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 Sealed . . . . . .page D3

TP Series, Tiny . . . . . .page D6

TP_ES Series, Tiny, Process Sealed . . . . . .page D15

MSPM Series, Magnetic Reed, Long Life, Hermetically Sealed . . . . . .page D18

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Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

Product Range (Continued)

MSPF Series, Front or Rear Mount, 15/32 Bushing . . . . . .page D20

MPA103 Series, Panel Mount . . . . . .page D22

MSP103 Series, 2.5mm Travel, Panel Mount . . . . . .page D23

MPS Series, Snap Action . . . . . .page D25

MP / A / E / G Green Series . . . . . .page D28

A60 Series . . . . . .page D33

Accessories . . . . . .page D35

BP Series Boot Seals . . . . . .page D37

BP Series Panel Seals . . . . . .page D39

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Issued 09/2008

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TSP Series, Tiny, Process Sealed

Features

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

Typical performance characteristics

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)

Environmental specification

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

Material specifications

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
PCV printed circuit board, w bracket
RA right angle
VRA vertical right angle
WW wire wrap

Button Color
0 black
2 red

Material
04 RoHS compliant

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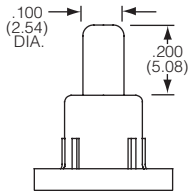
TSP Series, Tiny, Process Sealed (Continued)

Actuator

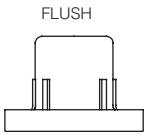
blank, F

standard actuator, flush actuator

blank,standard actuator



F, flush actuator

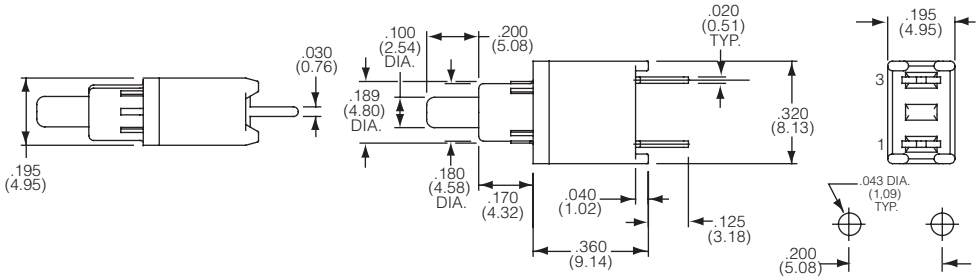


Terminations

PC

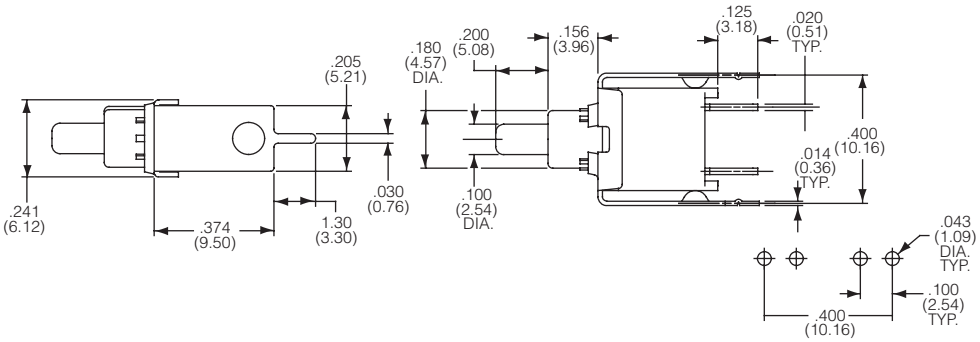
printed circuit board

TSPD11CPC004



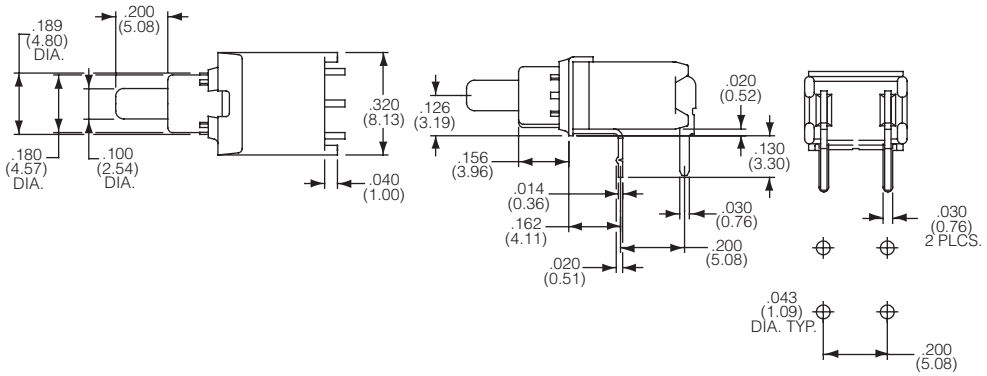
PCV

printed circuit board with vertical bracket



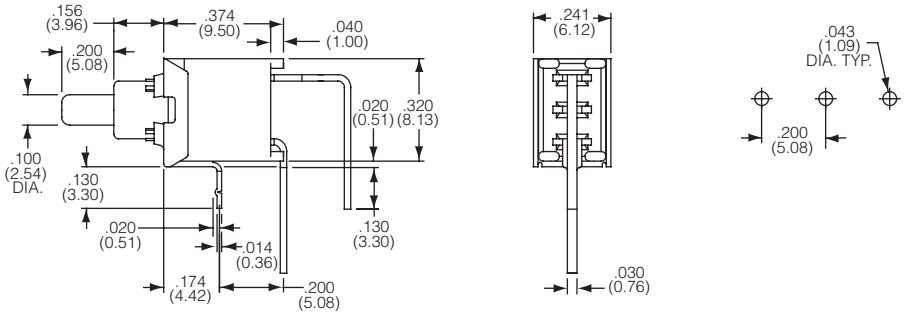
RA

right angle

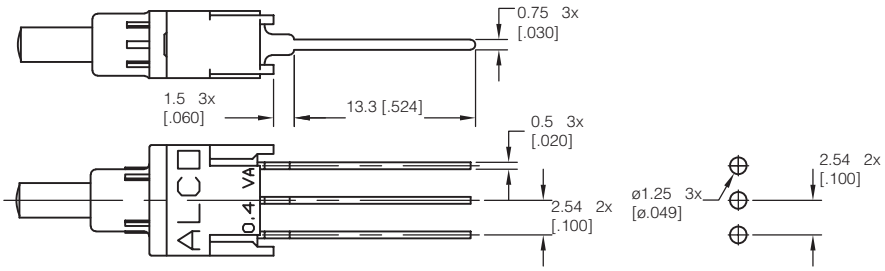


TSP Series, Tiny, Process Sealed (Continued)

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

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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
- **PC** printed circuit board
- **RA** right angle
- **VRA** vertical, right angle (available only in single pole)

Button Color
- **0** black
- **2** red
- **6** blue

Material
- **04** RoHS compliant

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TP Series, Tiny (Continued)

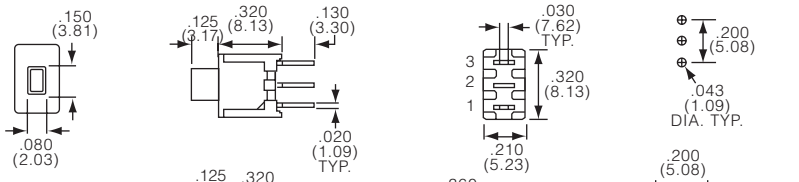
Bushing

blank, square, no bushing

printed circuit board

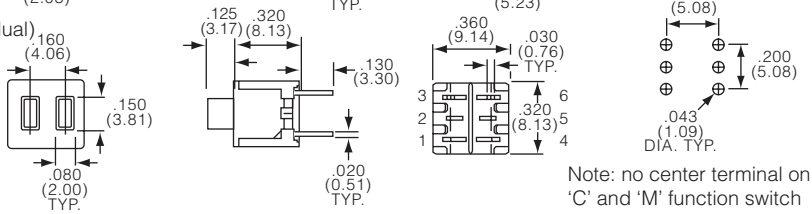
TP11CGPC004

Single pole



TP21CCGPC004

2 x Single pole (dual)

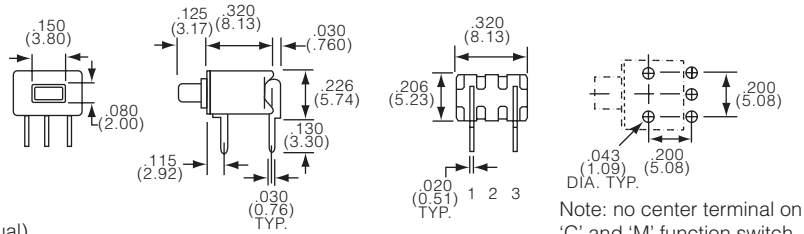


Note: no center terminal on 'C' and 'M' function switch

right angle

TP11CGRA004

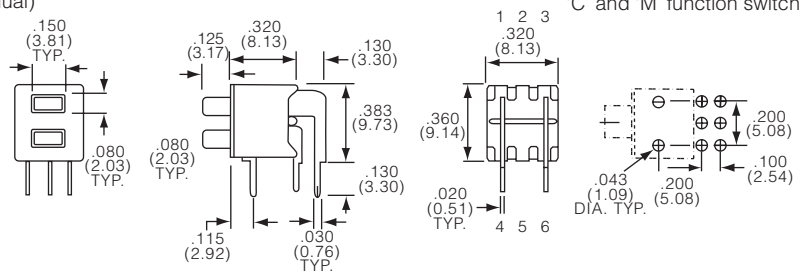
Single pole



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

TP21CCGRA004

2 x Single pole (dual)

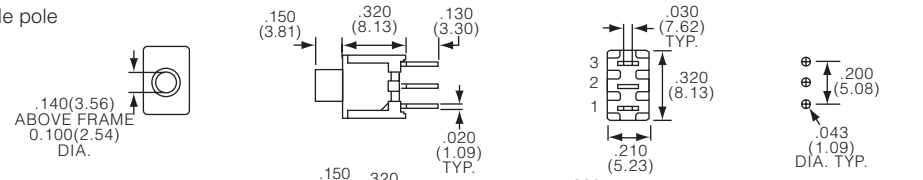


A, Round, no bushing

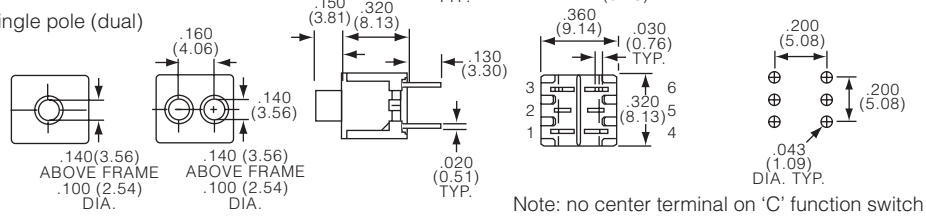
printed circuit board

TPA11CGPC004

Single pole



2 x Single pole (dual)



Note: no center terminal on 'C' function switch

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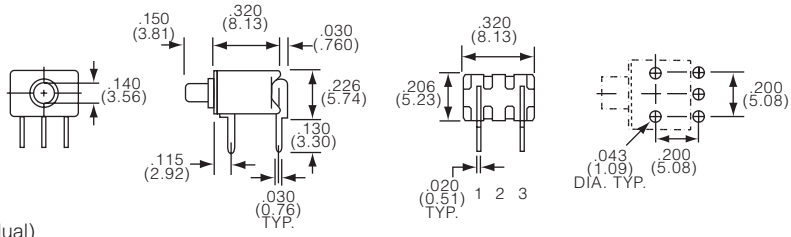
Specifications subject to change.

TP Series, Tiny (Continued)

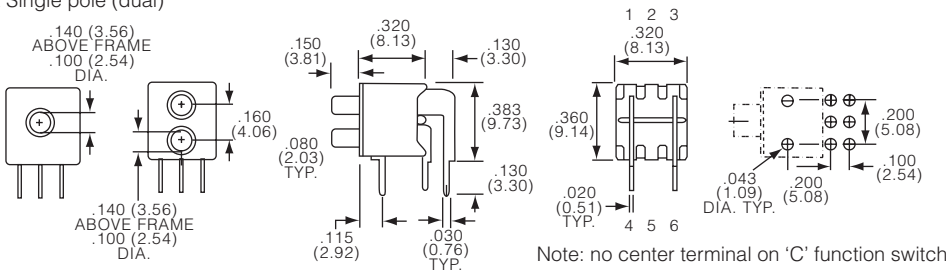
right angle

TPA11CGRA204

Single pole



2 x Single pole (dual)

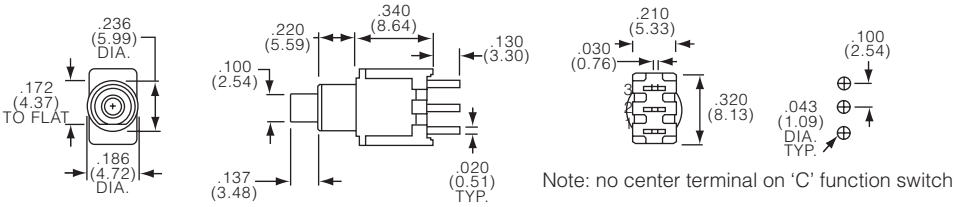


Note: no center terminal on 'C' function switch

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

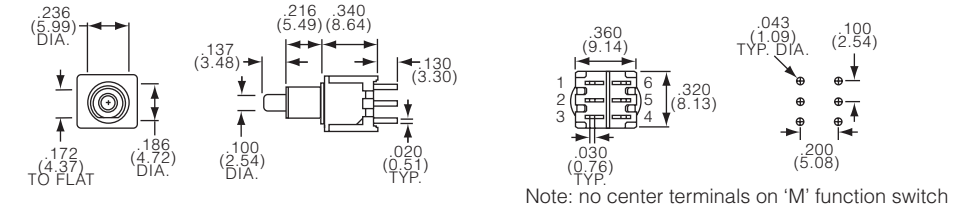
printed circuit board

TPB11CGPC004



Note: no center terminal on 'C' function switch

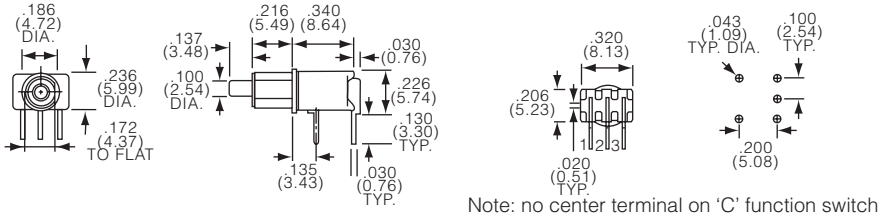
TPB21MGPC004



Note: no center terminals on 'M' function switch

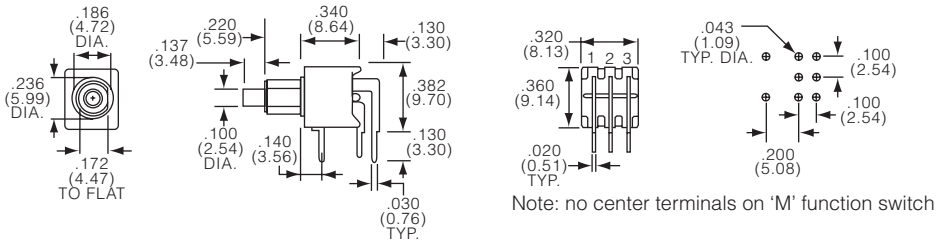
right angle

TPB11CGRA004



Note: no center terminal on 'C' function switch

TPB21MGRA004



Note: no center terminals on 'M' function switch

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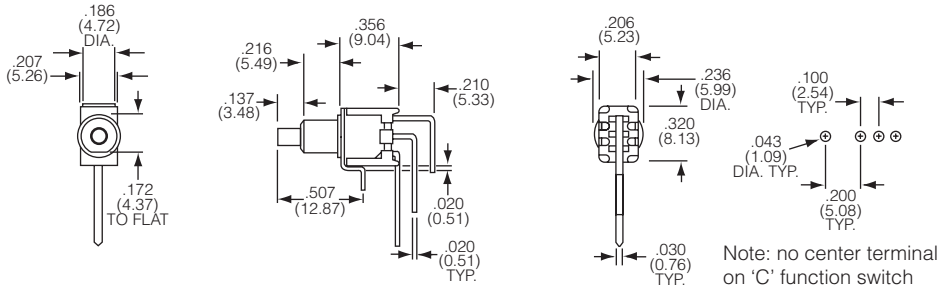
TP Series, Tiny (Continued)

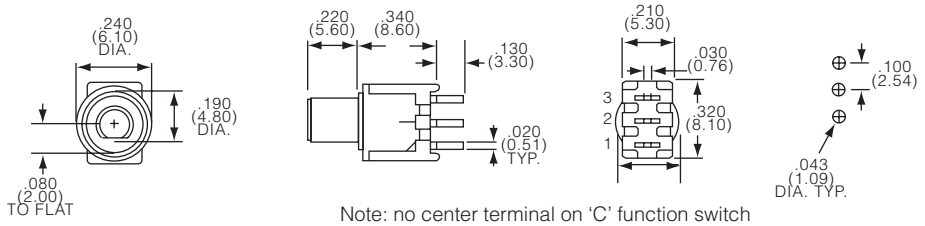
vertical right angle

TPB11FGVRA004



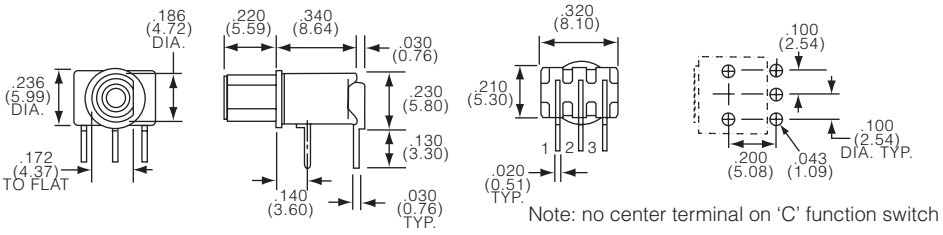
printed circuit board, flush actuator

TPBF11FGPC004



right angle, flush actuator

TPBF11CGRA004

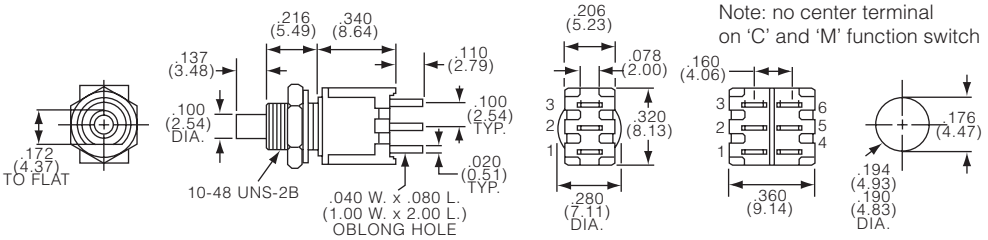


C, Round 10/48 UNS 2B thread

wire lug

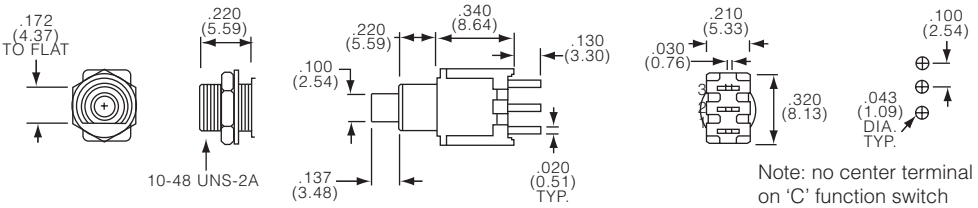
TPC13C

TPC23M



printed circuit board

TPC11FGPC



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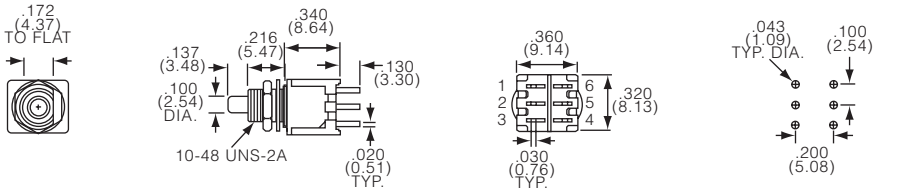
Specifications subject to change.

TP Series, Tiny (Continued)

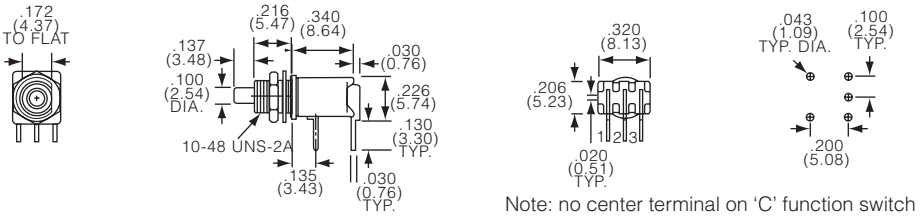
TPC21RGPC



Note: no center terminals on 'M' function switch

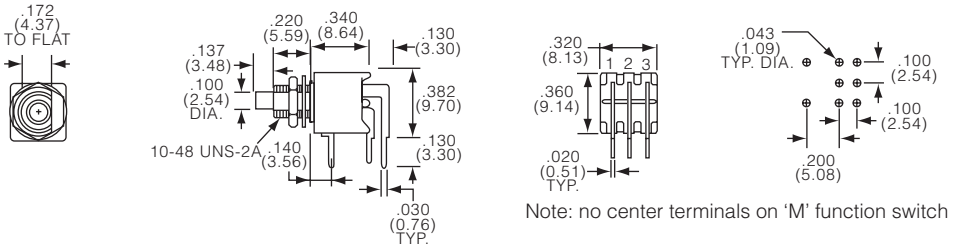
right angle

TPC11CGRA



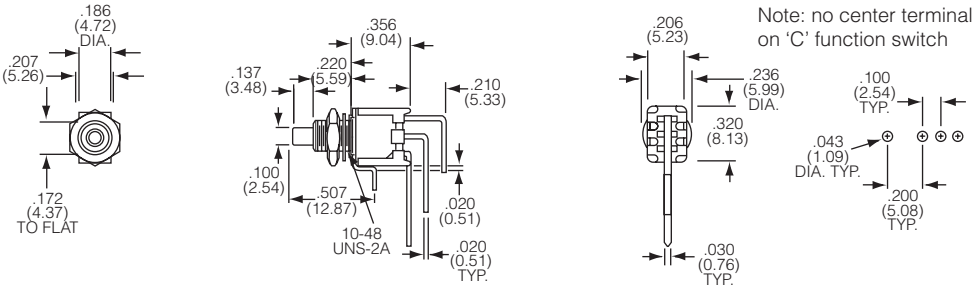
Note: no center terminal on 'C' function switch

TPC21MGRA



Note: no center terminals on 'M' function switch

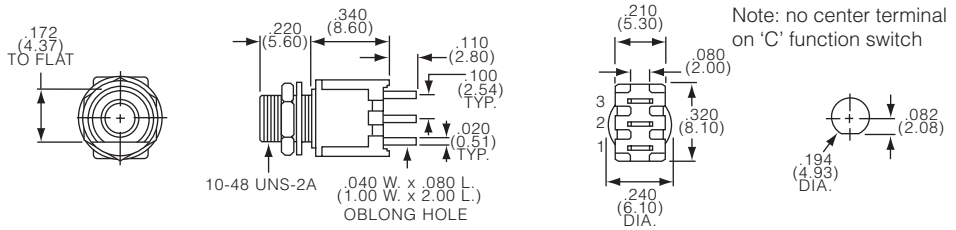
vertical right angle



Note: no center terminal on 'C' function switch

wire lug, flush actuator

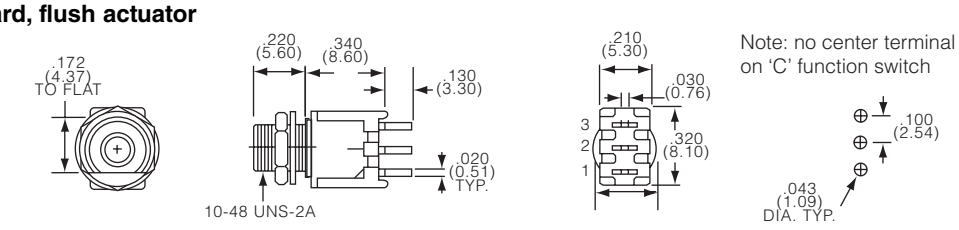
TPCF13C



Note: no center terminal on 'C' function switch

printed circuit board, flush actuator

TPCF11CGPC



Note: no center terminal on 'C' function switch

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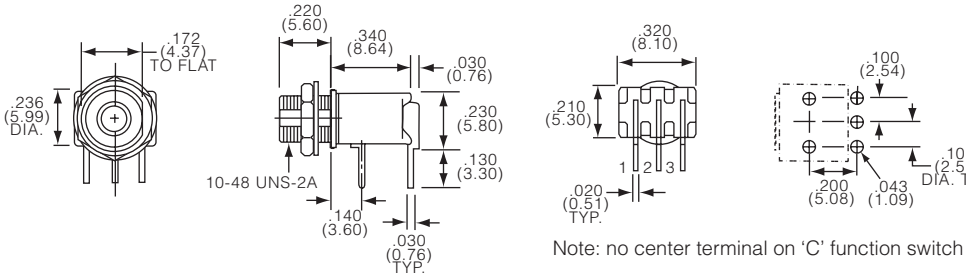
Specifications subject to change.

TP Series, Tiny (Continued)

right angle, flush actuator

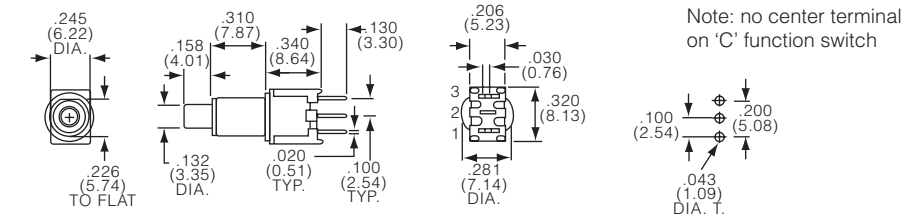


Note: no center terminal on 'C' function switch

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

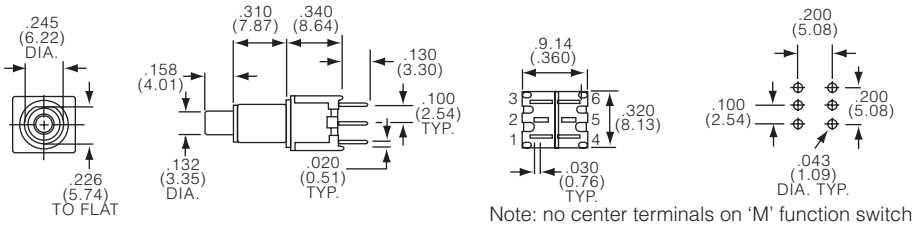
printed circuit board

TPD11CGPC



Note: no center terminal on 'C' function switch

TPD21MGPC

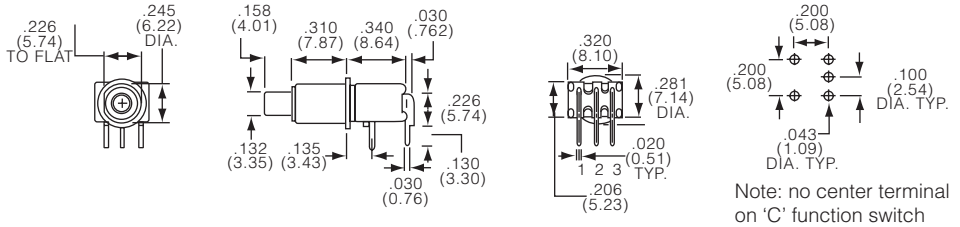


Note: no center terminals on 'M' function switch

---

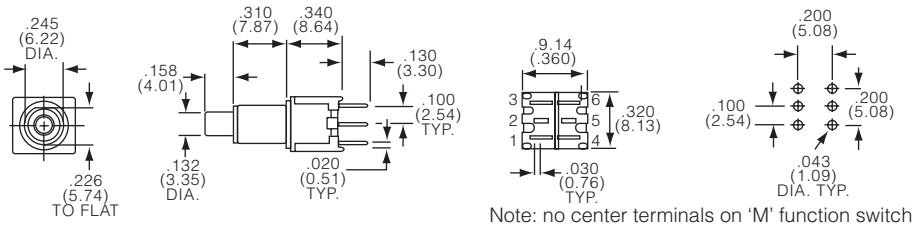
right angle

TPD11CGRA



Note: no center terminal on 'C' function switch

TPD21MGPC



Note: no center terminals on 'M' function switch

Catalogue No. 8-1773450-9
Issued 09/2008

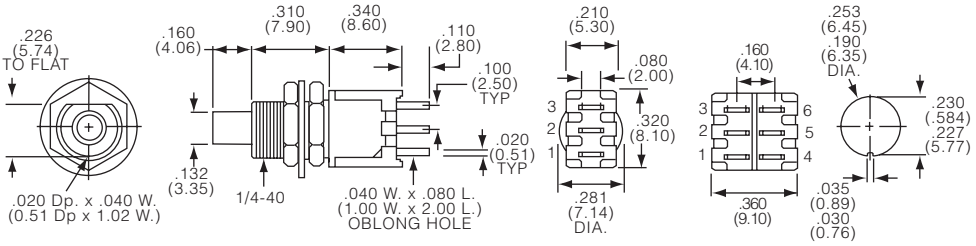
Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

TP Series, Tiny (Continued)

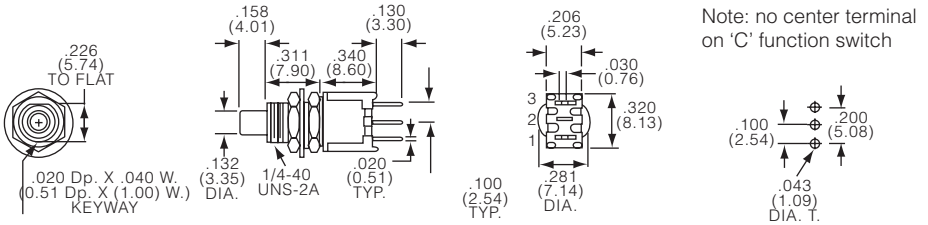
F, Round 1/4-40 UNS 2B thread

wire lug

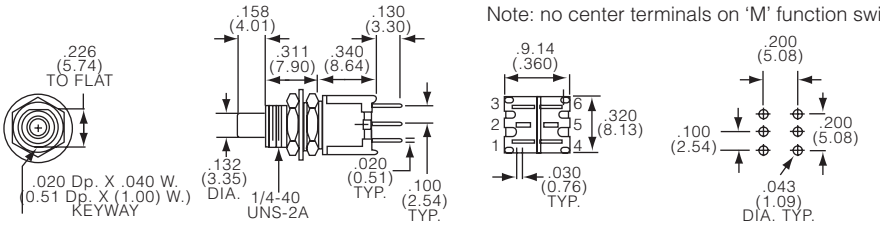


Note: no center terminal on 'C' and 'M' function switch

printed circuit board

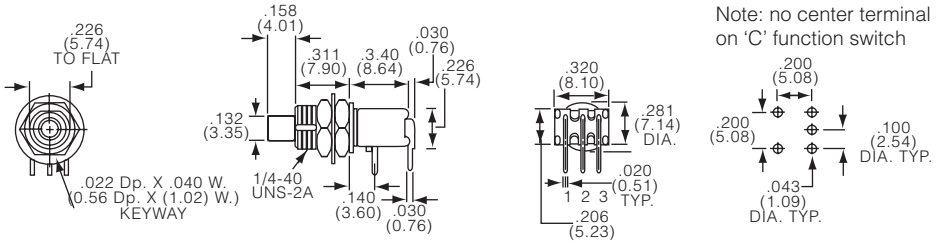


Note: no center terminal on 'C' function switch

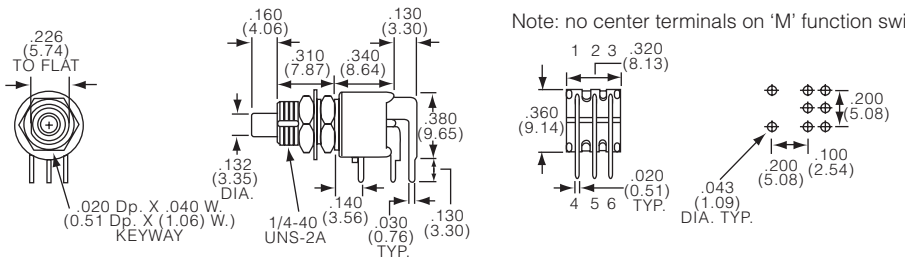


Note: no center terminals on 'M' function switch

right angle



Note: no center terminal on 'C' function switch



Note: no center terminals on 'M' function switch

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

Catalogue No. 8-1773450-9
Issued 09/2008

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Specifications subject to change.
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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	1825098-1
TPC11CGRA004	10/48								right angle		compliant	1825098-2
TPC11CGRA204	UNS 2B									red		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
. . . . . silve: 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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

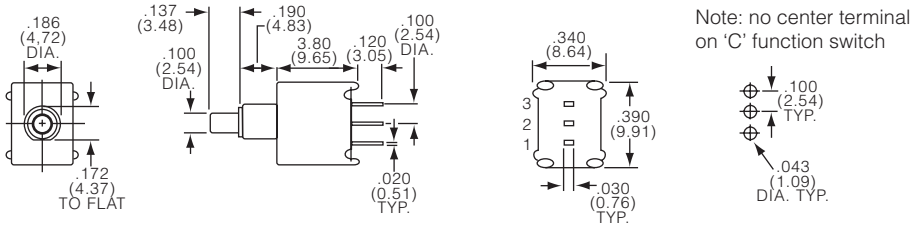
TP_ES Series, Tiny, Process Sealed (Continued)

Bushing

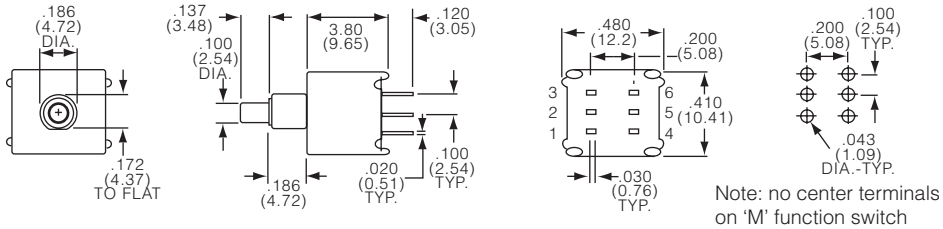
B, Round .188 (4.78) dia. bushing not threaded

printed circuit board

TPB11CGPCES

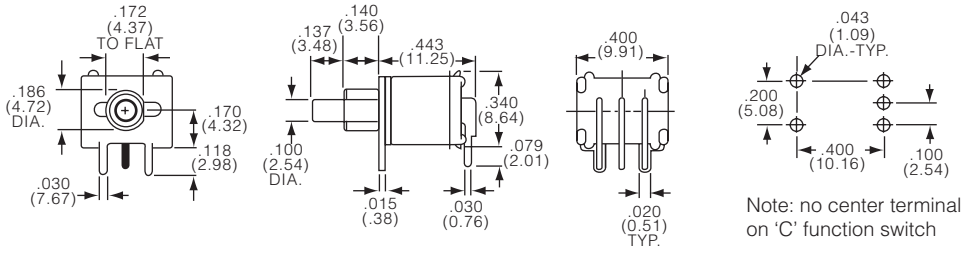


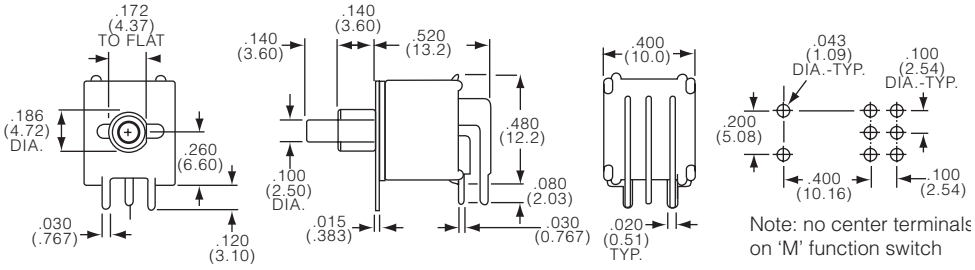
TPB21RGPCES



right angle

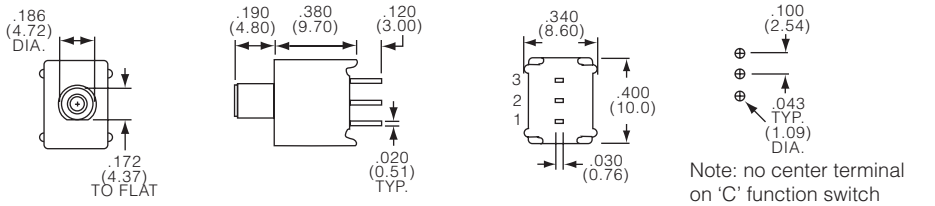
TPB11CGRAES





printed circuit board, flush actuator

TPBF11CGPCES



Catalogue No. 8-1773450-9
Issued 09/2008

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Specifications subject to change.
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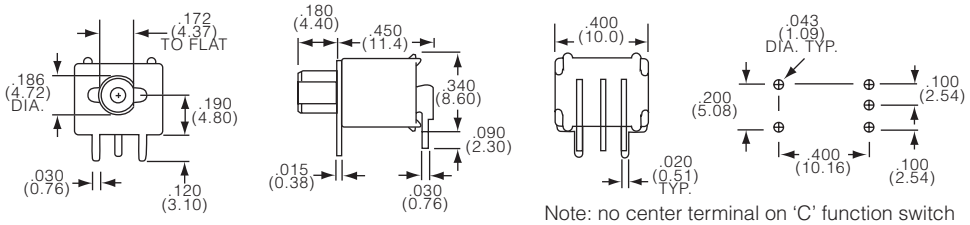
TP_ES Series, Tiny, Process Sealed (Continued)

right angle, flush actuator

TPBF11CGRAES

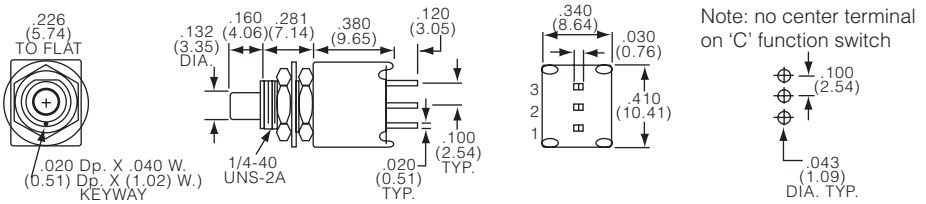


Note: no center terminal on 'C' function switch

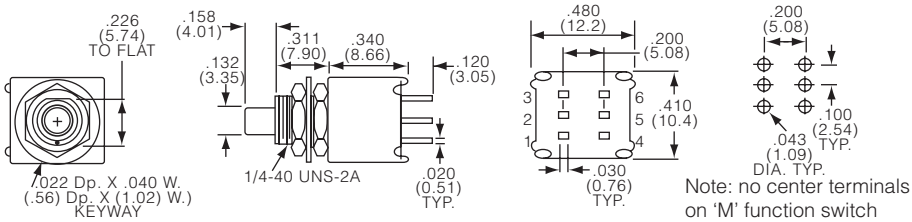
F, Round 1/4-40 UNS 2B thread

printed circuit board

TPF11CGPCES



TPF21MGPCES



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	1825097-3
TPB11CGRAES004	.188 (4.78)								right angle		compliant	1825097-5
TPB11CGRAES204	dia									red		1825097-7
TPB11FGPCES204	bushing,				On-(On)	1-2	2-3		pcb			1-1825097-0
TPB11FGRAES004	not								right angle	black		1-1825097-4
TPB11FGRAES604	threaded									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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

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 . . . . . .078" (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
0 pin
2 pin
1 wire lug

Material
04 RoHS compliant

Catalogue No. 8-1773450-9
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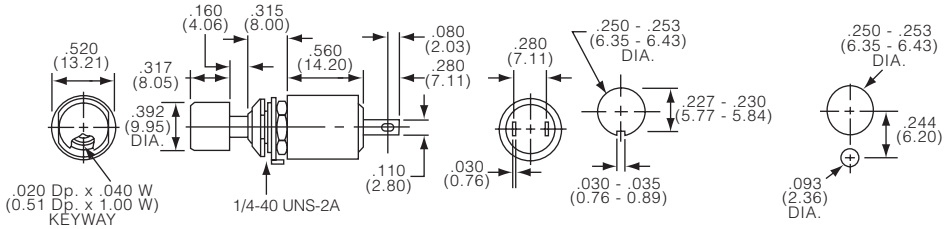
Specifications subject to change.

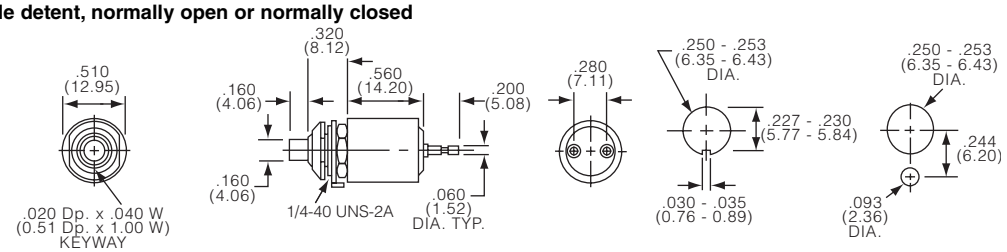
MSPM Series, Magnetic Reed, Long Life, Hermetically Sealed (Continued)

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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

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**
- **Decrotive 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 travel	.098" (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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

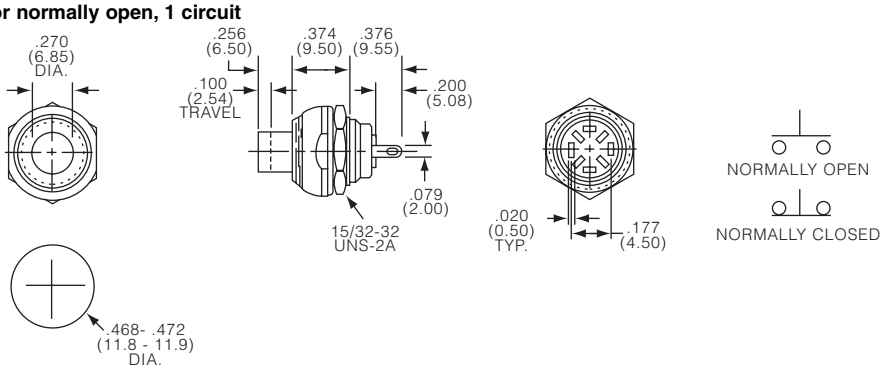
Specifications subject to change.

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

Action

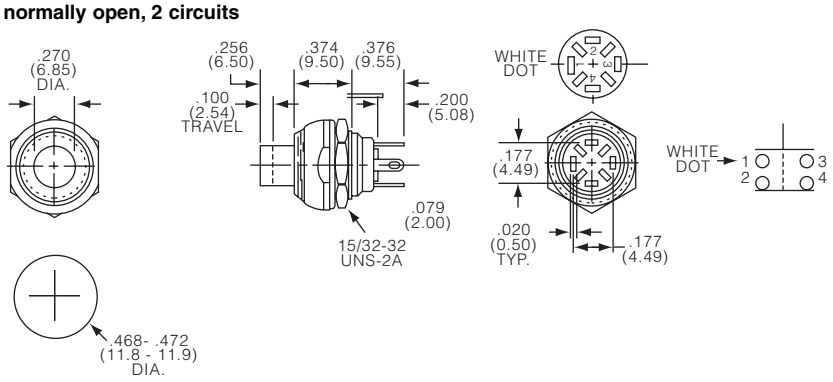
Codes B, C normally closed or normally open, 1 circuit

MSPF101B



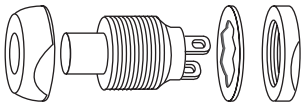
Code BC normally closed and normally open, 2 circuits

MSPF101BC



Mounting

Application note: Illustration shows versatile fromt 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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

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**

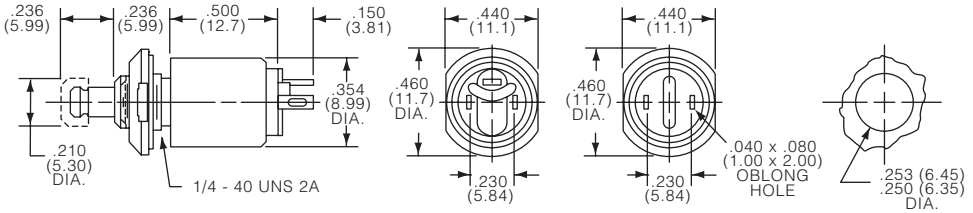
Type
MPA Sub-Miniature Pushbutton

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	1825403-1
MPA103C04	N/O			compliant	1825403-2
MPA103D04	Push on/Push off	SPDT			1825404-1
MPA103F04	Momentary				1825404-2

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

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 travel. . . . . .098" (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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

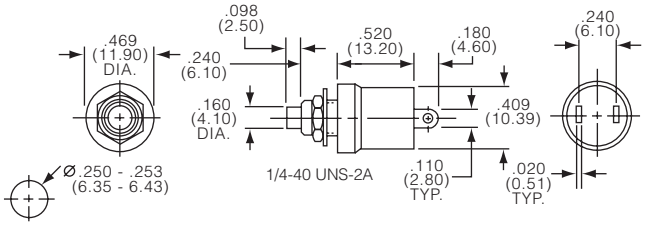
Specifications subject to change.

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

Contact

103 **3 A contact**

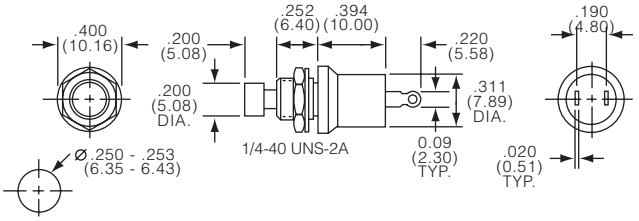
MSP103B



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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

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

	single pole		double pole
D	Push-On/Push-Off	**N**	Push-On/Push-Off
F	momentary	**R**	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

Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.

Specifications subject to change.

MPS Series, Snap Action (Continued)

Function

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

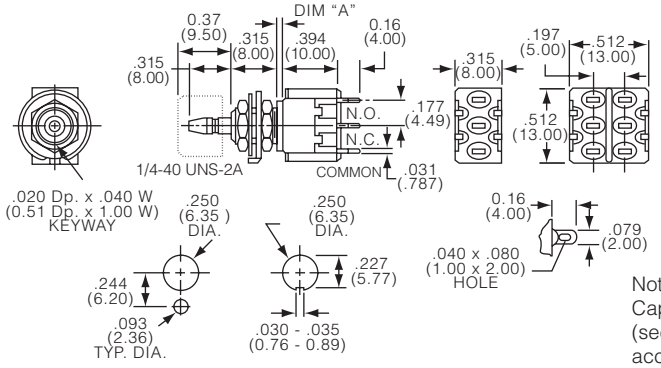
Off indicates a mechanical position with no electrical connection
(On) indicates momentary connection

Terminals

blank wire lug

MPS103F

MPS203R



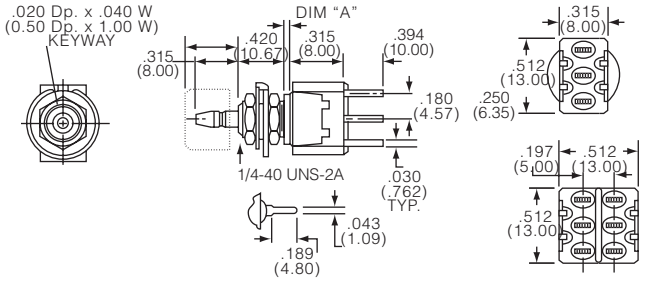
Fnct	Action	Dim A
D	1p, push-On/Off	2.54 (.100)
F	1p, momentary	1.016 (.040)
N	2p, push-On/Off	2.54 (.100)
R	2p, momentary	1.016 (.040)

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

PC printed circuit board

MPS103FPC

MPS203RPC



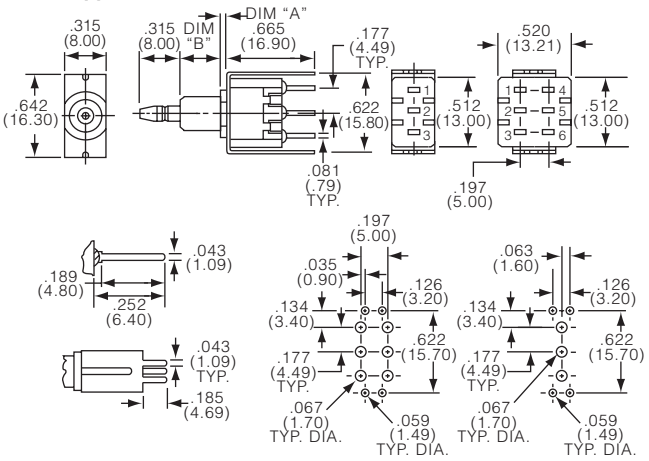
Fnct	Action	Dim A
D	1p, push-On/Off	2.54 (.100)
F	1p, momentary	1.016 (.040)
N	2p, push-On/Off	2.54 (.100)
R	2p, momentary	1.016 (.040)

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

PCV printed circuit board, with support

MPS103FPCV

MPS203RPCV



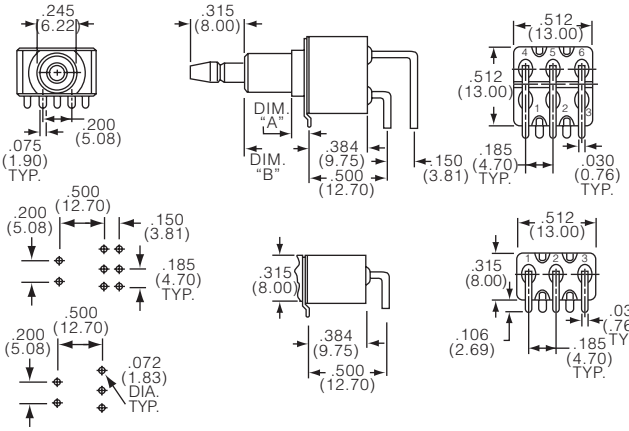
Fnct	Dim A	Dim B
D	2.03 (.080)	8.00 (.315)
F	1.01 (.040)	7.49 (.295)
R	1.01 (.040)	7.49 (.295)

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

MPS Series, Snap Action (Continued)

RA right angle, printed circuit board

MPS103DRA



Fnct	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)

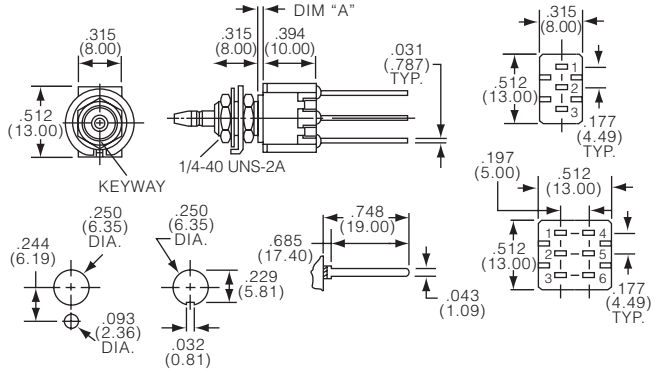
MPS203NRA

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

WW wire wrap, extended pcb

MPS103FWW

MPS203RWW



Fnct	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	Push-On/Push-Off	solder lug	RoHS	1825092-1
MPS103DPC04		@125 VAC		printed circuit board	compliant	1825399-1
MPS103DPCV04				PCB, with support		1825401-1
MPS103DRA04				right angle PCB		1825400-1
MPS103F04			momentary	solder lug		1825092-2
MPS103FPC04				printed circuit board		1825399-2
MPS103FPCV04				PCB, with support		1825401-2
MPS103FRA04				right angle PCB		1825400-2
MPS103FWW04				wire wrap		1825402-1
MPS203N04	double pole		Push-On/Push-Off	solder lug		1825092-3
MPS203NPC04				printed circuit board		1825399-3
MPS203NPCV04				PCB, with support		1825401-3
MPS203NRA04				right angle PCB		1825400-3
MPS203R04			momentary	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

Catalogue No. 8-1773450-9
Issued 09/2008

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Specifications subject to change.

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
2 double pole
3 3 poles
4 4 poles

Rating
06 6 Amp

Function
1 & 3 pole / 2 & 4 pole
D push-on/push-off
F momentary
N push-on/push-off
R momentary

Terminals
blank wire lug
PC printed circuit board

Material
04 RoHS compliant

Catalogue No. 8-1773450-9
Issued 09/2008

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Specifications subject to change.

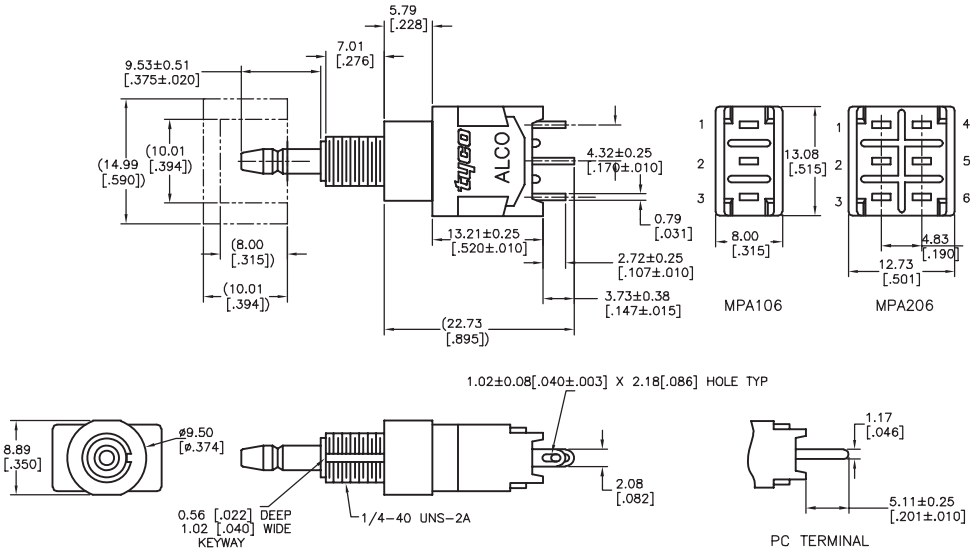
MP / A / E / G, Green Series (Continued)

Bushing style A

single & double pole

MPA106D

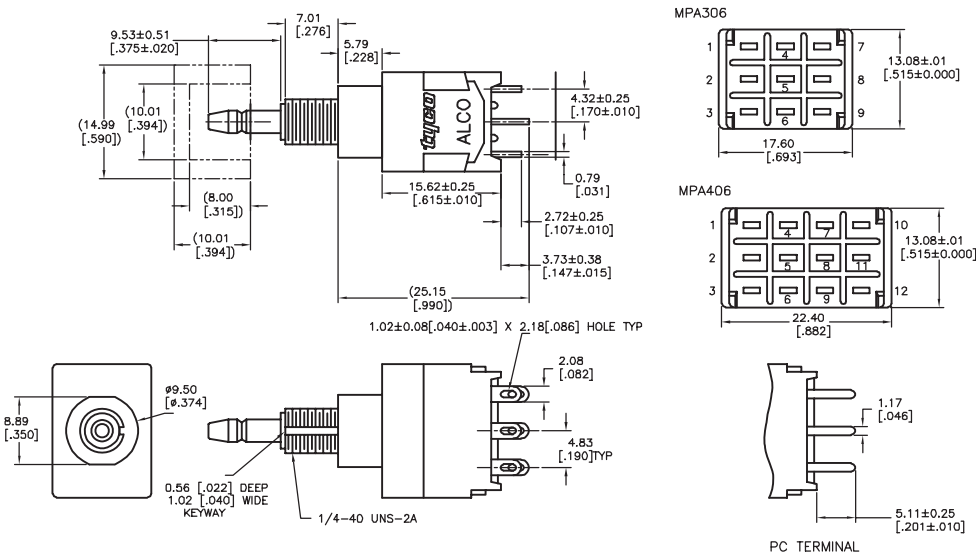
MPA206N



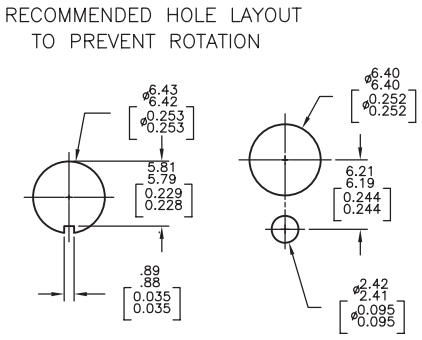
3 & 4 pole

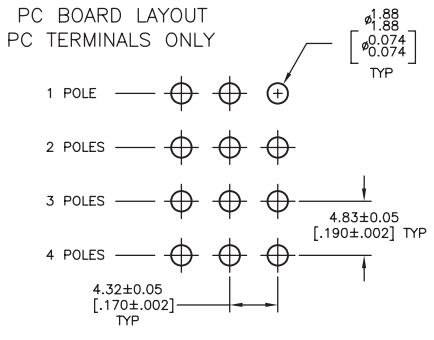
MPA306D

MPA406N



mounting





Catalogue No. 8-1773450-9
Issued 09/2008

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Specifications subject to change.

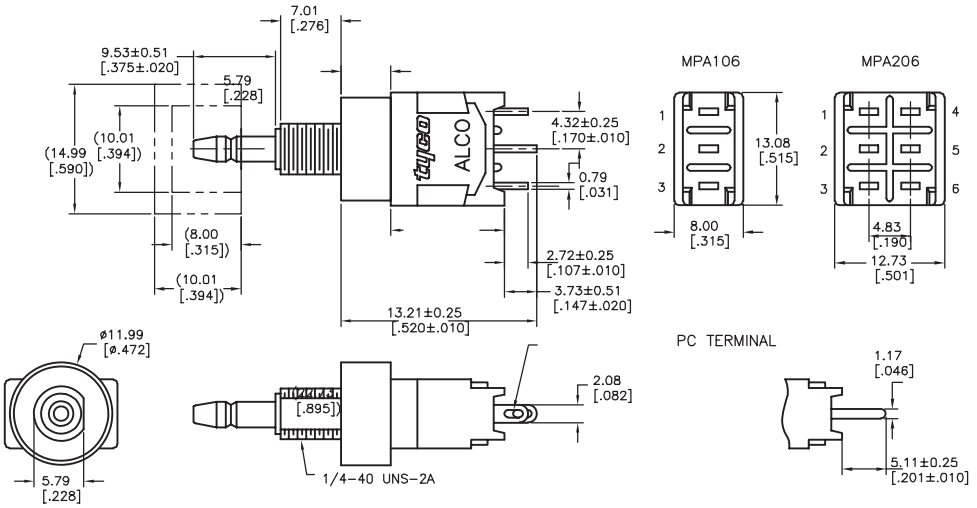
MP / A / E / G, Green Series (Continued)

Bushing style E

single & double pole

MPE106D

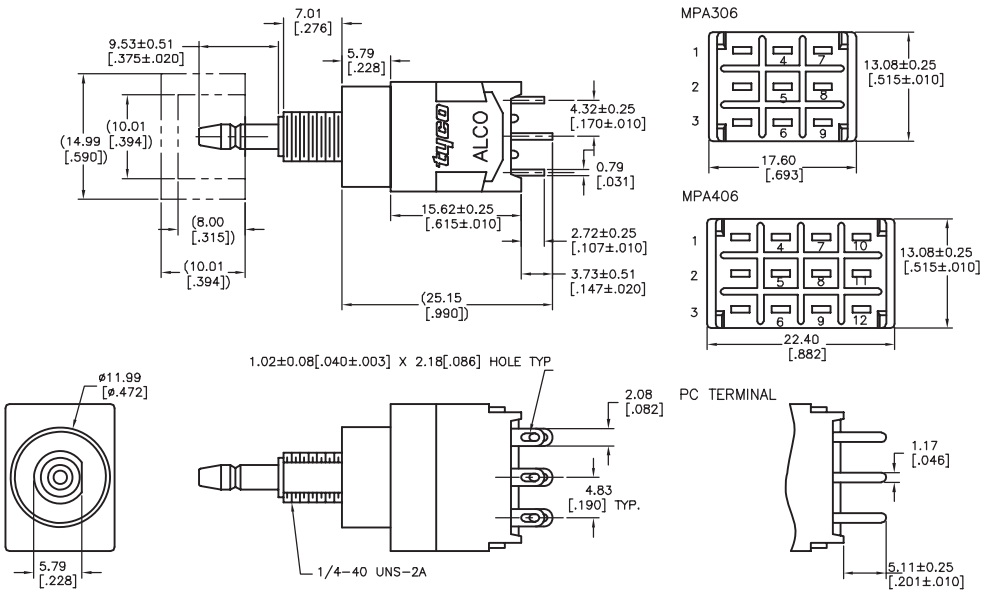
MPE206N



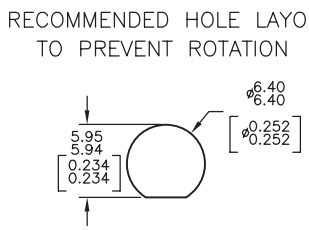
3 & 4 pole

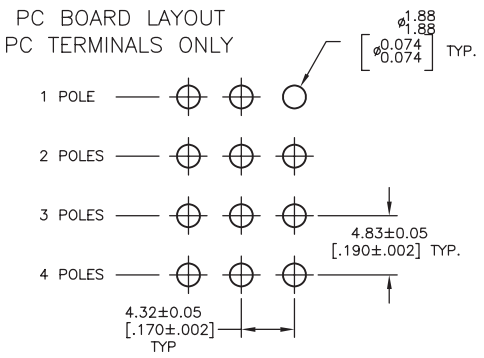
MPE306F

MPE406N



mounting





Catalogue No. 8-1773450-9
Issued 09/2008

Dimensions are in mm and inches and are shown for reference purposes only.
Specifications subject to change.
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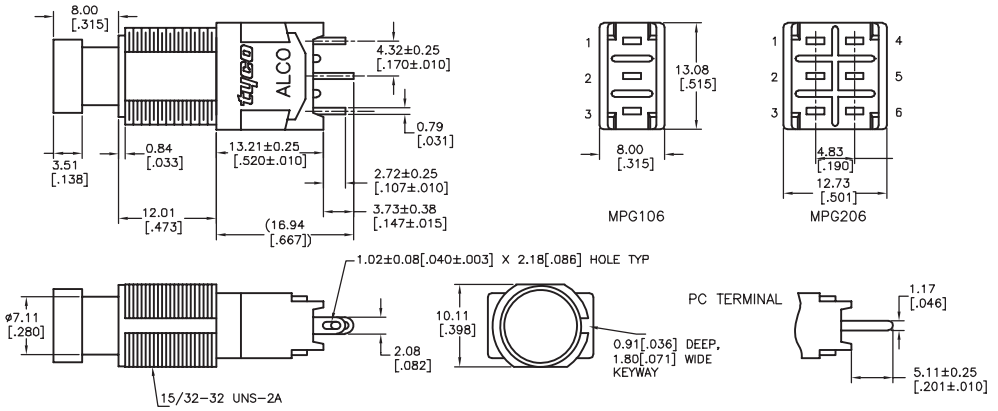
MP / A / E / G, Green Series (Continued)

Bushing style G

single & double pole

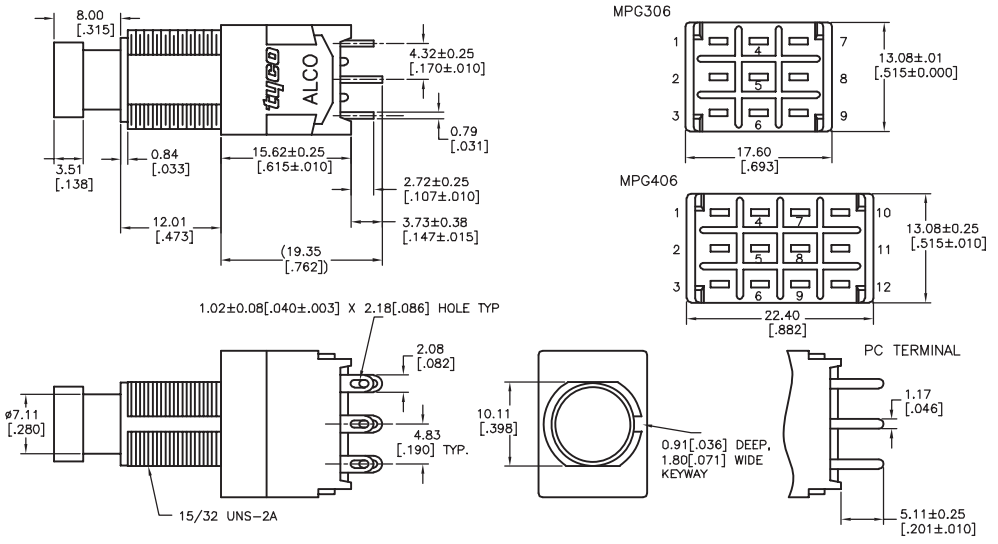
MPG106D

MPG206NPC



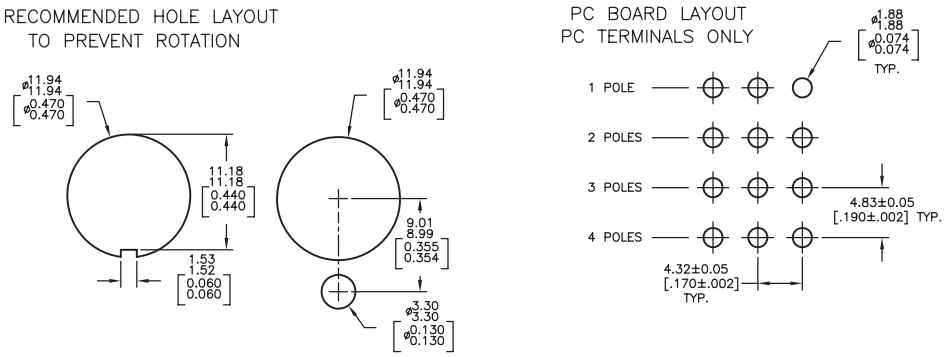
3 & 4 pole

MPG306D



MPG406N

mounting



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	**1825040-1**
MPA106F04	3.4mm			momentary		compliant	**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

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Specifications subject to change.
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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

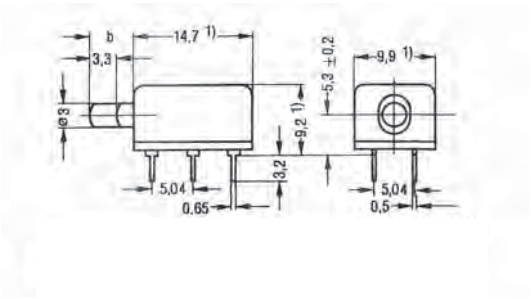
Environmental specification

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

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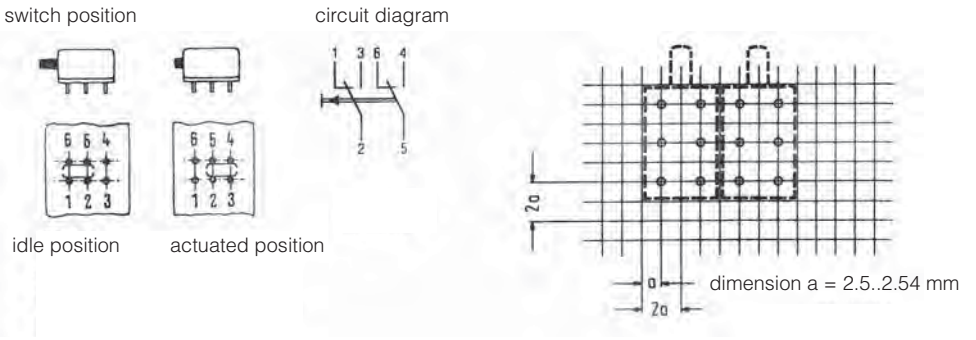
A60 Series, THT (Continued)

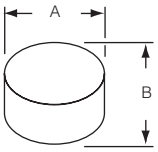
Function, Mounting



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

Accessories

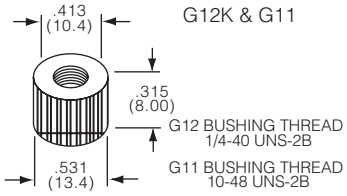
Caps



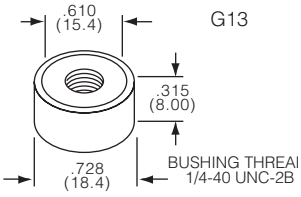
Product key	for	Color	Diam A	Length B	Material	Part Number
C50	MPA3	black	4.95 (.195)	3.05 (.120)	RoHS	6-1437627-2
C52		red			compliant	6-1437627-3
C55		green				6-1437627-5
C59		white				6-1437627-6
C80		black	7.87 (.310)	4.06 (.160)		6-1437627-7
C82		red				6-1437627-8
C85		green				6-1437627-9
C89		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	black	10.2 (.402)	8.00 (.315)		1825068-1
C22204	MPE/MPA6	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

G12K



G13



Product key	Thread	Color	Texture	Material	Part Number
G11A	10-48	natural Aluminum	smooth	RoHS	7-1437627-6
G11B		black Aluminum		compliant	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

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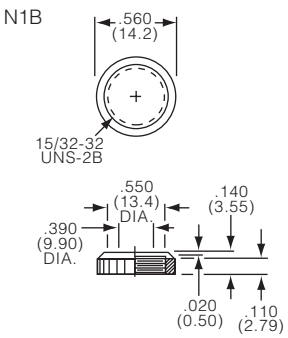
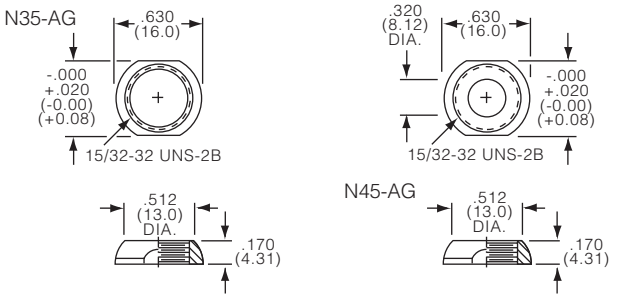
Accessories (Continued)

Decorative Hardware





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

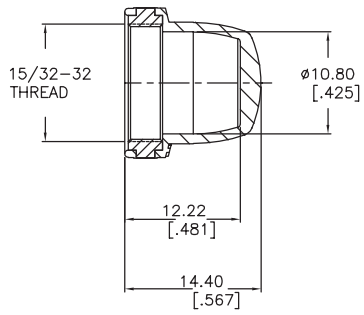
Typical product key: **BP 1532 0 04**

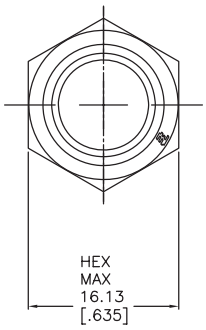
Type					
BP	Pushbutton boot seals				
Nut thread					
1048	10-48 UNS 2-B				
A1440	1/4-40 UNS 2-B				
1440	1/4-40 UNS 2-B				
1532	15/32-32 UNS 2-B				
2010	1/4-40 UNS 2B with knurl				
Color					
0	black	**2**	red	**8**	gray
Material					
04	RoHS compliant				

Nut thread

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

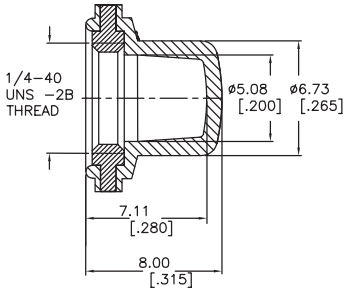
BP1048004

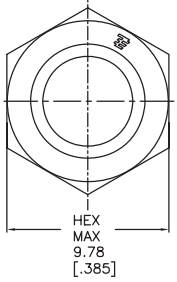




A1440 1/4-40 UNS 2-B, suited for MSPMBS,MSPMCS,MSP3,MPA3,TP series switches

BPA1440004





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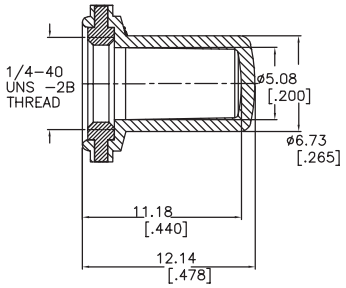
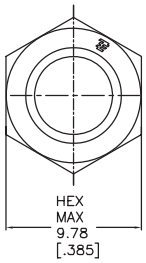
BP Series Boot Seals (Continued)

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

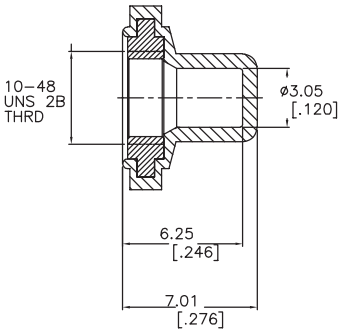
BP1440004

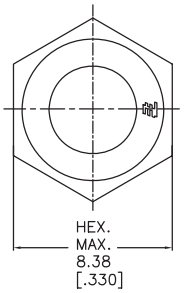




1532 15/32-32 UNS 2-B, suited for TP series switches

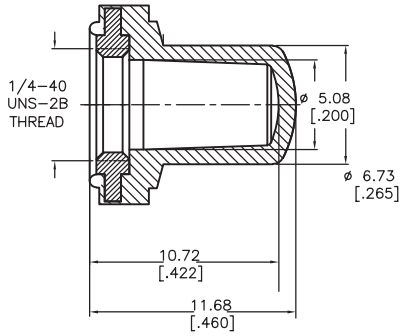
BP1532004

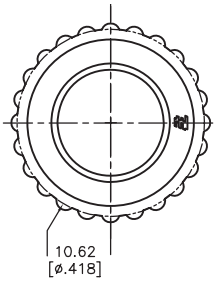




2010 1/4-40 UNS 2B with knurl, suited for MSPM,MSP3,MPA3, and TP series switches

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	1825603-1
BP1532204			red	compliant	1825603-2
BP1532804			gray		1825603-3
1/4-40 Pushbutton Boot Seals					
BPA1440004	MSPMBS,MSPMCS,MSP3,MPA3,TP series	1/4-40	black	RoHS	1825604-1
BPA1440204			red	compliant	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	1825615-1
BP1048204			red	compliant	1825615-2
1/4-40 Knurled Pushbutton Boot Seal					
BP201004	MSPM,MSP3,MPA3, and TP series	1/4-40	black	RoHS compl.	1825617-2

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Specifications subject to change.

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 avalable**

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

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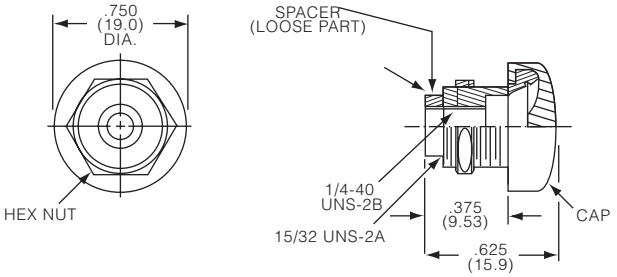
BP Series Panel Seal (Continued)

Switch series

BPM BPM Series panel seal, suited for MPA series switches

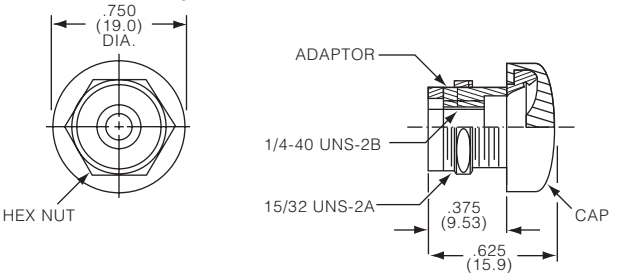
BPM1532004



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	1825618-1
BPM1532204		red	compliant	1825618-2
BPM1532804		gray		1825618-3
BPT1532004	TP Tiny series	black		1825599-3
BPT1532204		red		1825599-1
BPT1532804		gray		1825599-2

Catalogue No. 8-1773450-9
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Specifications subject to change.

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru

www.lifeelectronics.ru