

TP Series *Tiny Pushbuttons with "Flush Plunger"*

Refer to Page D29 for Additional Options



MATERIAL SPECIFICATIONS:

Contacts.....Gold over nickel barrier or silver
 Case MaterialHigh temperature polyester
 Actuator Material.....Polyamide
 Terminals/Fixed Contacts.....Tin lead plate
 Terminal Seal.....SP epoxy, DP epoxy optional

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact RatingGold: 0.4 VA Max. @ 20 VDC or peak AC
 Initial Contact Resistance.....20 Milliohms max.
 Contact TimingBreak-before-make
 Insulation Resistance1,000 Megohms @ 500 VDC min.
 Dielectric Strength1,000 Volts RMS @ sea level
 Actuation Force.....50 to 400 Grams
 Plunger/Actuator Travel030" (.762)
 Life ExpectancySee page D29

ENVIRONMENTAL SPECIFICATIONS:

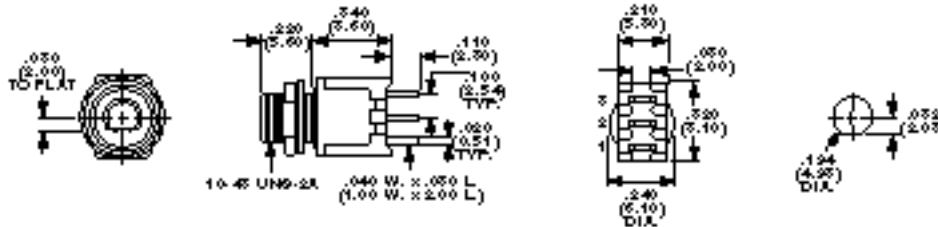
Operating Temperature.....-22°F to +149°F (-30°C to +65°C)
 Storage Temperature.....-22°F to +149°F (-30°C to +65°C)
 Solder Heat ResistanceSee page M6-7

SPST/SPDT

Wire Lugs 10-48 Bushing



TPCF13C



Model	Silver Contacts	Type	Act. Code P. M9	Action	Bushing Type
TPCF13C(*)	SPST	C	N.O. Momentary	Threaded	
TPCF13F(*)	SPDT	F	Momentary	Threaded	

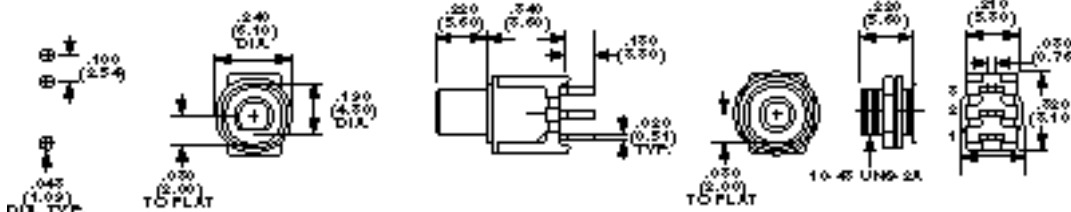
(*) Specify button color by adding suffix numbers: (0) Black, (2) Red, (6) Blue, (9) White.
 Note: No center terminal on "C" action switch.

SPST/SPDT

PC 10-48 Bushing



TPBF11FGPC



Model	Gold Contacts	Type	Act. Code P. M9	Action	Bushing Type
TPBF11CGPC(*)	SPST	C	N.O. Momentary	Unthreaded	
TPBF11FGPC(*)	SPDT	F	Momentary	Unthreaded	
TPCF11CGPC(*)	SPST	C	N.O. Momentary	Threaded	
TPCF11FGPC(*)	SPDT	F	Momentary	Threaded	

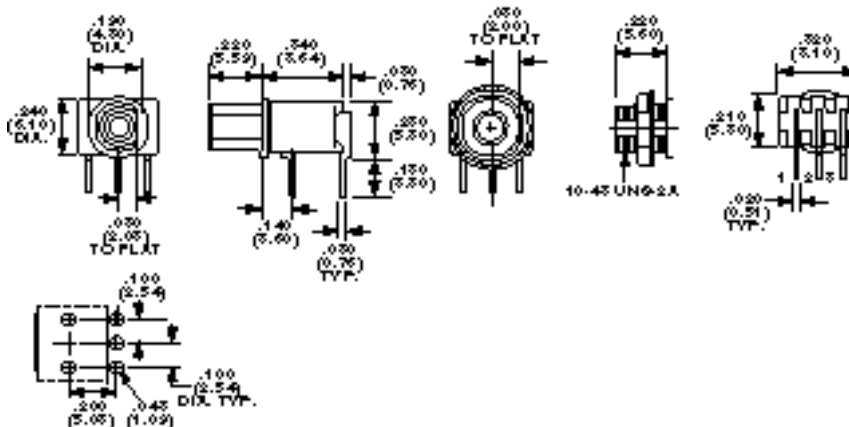
(*) Specify button color by adding suffix numbers: (0) Black, (2) Red, (6) Blue, (9) White.
 Note: No center terminal on "C" action switch.

SPST/SPDT

RA10-48 Bushing



TPBF11CGRA



Model	Gold Contacts	Type	Act. Code P. M9	Action	Bushing Type
TPBF11CGRA(*)	SPST	C	N.O. Momentary	Unthreaded	
TPBF11FGRA(*)	SPDT	F	Momentary	Unthreaded	
TPCF11CGRA(*)	SPST	C	N.O. Momentary	Threaded	
TPCF11FGRA(*)	SPDT	F	Momentary	Threaded	

(*) Specify button color by adding suffix numbers: (0) Black, (2) Red, (6) Blue, (9) White.
 Note: No center terminal on "C" action switch.



Pushbuttons Switches TP/TPA Series

“Square or Round Single /Dual Actuators”

MATERIAL SPECIFICATIONS:

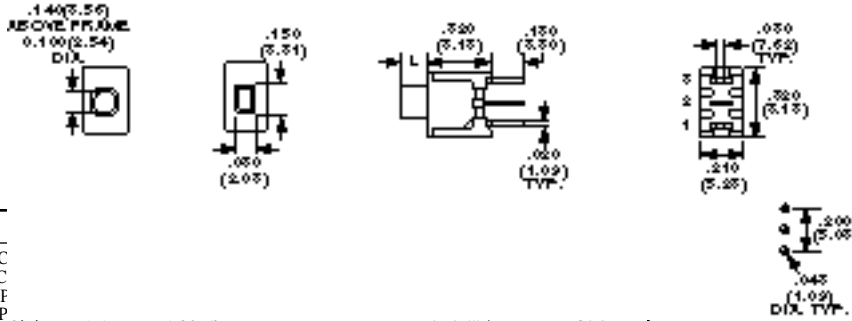
Contacts.....Gold over nickel barrier
 Case MaterialHigh temperature polyester
 Actuator Material.....Polyamide
 Terminals/Fixed Contacts.....Tin lead plate
 Terminal Seal.....SP epoxy, DP epoxy optional

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA Max. @ 20 VDC or peak AC
 Initial Contact Resistance.....20 Milliohms max.
 Contact TimingBreak before make
 Insulation Resistance1,000 Megohms @ 500 VDC min.
 Dielectric Strength1,000 Volts RMS @ sea level
 Actuation Force.....50 to 400 Grams
 Plunger/Actuator Travel030" (.762)
 Life ExpectancySee page D29

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-22°F to +149°F (-30°C to +65°C)
 Storage Temperature.....-22°F to +149°F (-30°C to +65°C)
 Solder Heat ResistanceSee page M6-7



SPST/SPDT



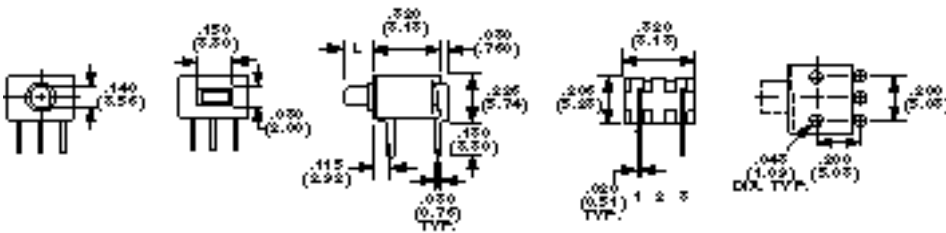
TP11CGPC0



TPA11CGPC0

Model
TP11CGPC
TP11FGPC
TPA11CGF
TPA11FGP

Note: No center terminal on "C" action switch.
 (*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.



SPST/SPDT



TPA11CGRA

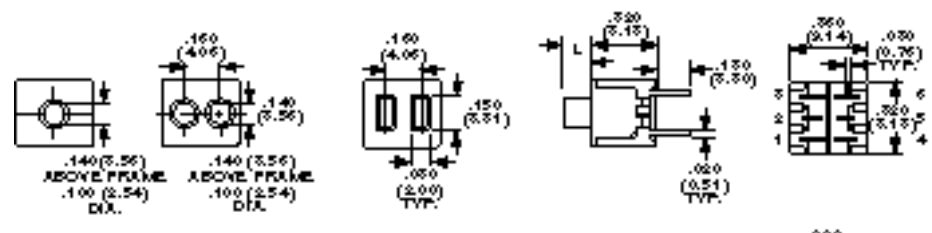


TP11CGRA

TPD21MGRA

Model	Actuator Type	Dim.L	Type	Act. Code	P. M9	Action	Contact Type
TP11CGRA(*)	SQ.	.125	SPST	C		N.O. Momentary	Gold
TP11FGRA(*)	SQ.	.125	SPDT	F		Momentary	Gold
TPA11CGRA(*)	RND.	.150	SPST	C		N.O. Momentary	Gold
TPA11FGRA(*)	RND.	.150	SPDT	F		Momentary	Gold

Note: No center terminal on "C" action switch.
 (*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.



SPST/SPDT (DUAL) DPST



TP21CGPC0



TPA21MGPC0

Model
TP21C
TPA2
TPA2

Note:
 (*) Sp

Need more technical information?

Contact your local ABE office--(800) 453-1692--or AboveBoardElectronics.com.

Above Board Electronics
 1918 Junction Avenue
 San Jose, CA 95131

TP/TPA Series *Pushbuttons Switches* "Right Angle Square/Round Actuators"

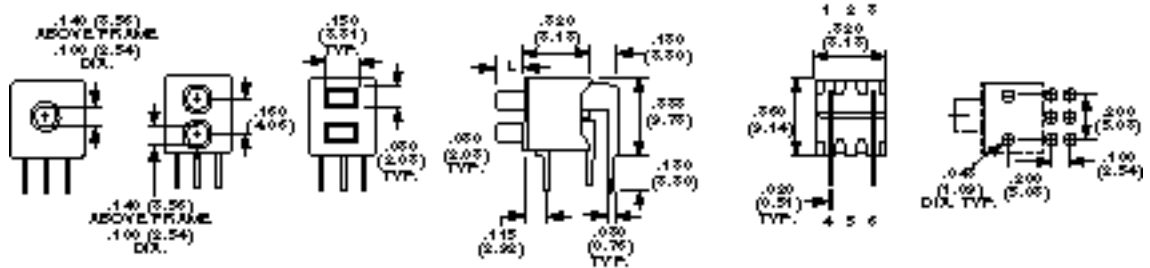


SEE PAGE D21 FOR PRODUCT SPECIFICATIONS

SPST/SPDT (DUAL)



TP21CCGRA0



Model	Actuator Type	Dim.L	Type	Act. Code	P. M9	Action	Contact Type
TP21CCGRA(*)	SQ.	.125	2xSPST	C		N.O. Momentary	Gold
TP21FFGRA(*)	SQ.	.125	2xSPDT	F		Momentary	Gold
TPA21MGRA(*)	RND.	.150	DPST	M		N.O. Momentary	Gold
TPA21CCGRA(*)	RND.	.150	2xSPST	C		N.O. Momentary	Gold
TPA21FFGRA(*)	RND.	.150	2xSPDT	F		Momentary	Gold

Note: No center terminal on "C" or "M" action switch.
(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.

TPB/TPC Series *Pushbuttons Switches* Refer to Page D29 for Additional Options

MATERIAL SPECIFICATIONS:

Contacts.....Gold over nickel barrier
Case MaterialHigh temperature polyester
Actuator Material.....Polyamide
Terminals/Fixed Contacts.....Tin lead plate
Terminal Seal.....SP epoxy, DP epoxy optional

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA Max. @ 20 VDC or peak AC
Initial Contact Resistance.....20 Milliohms max.
Contact TimingBreak-before-make
Insulation Resistance1,000 Megohms @ 500VDC min.
Dielectric Strength1,000 Volts RMS @ sea level
Actuation Force.....26 Kg.
Plunger/Actuator Travel030" (.762)
Life Expectancy80,000 Cycles

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-22°F to +149°F (-30°C to +65°C)
Storage Temperature.....-22°F to +149°F (-30°C to +65°C)
Solder Heat ResistanceSee page M6-7

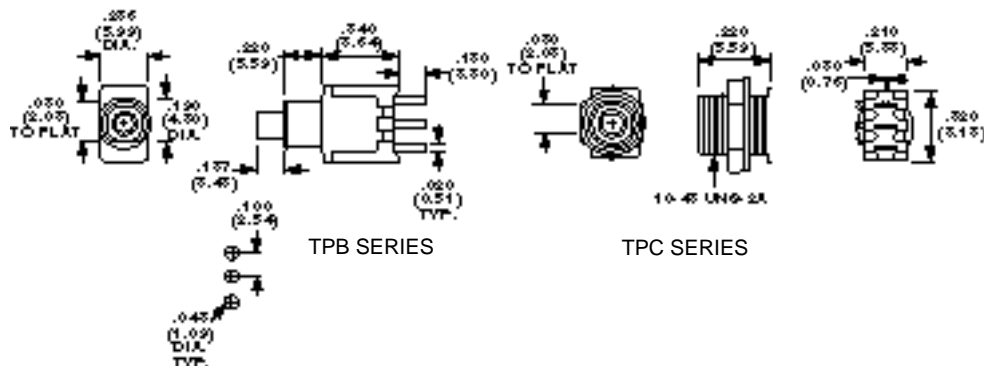
SPST/SPDT



TPB11CGPC



TPC11FGPC



Model	Actuator Type	Dim.L	Type	Act. Code	P. M9	Action	Contact Type
TPB11CGPC(*)	SPST	.125	C			N.O. Momentary	10-48 Gold
TPC11FGPC(*)	SPDT	.125	F			Momentary	10-48 Gold

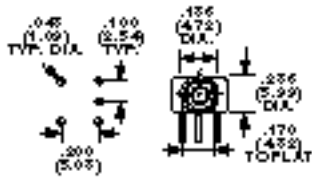
(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
Note: No center terminal on "C" action switch.



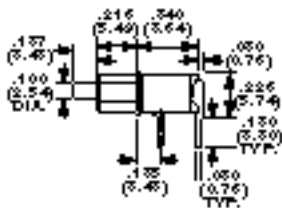
Pushbutton Series TPB/TPC Series

Refer to page D29 for other Options

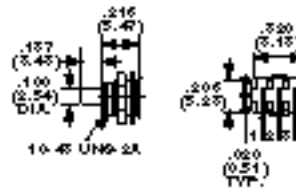
SEE PAGE D22 FOR PRODUCT SPECIFICATIONS



TPB SERIES



TPC SERIES



DPST/DPDT



TPB11CGRA

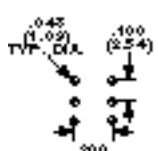


TPC11CGRA

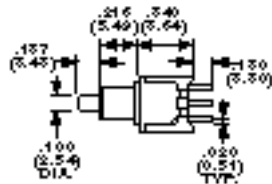
Model	Type	Act. Code	P. M9	Action	Bushing Code	Contact Type
TPB11CGRA(*)	SPST	C		N.O. Momentary	.188	Gold
TPB11FGRA(*)	SPDT	F		Momentary	.188	Gold
TPC11CGRA(*)	SPST	C		N.O. Momentary	10-48	Gold
TPC11FGRA(*)	SPDT	F		Momentary	10-48	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "C" action switch.

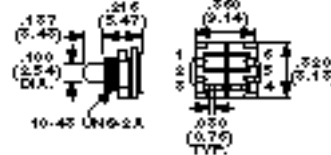
DPST/DPDT



TPB SERIES



TPC SERIES



TPB21MGPC

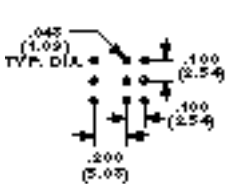


TPC21RGPC

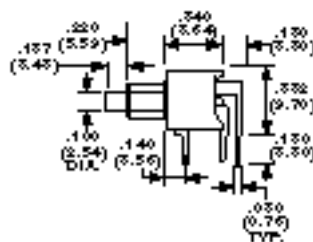
Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPB21MGPC(*)	DPST	M		N.O. Momentary	.188	Gold
TPB21RGP(*)	DPDT	R		Momentary	.188	Gold
TPC21MGPC(*)	DPST	M		N.O. Momentary	10-48	Gold
TPC21RGP(*)	DPDT	R		Momentary	10-48	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "M" action switch.

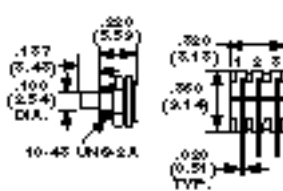
DPST/DPDT



TPB SERIES



TPC SERIES



TPB21MGRA

Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPB21MGRA(*)	DPST	M		N.O. Momentary	.188	Gold
TPB21RGRA(*)	DPDT	R		Momentary	.188	Gold
TPC21MGRA(*)	DPST	M		N.O. Momentary	10-48	Gold
TPC21RGRA(*)	DPDT	R		Momentary	10-48	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "M" action switch.

Need more technical information?

Contact your local ABE office--(800) 453-1692--or AboveBoardElectronics.com.

Above Board Electronics
 1918 Junction Avenue
 San Jose, CA 95131

TPD/TPF Series *Pushbutton Switches Vertical Thru-Hole*

Refer to pages D29 for other Options



MATERIAL SPECIFICATIONS:

Contacts.....Gold over nickel barrier
 Case MaterialHigh temperature polyester
 Actuator Material.....Polyamide
 Terminals/Fixed Contacts.....Tin lead plate
 Terminal Seal.....SP epoxy, DP epoxy optional

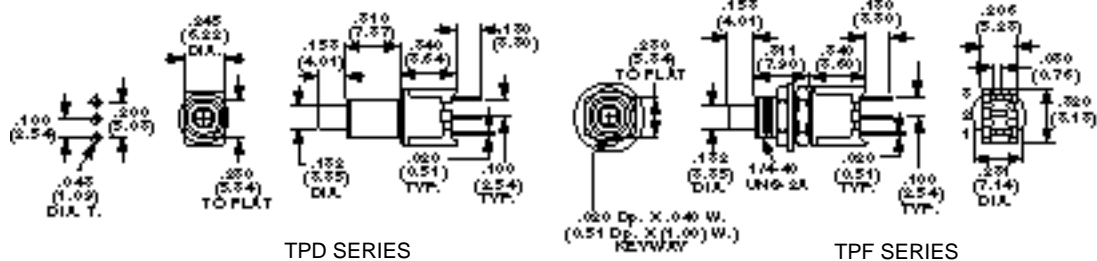
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA Max. @ 20 VDC or peak AC
 Initial Contact Resistance.....20 Milliohms max.
 Contact TimingBreak-before-make
 Insulation Resistance1,000 Megohms @ 500 VDC min.
 Dielectric Strength1,000 Volts RMS @ sea level
 Actuation Force.....50 to 400 Grams
 Plunger/Actuator Travel030" (.762)
 Life Expectancy80,000 Cycles

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-22°F to +149°F (-30°C to +65°C)
 Storage Temperature.....-22°F to +149°F (-30°C to +65°C)
 Solder Heat ResistanceSee page M6-7

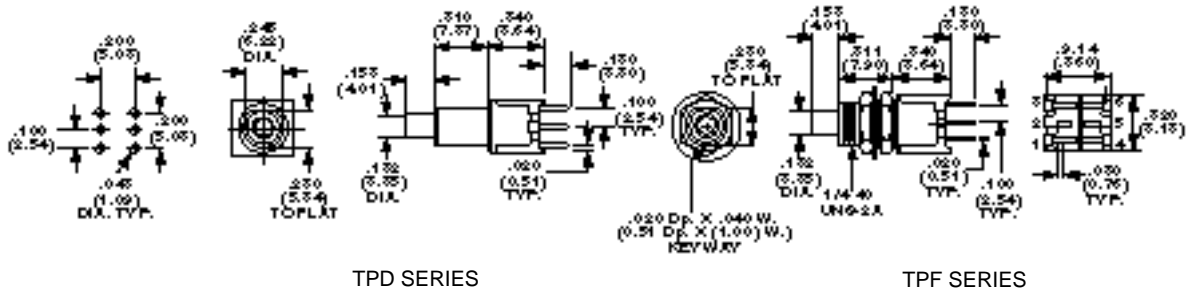
SPST/SPDT



Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPD11CGPC(*)	SPST	C		N.O. Momentary	.250	Gold
TPD11FGPC(*)	SPDT	F		Momentary	.250	Gold
TPF11CGPC(*)ES	SPST	C		N.O. Momentary	1/4-40	Gold
TPF11FGPC(*)SW	SPDT	F		Momentary	1/4-40	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 NOTE: No center terminal on "C" action switch.

DPST/DPDT



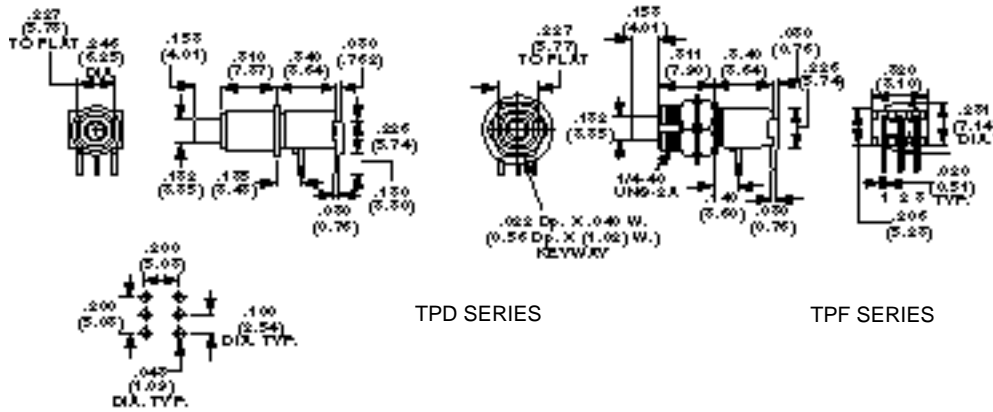
Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPD21MGPC(*)	DPST	M		N.O. Momentary	.250	Gold
TPD21RGPC(*)	DPDT	R		Momentary	.250	Gold
TPF21MGPC(*)	DPST	M		N.O. Momentary	1/4-40	Gold
TPF21RGPC(*)	DPDT	R		Momentary	1/4-40	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.



Pushbutton Switches Right Angle Thru-Hole TPD/TPF Series

SPST/SPDT



TPD11CGRA



TPF11CGRA

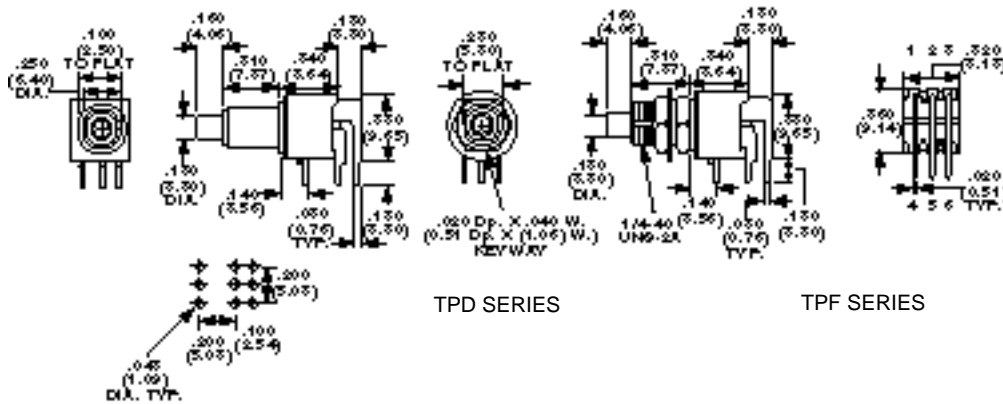
TPD SERIES

TPF SERIES

Model	Type	Act. Code P. M9	Action	Bushing Dia.	Contact Type
TPD11CGRA(*)	SPST	C	N.O. Momentary	.250	Gold
TPD11FGRA(*)	SPDT	F	Momentary	.250	Gold
TPF11CGRA(*)	SPDT	C	N.O. Momentary	1/4-40	Gold
TPF11FGRA(*)	SPDT	F	Momentary	1/4-40	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "C" action switch.

DPST/DPDT



TPF21MGRA



TPD21MGRA

TPD SERIES

TPF SERIES

Model	Type	Act. Code P. M9	Action	Bushing Dia.	Contact Type
TPD21MFRA(*)	DPST	M	N.O. Momentary	.250	Gold
TPD21MGRA(*)	DPST	M	N.O. Momentary	.250	Gold
TPD21RGRA(*)	DPDT	R	Momentary	.250	Gold
TPF21MGRA(*)	DPST	M	N.O. Momentary	1/4-40	Gold
TPF21RGRA(*)	DPDT	R	Momentary	1/4-40	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.

Need more technical information?

Contact your local ABE office--(800) 453-1692--or AboveBoardElectronics.com.

Above Board Electronics
 1918 Junction Avenue
 San Jose, CA 95131

TP-ES Series *Process Sealed for Washing Vertical and Right Angle*



MATERIAL SPECIFICATIONS:

Contacts.....Gold over nickel barrier
 Case MaterialPolyamide
 Actuator Material.....Polyamide
 Terminals/Fixed Contacts.....Tin lead plate
 Terminal Seal.....Epoxy
 Process Seal.....Disposable boot, epoxied double case

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA Max. @ 20 VDC or peak AC
 Initial Contact Resistance.....20 Milliohms max.
 Contact TimingBreak-before-make
 Insulation Resistance1,000 Megohms @ 500VDC min.
 Dielectric Strength1,000 Volts RMS @ sea level
 Actuation Force.....50 to 400 Grams
 Plunger/Actuator Travel030" Approx.
 Life ExpectancySee page D29

ENVIRONMENTAL SPECIFICATIONS

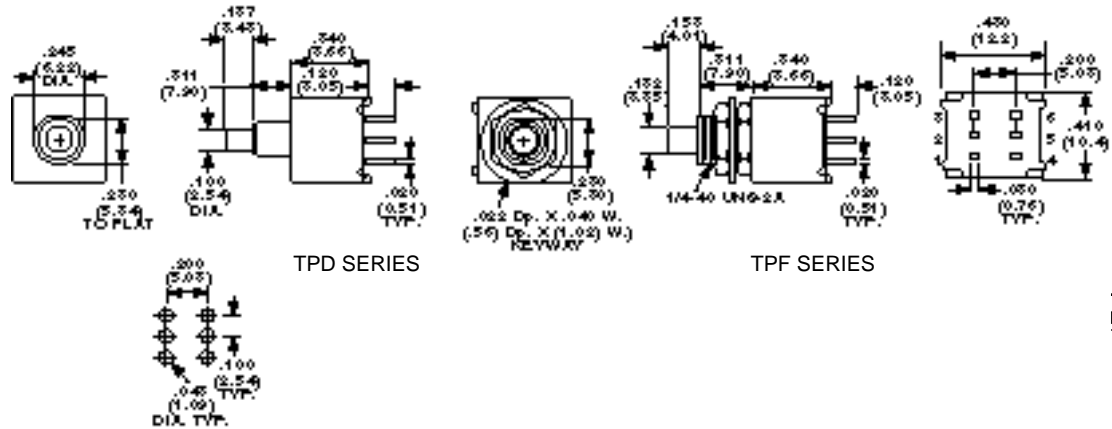
Operating Temperature.....-22°F to +149°F (-30°C to +65°C)
 Storage Temperature.....-22°F to +149°F (-30°C to +65°C)
 Solder Heat ResistanceSee page M6-7

Notice: Each switch provided with disposable boot used only during cleaning operation.

DPST/DPDT



TPD21MGPCES

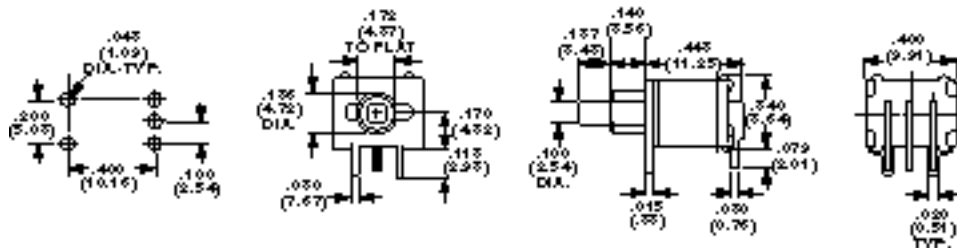


Note: No center terminal on "M" action switch.

SPST/SPDT



TPB11CGRAES



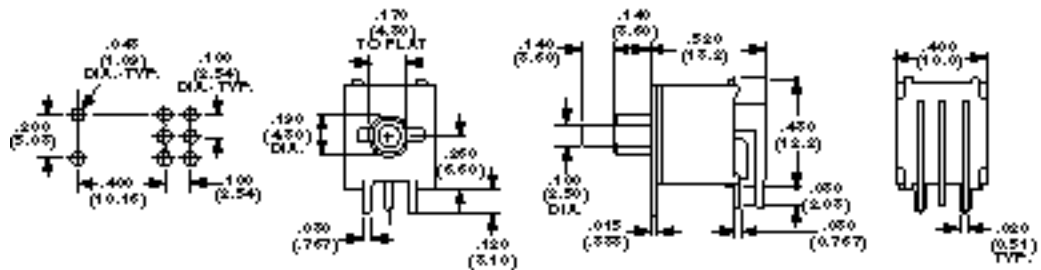
Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPB11CGRAES(*)	SPST	C		N.O. Momentary	.188	Gold
TPB11FGRAES(*)	SPDT	F		Momentary	.188	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "C" action switch.

DPST/DPDT



TPB21RGRAES



Model	Type	Act. Code	P. M9	Action	Bushing Dia.	Contact Type
TPB21MGRAES(*)	DPST	M		N.O. Momentary	.188	Gold
TPB21RGRAES(*)	DPDT	R		Momentary	.188	Gold

(*) Specify button color by adding suffix number: (0) Black, (2) Red, (6) Blue.
 Note: No center terminal on "M" action switch.