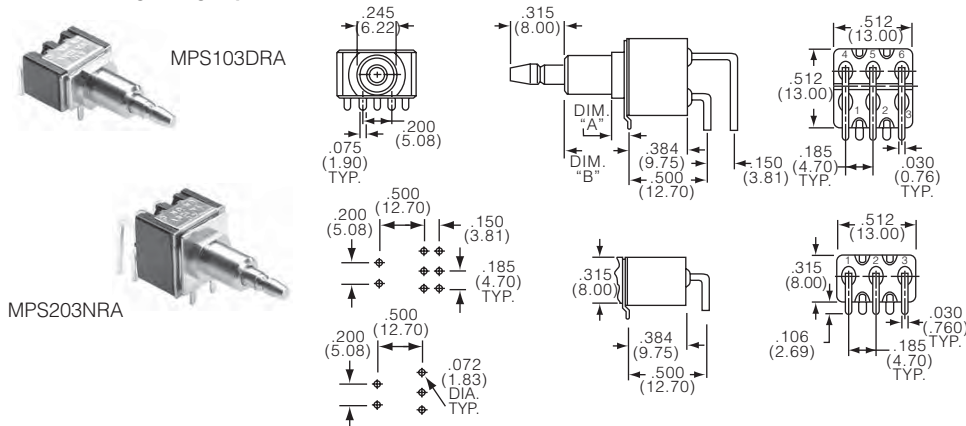


Funct	Dim A	Dim B
D	2.03 (.080)	8.00 (.315)
F	1.01 (.040)	7.49 (.295)
B	1.01 (.040)	7.49 (.295)

Caps not supplied, order separately (see cap model C22 and C23 under accessories)

MPS Series, Snap Action (Continued)

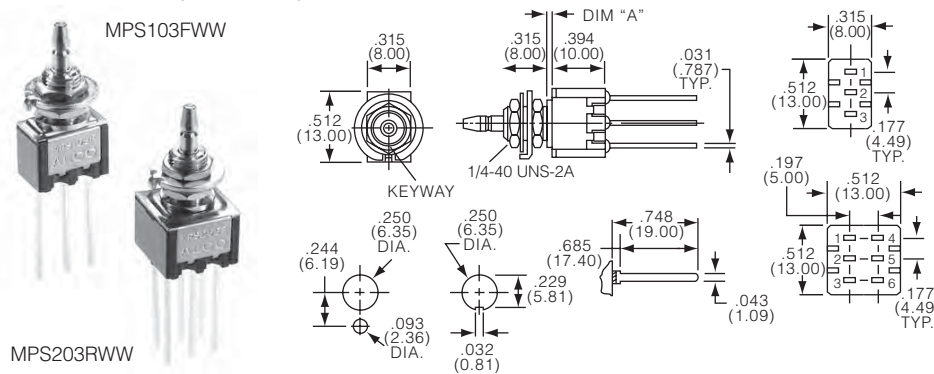
RA right angle, printed circuit board



Funct	Dim A	Dim B
D	2.54 (.100)	10.7 (.432)
F	1.52 (.060)	9.24 (.364)
N	2.54 (.100)	10.7 (.432)
R	1.52 (.060)	9.24 (.364)

Caps not supplied, order separately (see cap model C22 and C23 under accessories)

WW wire wrap, extended pcb



Funct	Action	Dim A
F	1p, momentary	1.016 (.040)
N	2p, push-On/Off	2.54 (.100)
R	2p, momentary	1.016 (.040)

Caps not supplied, order separately (see cap model C22 and C23 under accessories)

Product key	Poles	Contact	Function	Terminals	Material	Part Number
MPS103D04	single pole	3 A @125 VAC	Push-On/Push-Off	solder lug	RoHS compliant	1825092-1
MPS103DPC04				printed circuit board		1825399-1
MPS103DPCV04				PCB, with support		1825401-1
MPS103DRA04				right angle PCB		1825400-1
MPS103F04	double pole		momentary	solder lug		1825092-2
MPS103FPC04				printed circuit board		1825399-2
MPS103FPCV04				PCB, with support		1825401-2
MPS103FRA04				right angle PCB		1825400-2
MPS103FWW04			Push-On/Push-Off	wire wrap		1825402-1
MPS203N04				solder lug		1825092-3
MPS203NPC04				printed circuit board		1825399-3
MPS203NPCV04				PCB, with support		1825401-3
MPS203NRA04			momentary	right angle PCB		1825400-3
MPS203R04				solder lug		1825092-4
MPS203RPC04				printed circuit board		1825399-4
MPS203RPCV04				PCB, with support		1825401-4
MPS203RRA04				right angle PCB		1825400-4
MPS203RWW04				wire wrap		1825402-2

MP / A / E / G, Green Series

Features

- Wire lug or pC terminals
- Customer selected actuator cap size and color on MPA series
- MPE series sealed to IP65
- Entire series with epoxy sealed terminals
- Actuator guards, decorative hardware, and silicone boot seals available



Typical performance characteristics

Contact configuration SPDT, DPDT, 3PDT, 4PDT
 Contact timing Break-Before-Make
 Contact rating max. 6 A @ 125 VAC, 3 A @ 250 VAC
 Electrical life push on/push off: 30,000 cycles
 momentary: . 20,000 cycles
 Contact resistance, initial. 10 mOhms max.
 Insulation resistance 1,000 MOhms min.
 Dielectric strength. 1,500 Volts rms @ sea level
 Actuation force 4 to 20 N (400 to 2000 gf)
 Actuator travel 3.55 mm

Environmental specification

Operating temperature -20°C to +80°C
 Storage temperature -40°C to +80°C
 Solder heat resistance wave solder capable to 265°C
 Seal mpe switches IP65

Material specifications

Contacts copper alloy silver clad
 Actuator brass nickel plated
 Terminals copper alloy gold plated
 Case alkyd polyester (green)UL94 V-O
 Frame stainless steel
 RoHS Directive 2002/95/EC compliant

Product key		Typical product key		MP	A	1	06	D	04
Type	MP	Green Series Pushbutton Switches, panel mount							
Bushing style		A		1/4-40 3.4mm actuator					
		E		1/4-40 3.4mm actuator with 'O' rings					
		G		15/32-32 large actuator					
Number of poles		1		single pole		3		3 poles	
		2		double pole		4		4 poles	
Rating		06		6 Amp					
Function		D		1 & 3 pole push-on/push-off		N		2 & 4 pole push-on/push-off	
		F		momentary		R		momentary	
Terminals		blank		wire lug		PC		printed circuit board	
Material		04		RoHS compliant					

MP / A / E / G, Green Series (Continued)

Bushing style A



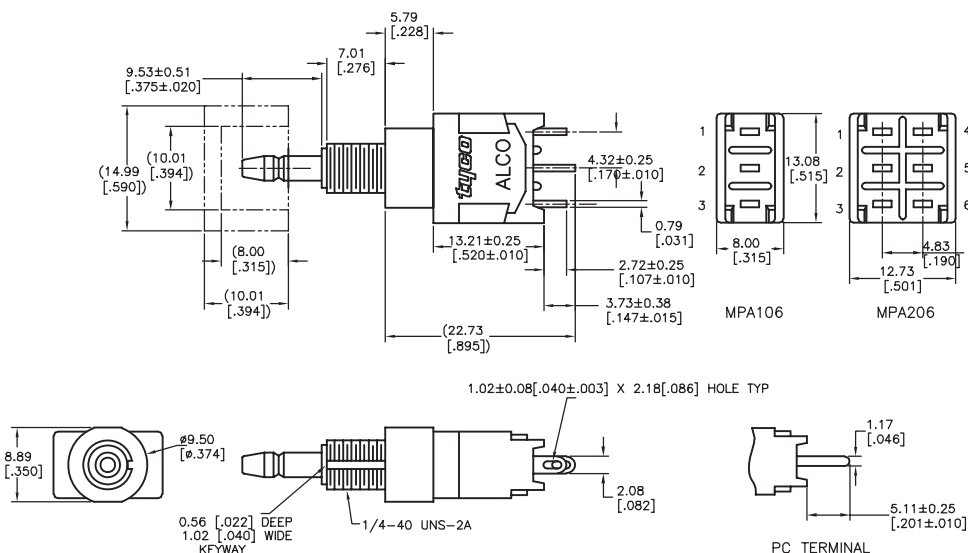
single & double pole



MPA106D



MPA206N



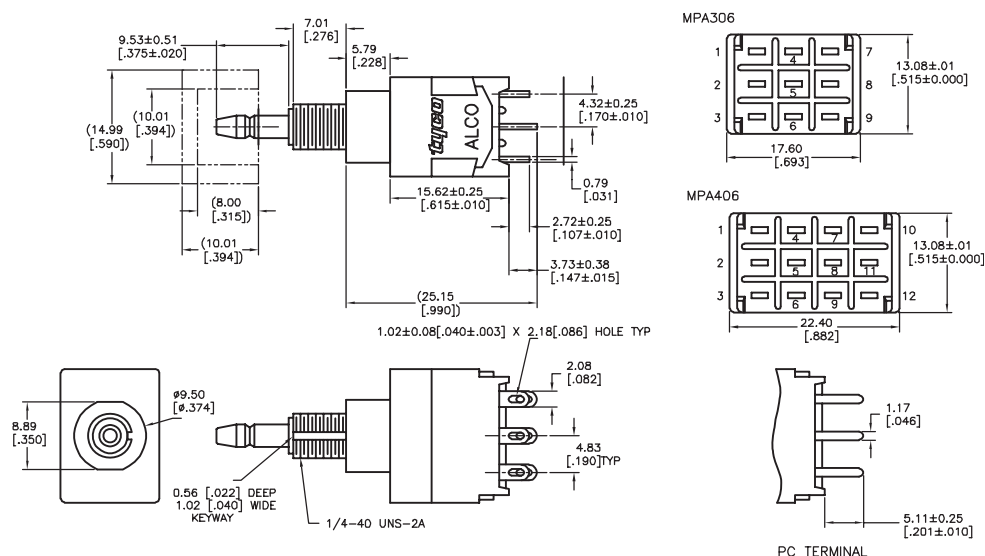
3 & 4 pole



MPA306D

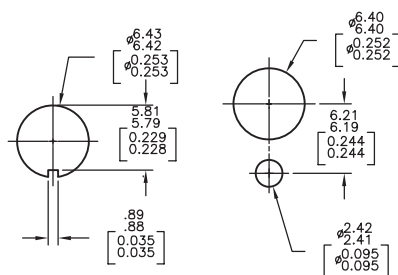


MPA406N

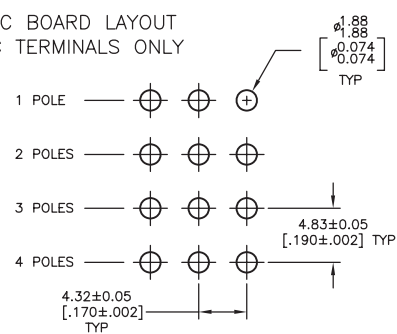


mounting

RECOMMENDED HOLE LAYOUT TO PREVENT ROTATION



PC BOARD LAYOUT PC TERMINALS ONLY



MP / A / E / G, Green Series (Continued)

Bushing style E



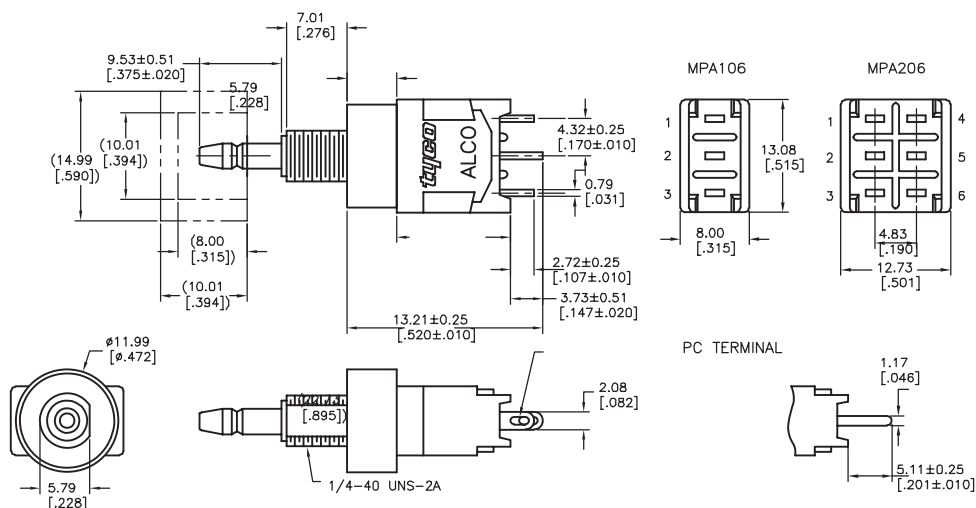
single & double pole



MPE106D



MPE206N



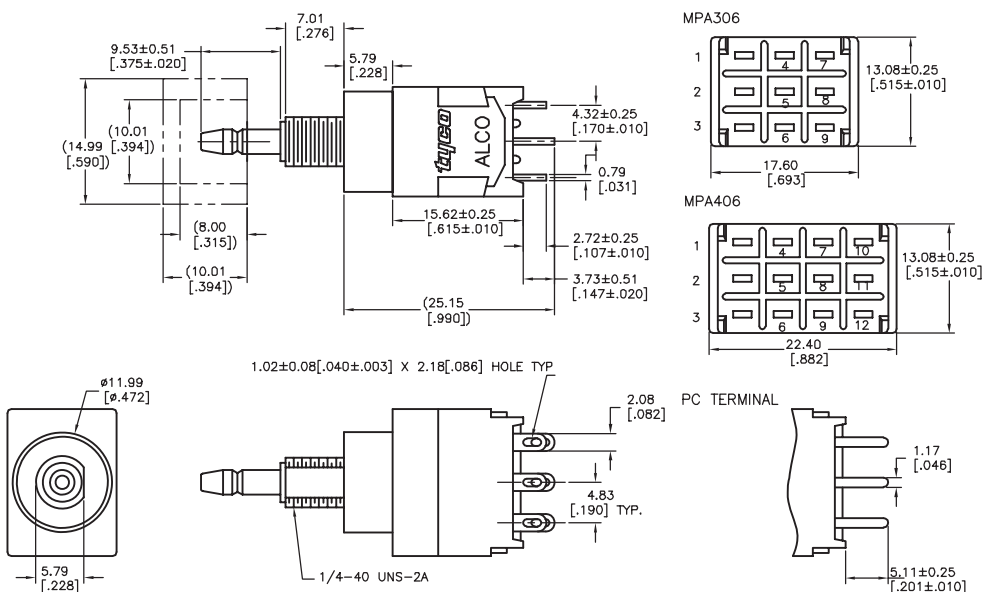
3 & 4 pole



MPE306F

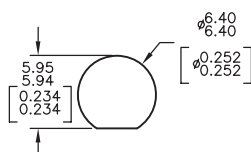


MPE406N

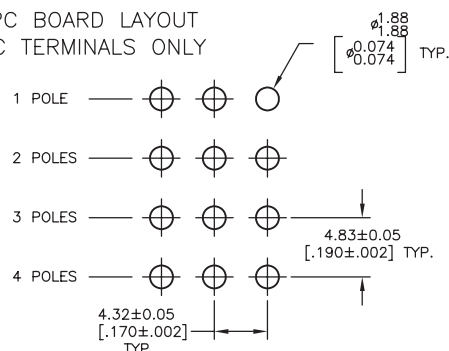


mounting

RECOMMENDED HOLE LAYOUT
TO PREVENT ROTATION



PC BOARD LAYOUT
PC TERMINALS ONLY



MP / A / E / G, Green Series (Continued)

Bushing style G



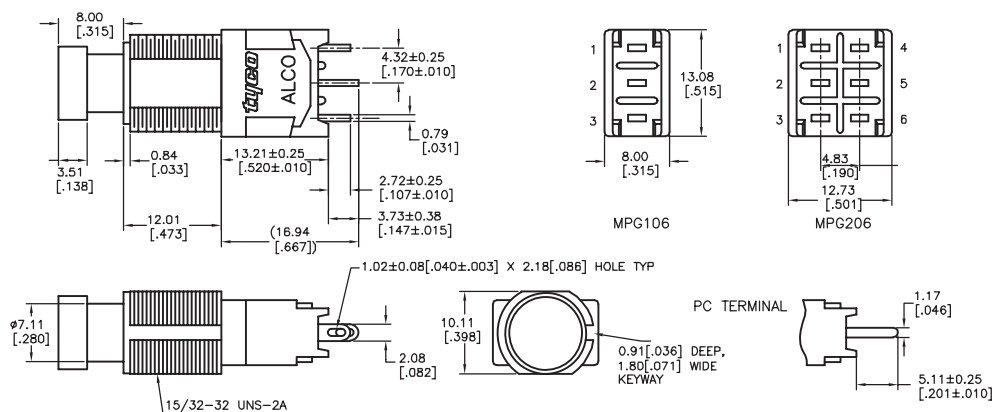
single & double pole



MPG106D



MPG206NPC



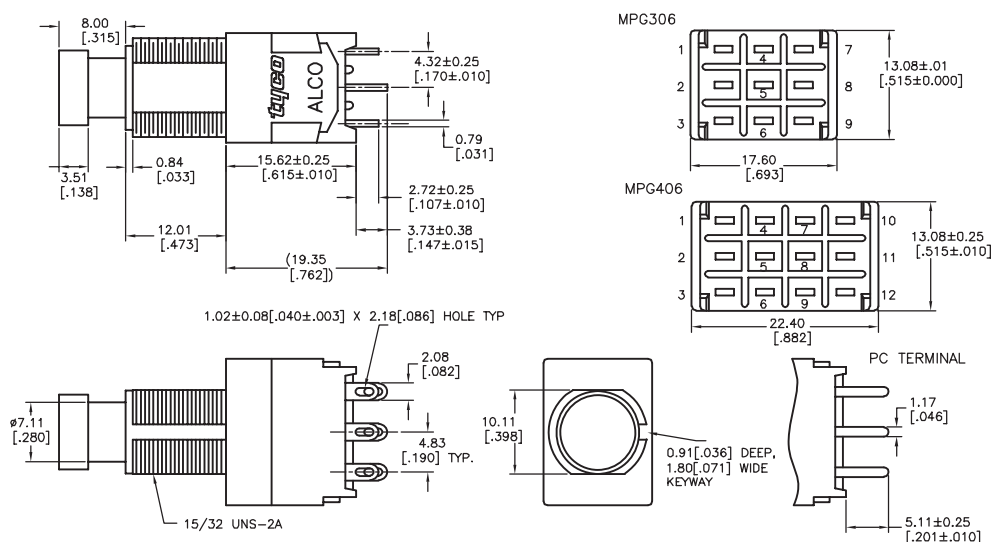
3 & 4 pole



MPG306D

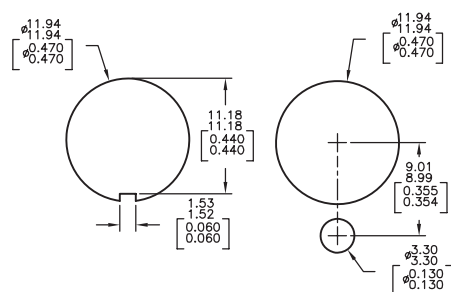


MPG406N

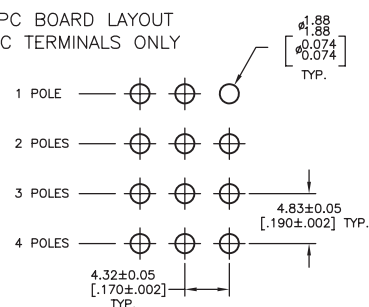


mounting

RECOMMENDED HOLE LAYOUT
TO PREVENT ROTATION



PC BOARD LAYOUT
PC TERMINALS ONLY



MP / A / E / G, Green Series (Continued)

Function



Fct.	Poles				
D	1	On	On	2-1	2-3
F	1	On	(On)	2-1	2-3
N	2	On	On	2-1, 5-4	2-3, 5-6
R	2	On	(On)	2-1, 5-4	2-3, 5-6
D	3	On	On	2-1, 5-4, 8-7	2-3, 5-6, 8-9
F	3	On	(On)	2-1, 5-4, 8-7	2-3, 5-6, 8-9
N	4	On	On	2-1,5-4,8-7,11-10	2-3,5-6,8-9,11-12
R	4	On	(On)	2-1,5-4,8-7,11-10	2-3,5-6,8-9,11-12

Off indicates a mechanical position with no electrical connection
(On) indicates momentary connection

Product key	Bushing	No. of poles	Rating	Function	Terminals	Material	Part Number
MPA106D04	1/4-40	single pole	6 Amps	push-on/push-off	wire lug	RoHS compliant	1825040-1
MPA106F04	3.4mm			momentary			1825040-2
MPA106DPC04	actuator			push-on/push-off	pcb		1825040-3
MPA106FPC04				momentary			1825040-4
MPA206N04		double pole		push-on/push-off	wire lug		1825040-5
MPA206NPC04					pcb		1825040-6
MPA206R04				momentary	wire lug		1825040-7
MPA206RPC04					pcb		1825040-8
MPA306D04		3 poles		push-on/push-off	wire lug		1825040-9
MPA306F04				momentary			1-1825040-0
MPA406N04		4 poles		push-on/push-off			1-1825040-1
MPA406R04				momentary			1-1825040-2
MPE106D04	1/4-40	single pole		push-on/push-off			1825041-1
MPE106F04	3.4mm			momentary			1825041-2
MPE206N04	actuator	double pole		push-on/push-off			1825041-3
MPE206R04	with 'O' ring			momentary			1825041-4
MPE306D04		3 poles		push-on/push-off			1825041-5
MPE306F04				momentary			1825041-6
MPE406N04		4 poles		push-on/push-off			1825041-7
MPE406R04				momentary			1825041-8
MPG106D04	15/32-32	single pole		push-on/push-off			1825042-1
MPG106DPC04	large			push-on/push-off	pcb		1825042-2
MPG106F04	actuator			momentary	wire lug		1825042-3
MPG106FPC04					pcb		1825042-4
MPG206N04		double pole		push-on/push-off	wire lug		1825042-5
MPG206NPC04					pcb		1825042-6
MPG206R04				momentary	wire lug		1825042-7
MPG206RPC04					pcb		1825042-8
MPG306D04		3 poles		push-on/push-off	wire lug		1825042-9
MPG306F04				momentary			1-1825042-0
MPG406N04		4 poles		push-on/push-off			1-1825042-1
MPG406R04				momentary			1-1825042-2

Preferred parts in bold print

A60 Series, THT

Features

- Approved construction
- 2 different actuator lengths
- 2 Change-over contacts
- Versions with sealed base available



Typical performance characteristics

Contact configuration	DPDT
Contact timing	Break-before-Make timing
Contact rating max	0,5 A @ 60 V AC/DC
Electrical life	>10,000 cycles (200 mA @ 15 VAC)
Mechanical life	20,000 cycles
Contact resistance	max 40 mOhm
Insulation resistance	min. 10,000 MOhm
Dielectric strength	500 VAC
Actuator travel	momentary 3.3 mm

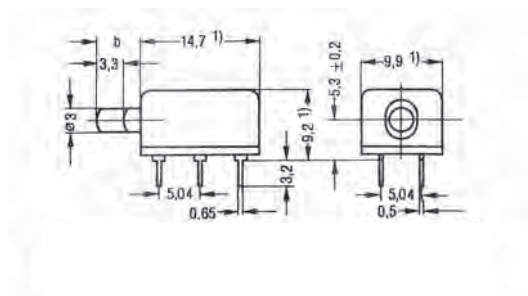
Environmental specification

Operating temperature	-25°C to +85°C
Storage temperature	-25°C to +85°C
Solder heat resistance	265°C/ 10s wave

Material specifications

Base	pc-gf
Cover	psu
Contacts	copper alloy gold finish
Terminals	copper alloy tin finish
actuator	pom
RoHS compliance	compliant

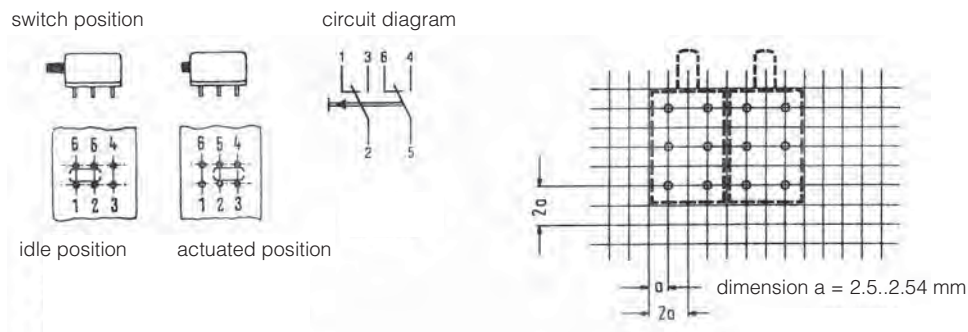
Dimensions



dimension b = 5.4 mm or 9.4 mm

A60 Series, THT (Continued)

Function, Mounting

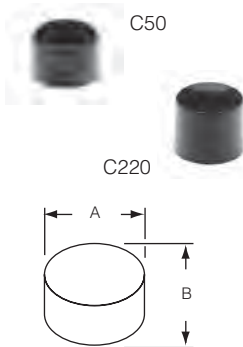


Product key	Actuator	Sealed base	Material	Part Number
C42315A60A3	standard	no	RoHS compliant	1393683-1
C42315A60A4	long	no		1393683-2
C42315A60A13	standard	yes		1393683-3
C42315A60A14	long	yes		1393683-4

Accessories

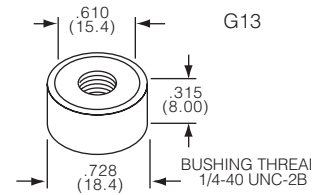
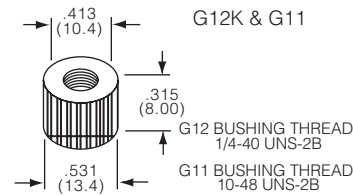


Caps



Product key	for	Color	Diam A	Length B	Material	Part Number
C50	MPA3	black	4.95 (.195)	3.05 (.120)	RoHS compliant	6-1437627-2
C52		red				6-1437627-3
C55		green				6-1437627-5
C59		white				6-1437627-6
C80		black	7.87 (.310)	4.06 (.160)		6-1437627-7
C82		red				6-1437627-8
C85		green				6-1437627-9
C89		white				7-1437627-0
C9004	MPG	black	9.00 (.354)	3.47 (.137)		1825070-1
C9204		red				1825070-2
C9604		orange				1825070-3
C9904		yellow				1825070-4
C22004	MPS/MSPM MPE/MPA6	black	10.2 (.402)	8.00 (.315)		1825068-1
C22204		red				1825068-2
C22304		orange				1825068-3
C22404		yellow				1825068-4
C22504		green				1825068-5
C22604		blue				1825068-6
C22904		white				1825068-7
C23004		black	15.2 (.600)	10.0 (.394)		1825069-1
C23204		red				1825069-2
C23304		orange				1825069-3
C23404		yellow				1825069-4
C23504		green				1825069-5
C23604		blue				1825069-6
C23904		white				1825069-7

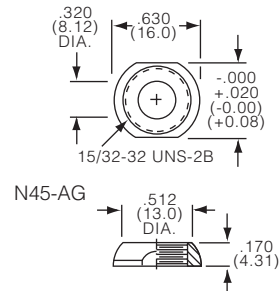
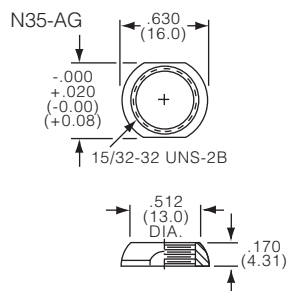
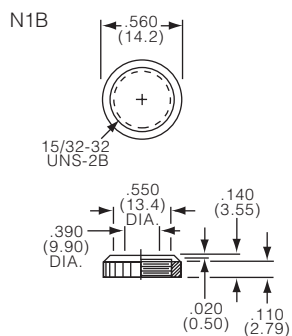
Guards



Product key	Thread	Color	Texture	Material	Part Number
G11A	10-48	natural Aluminum	smooth	RoHS compliant	7-1437627-6
G11B		black Aluminum			7-1437627-7
G11C		chrome brass			7-1437627-8
G11KA	natural Aluminum	straight knurl	7-1437627-9		
G11KB	black Aluminum		8-1437627-0		
G12A	1/4-40	natural Aluminum	smooth		8-1437627-1
G12B		black Aluminum			8-1437627-2
G12C		chrome brass			8-1437627-3
G12KA	natural Aluminum	straight knurl	8-1437627-4		
G12KB	black Aluminum		8-1437627-5		
G12KC	chrome brass		8-1437627-6		
G13A		natural Aluminum	smooth		8-1437627-7
G13B		black Aluminum			8-1437627-8
G13C		chrome brass			8-1437627-9
G13KA	natural Aluminum	straight knurl	9-1437627-0		
G13KB	black Aluminum		9-1437627-1		
G13KC	chrome brass		9-1437627-2		
G15	15/32-32		smooth		9-1437627-3

Accessories (Continued)

Decorative Hardware



Product key	Thread	Material	Part Number
N1B04	15/32-32	RoHS compliant	1825622-2
N3504			1825621-2
N4504			1825623-3

BP Series Boot Seals

Features

- One piece design, nut over molded "bonded" to silicone boot element
- Silicone rubber eliminates cure dates
- Protects against moisture, oil, dirt, dust, most solvents, and some acids



Environmental specification

Operating temperature -65°C to 265°C

Material specifications

Boot material silicone rubber
Threaded nut material, and finish..... brass nut, black oxide finish
RoHS Directive 2002/95/EC compliant

Product key

Typical product key

BP 1532 0 04

Type

BP Pushbutton boot seals

Nut thread

1048 10-48 UNS 2-B
A1440 1/4-40 UNS 2-B
1440 1/4-40 UNS 2-B
1532 15/32-32 UNS 2-B
2010 1/4-40 UNS 2B with knurl

Color

0 black **2** red **8** gray

Material

04 RoHS compliant

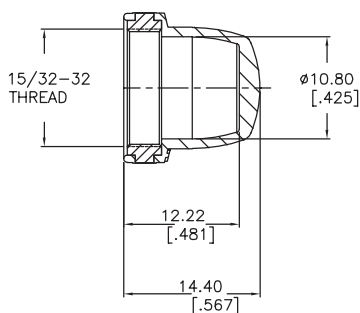
Nut thread



1048 10-48 UNS 2-B, suited for MSPF and MPG series switches



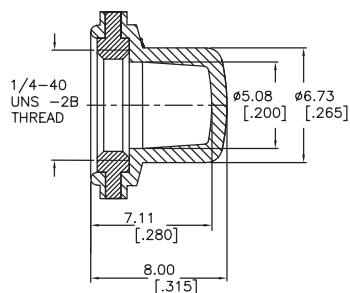
BP1048004



A1440 1/4-40 UNS 2-B, suited for MSPMBS, MSPMCS, MSP3, MPA3, TP series switches



BPA1440004

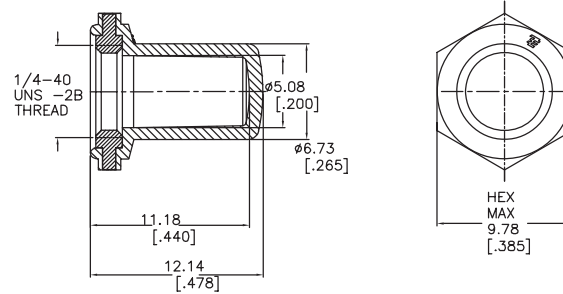


BP Series Boot Seals (Continued)

1440 1/4-40 UNS 2-B, suited for MSPM,MPA3,MPS and TP series switches



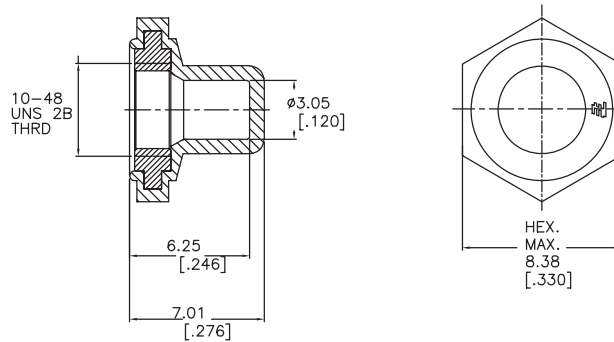
BP1440004



1532 15/32-32 UNS 2-B, suited for TP series switches



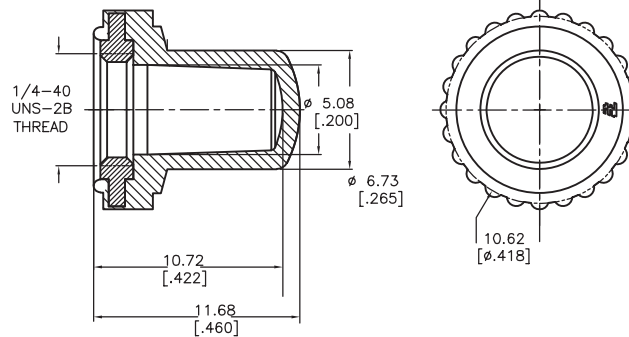
BP1532004



2010 1/4-40 UNS 2B with knurl, suited for MSPM,MSP3,MPA3, and TP series switches



BP201004



Product key	Used on switch type	Nut thread	Color	Material	Part Number
15/32-32 Pushbutton Boot Seals					
BP1532004	MSPF and MPG series	15/32-32	black	RoHS compliant	1825603-1
BP1532204			red		1825603-2
BP1532804			gray		1825603-3
1/4-40 Pushbutton Boot Seals					
BPA1440004	MSPMBS,MSPMCS,MSP3,MPA3,TP series	1/4-40	black	RoHS compliant	1825604-1
BPA1440204			red		1825604-2
BPA1440804			gray		1825604-3
BP1440004	MSPM,MPA3,MPS and TP series		black		1825610-1
BP1440204			red		1825610-2
BP1440804			gray		1825610-3
10-48 Pushbutton Boot Seals					
BP1048004	TP series	10-48	black	RoHS compliant	1825615-1
BP1048204			red		1825615-2
1/4-40 Knurled Pushbutton Boot Seal					
BP201004	MSPM,MSP3,MPA3, and TP series	1/4-40	black	RoHS compl.	1825617-2

BP Series Panel Seal

Features

- Unique design allows 1/4-40 threaded switch on almost any panel thickness
- Fits in a 15/32" (11.9mm) or 1/2" (12.7mm) diameter panel hole.
- Multiple cap colors available



Material specifications

Cap material. silicone rubber
Housing material ABS thermoplastic black
Jam nut, spacer material & finish brass nickel plated
RoHS Directive 2002/95/EC compliant

Product key

Typical product key

BP M 1532 0 04

Type

BP Pushbutton switch panel seal

Switch series

M MPA Series
T TP & TP_ES Tiny Series

Nut thread

1532 15/32-32 UNS 2-A

Color

0 black **2** red **8** gray

Material

04 RoHS compliant

BP Series Panel Seal (Continued)

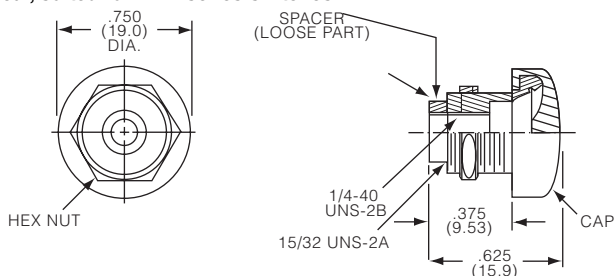
Switch series



BPM BPM Series panel seal, suited for MPA series switches



BPM1532004

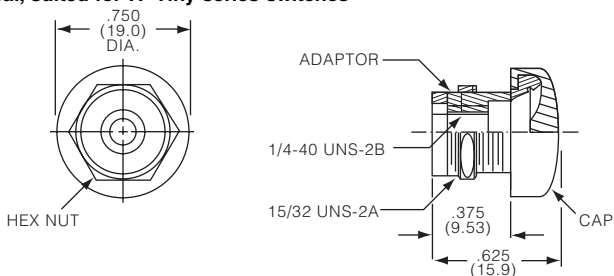


For use with Miniature Pushbutton
The BPM seal adaptor accommodates all
Tyco MPA Series of pushbutton switches
utilizing the 1/4-40 threaded bushing.

BPT BPT Series panel seal, suited for TP Tiny series switches



BPT1532804



For use with Tiny Series TPF Pushbutton
The BPT seal adaptor accommodates all
Tyco TPF Series Tiny Pushbutton switches
utilizing the 1/4-40 threading bushing.

Product key	Used on switch type	Color	Material	Part Number
BPM1532004	MPA series	black	RoHS compliant	1825618-1
BPM1532204		red		1825618-2
BPM1532804		gray		1825618-3
BPT1532004	TP Tiny series	black		1825599-3
BPT1532204		red		1825599-1
BPT1532804		gray		1825599-2

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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