

The Gemini Series "A" Series Toggles 5 Amp

Refer to Pages C32-C36 for Additional Options

"A" SERIES DESIGN FEATURES

- Meets CSA Requirements
- Toggle – Machined brass, heavy nickel plated.
- Bushing & Frame – Rigid one-piece die cast, copper flashed, heavy nickel plated.
- Fixed Contact – Welded construction, selective placement of precious metal. (Gold or silver.)
- Movable Contact – "Captured" design eliminates possibility of displacement due to shock. (01 function.)
- Terminal Seal – Epoxy sealing of terminals is standard.
- Termination – Precious metal(or silver)/brass or copper strip with welded contact area.
- Case – DAP for electrical performance and mechanical strength, UL94VO.

MATERIAL SPECIFICATIONS:

Contacts.....Gold/gold flash
Silver/tin lead
Case MaterialThermoset
Terminal Seal.....Epoxy

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....-20°C to +85°C (-4°F to +185°F)
Storage Temperature.....-45°C to +100°C (-49°F to +212°F)
Solder Heat ResistanceSee page M6-7

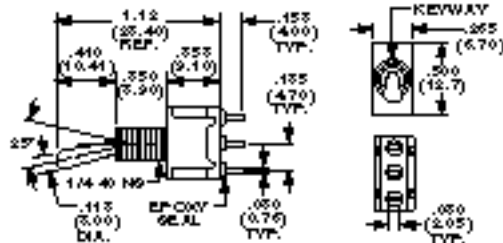
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact RatingGold: 0.4 VA @ 20 VAC/DC
Silver: 2 A @ 250 VAC: 5 A @ 125 VAC
Initial Contact Resistance.....30 Milliohms max.
Contact TimingBreak before make
Insulation Resistance1,000 Megohms @ 500 VDC.
Dielectric Strength1,000 Volts RMS @ sea level
Actuation Force.....Momentary: 950 Grams max.
Plunger/Actuator TravelMaintained: 1750 Grams max. 25°
Life Expectancy30,000 Cycles

SPDT



A101SYZQ

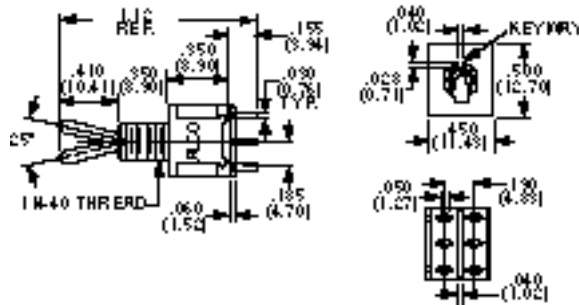


Model	Type	Act. Code	P.M8			
Silver Contacts						
A101SYZQ	SPDT	1		On	None	On
A103SYZQ	SPDT	5		On	Off	On
A105SYZQ	SPDT	5	(On)	Off	(On)	
A107SYZQ	SPDT	5	(On)	Off	(On)	
A108SYZQ	SPDT	1		On	None	(On)
Gold Contacts						
A101SYZB	SPDT	1		On	None	On
A103SYZB	SPDT	5		On	Off	On
A105SYZB	SPDT	5	(On)	Off	(On)	
A107SYZB	SPDT	5	(On)	Off	(On)	

DPDT



A201SYZQ

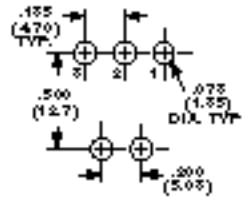
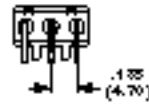
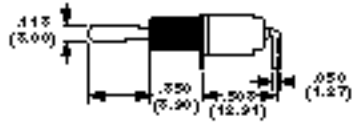
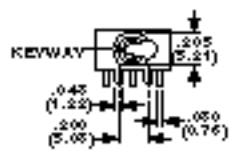


Model	Type	Act. Code	P.M8			
Silver Contacts						
A201SYZQ	DPDT	2		On	None	On
A203SYZQ	DPDT	6		On	Off	On
A205SYZQ	DPDT	6	(On)	Off	(On)	
A207SYZQ	DPDT	6	(On)	Off	(On)	
A208SYZQ	DPDT	2		On	None	(On)
A211SYZQ	DP3T	11		On	On	On
A213SYZQ	DP3T	11	(On)	On	(On)	
A215SYZQ	DP3T	11	(On)	On	(On)	

"A" Series Toggles
Refer to Pages C32-C36 for Additional Options

The Gemini Series

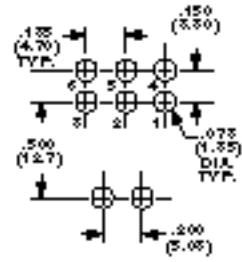
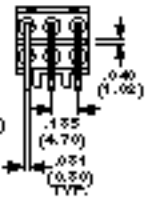
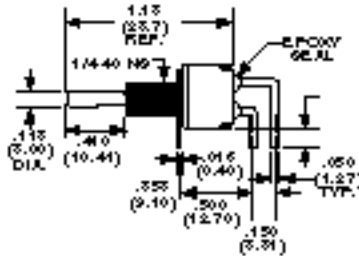
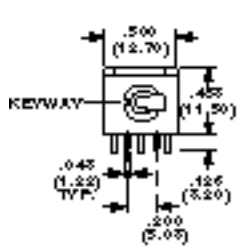
SEE PAGE C24 FOR PRODUCT SPECIFICATIONS



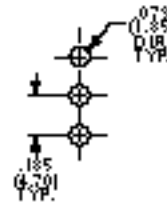
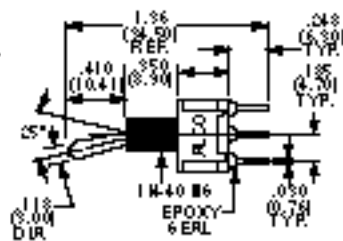
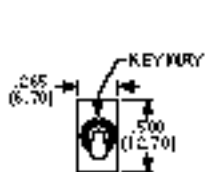
SPDT/DPDT



A101SYAB
Horizontal Actuation



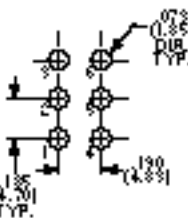
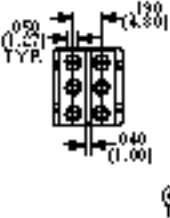
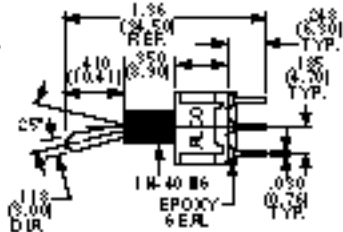
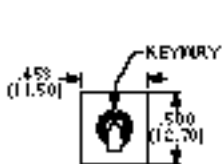
Gold Contacts						
Model	Type	Act. Code	P.M8			
A101SYAB	SPDT	1	On	None	On	
A103SYAB	SPDT	5	On	Off	On	
A201SYAB	DPDT	2	On	None	On	
A208SYAB	DPDT	2	On	None	(On)	



SPDT/DPDT



A101SYCB



A201SYCB

Gold Contacts						
Model	Type	Act. Code	P.M8			
A101SYCB	SPDT	1	On	None	On	
A103SYCB	SPDT	5	On	Off	On	
A108SYCB	SPDT	1	On	None	(On)	
A201SYCB	DPDT	2	On	None	On	
A203SYCB	DPDT	6	On	Off	On	
A208SYCB	DPDT	2	On	None	(On)	

Need more technical information?

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

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The Gemini Series "A" Series Toggles "Wire Wrap/Wire Lug"

Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

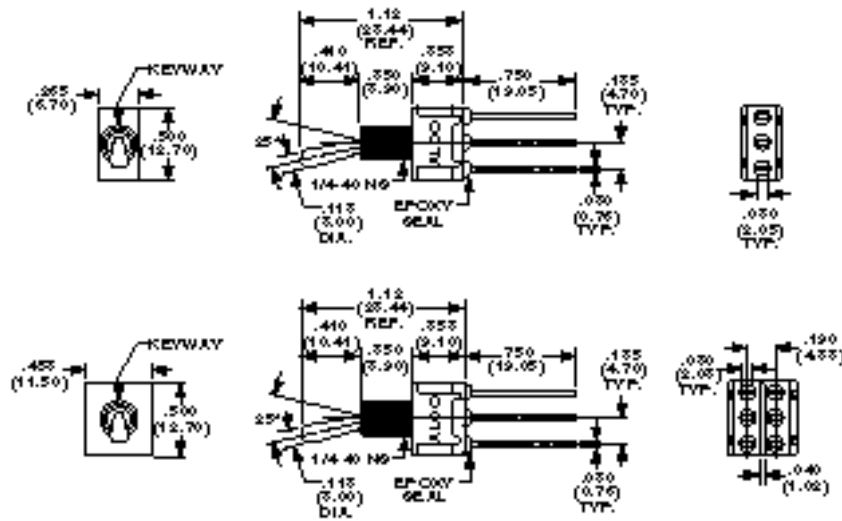
SPDT/DPDT



A101SYWQ



A201SYWQ



Silver Contacts Model	Type	Act . Code	P.M8			
A101SYWQ	SPDT	1		On	None	On
A103SYWQ	SPDT	5		On	Off	On
A201SYWQ	DPDT	2		On	None	On
A203SYWQ	DPDT	6		On	Off	On

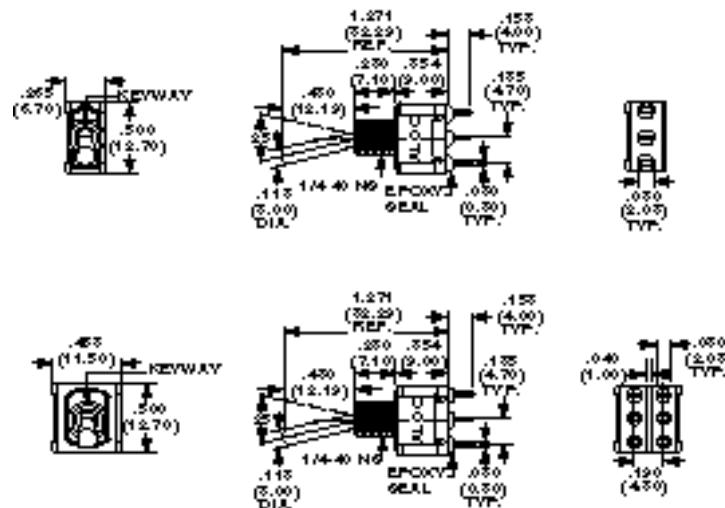
SPDT/DPDT



A101SDZQ



A201SDZQ



Silver Contacts Model	Type	Act . Code	P.M8			
A101SDZQ	SPDT	1		On	None	On
A103SDZQ	SPDT	5		On	Off	On
A201SDZQ	DPDT	2		On	None	On
A203SDZQ	DPDT	6		On	Off	On



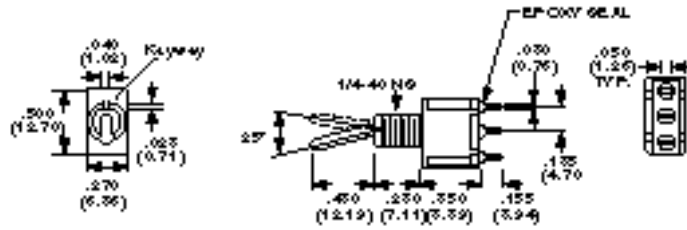
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"A" Series Toggles
Refer to Pages C32-C36 for Additional Options

The Gemini Series

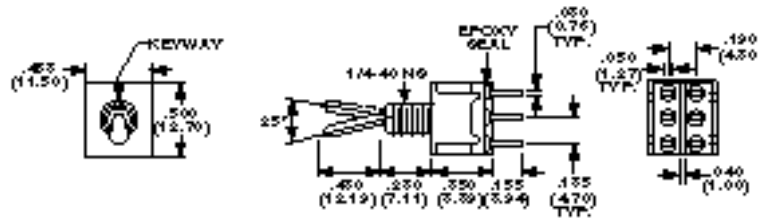
SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

SPDT



A101SDCQ

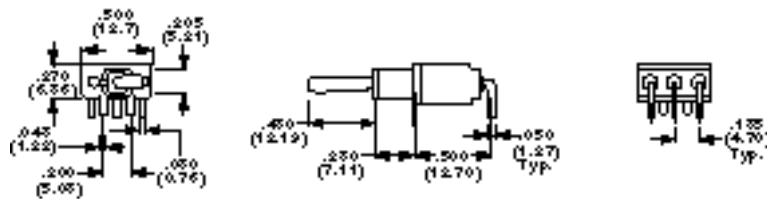
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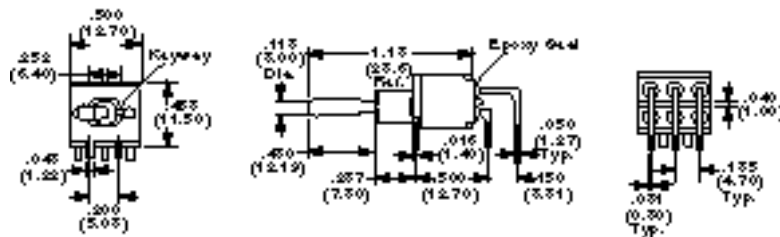
A201SDCQ

Silver Contacts Model	Type	Act. Code	P. M8			
A101SDCQ	SPDT	1		On	None	On
A103SDCQ	SPDT	5		On	Off	On
A201SDCQ	DPDT	2		On	None	On
A203SDCQ	DPDT	6		On	Off	On
A208SDCQ	DPDT	2		On	None	(On)

SPDT/DPDT



A101SD9AQ
Horizontal Actuation



A201SD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P. M8			
A101SD9AQ	A101SD9AB	SPDT	1		On	None	On
A103SD9AQ	A103SD9AB	SPDT	5		On	Off	On
A108SD9AQ	A108SD9AB	SPDT	1		On	None	(On)
A201SD9AQ	A201SD9AB	DPDT	2		On	None	On
A208SD9AQ	A208SD9AB	DPDT	2		On	None	(On)

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The Gemini Series "A" Series Toggles 5 Amp "Locking Actuator"

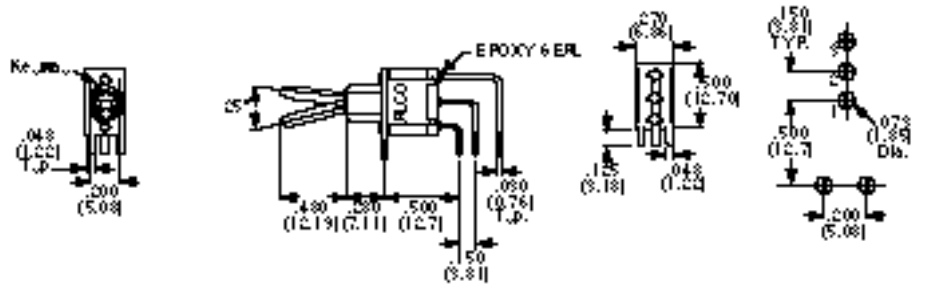
Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

SPDT



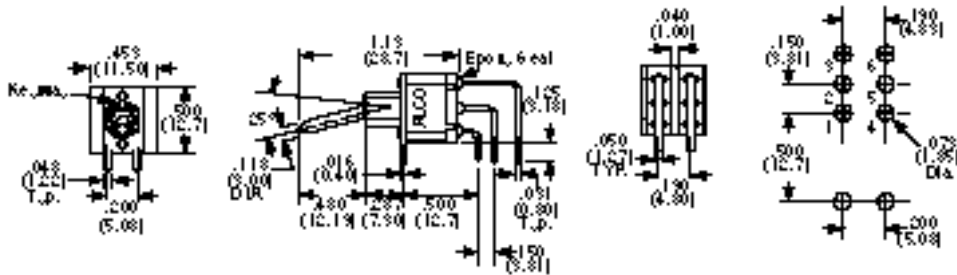
A101SD9AV2Q
Vertical Actuation



DPDT



A201SD9AV2Q
Vertical Actuation

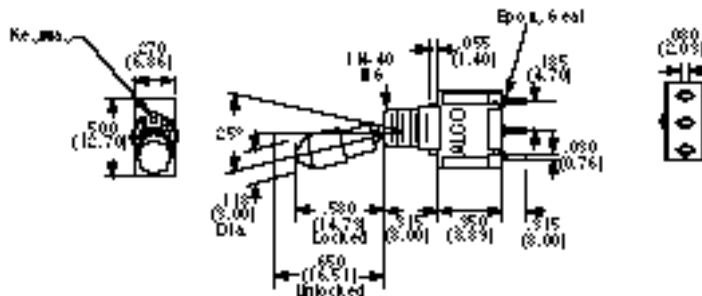


Silver Contacts Model	Type	Act. Code	P. M8				Silver Contacts Model	Type	Act. Code	P. M8			
A101SD9AV2Q	SPDT	1		On	None	On	A201SD9AV2Q	DPDT	2		On	None	On
A103SD9AV2Q	SPDT	5		On	Off	On	A203SD9AV2Q	DPDT	6		On	Off	On
							A208SD9AV2Q	DPDT	2		On	None	(On)

SPDT



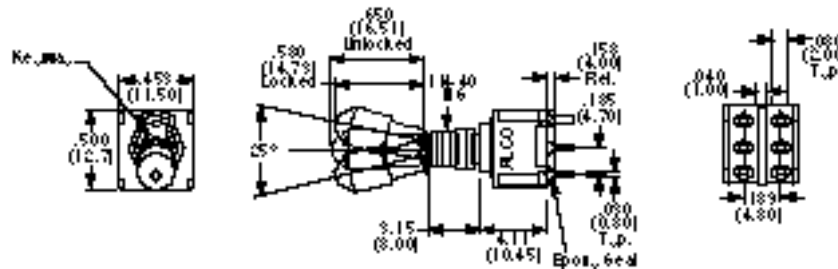
A101KZQ



DPDT



A201KZQ



Silver Contacts Model	Type	Act. Code	P. M8				Gold Contacts Model	Silver Contacts Model	Type	Act. Code	P. M8			
A101KZQ	SPDT	1		On	None	On	A201KZB	A201KZQ	DPDT	2		On	None	On
A103KZQ	SPDT	5		On	Off	On	A203KZB	A203KZQ	DPDT	6		On	Off	On
							A205KZB	A205KZQ	DPDT	6		(On)	Off	(On)
							A211KZB	A211KZQ	SP3T	11		On	On	On

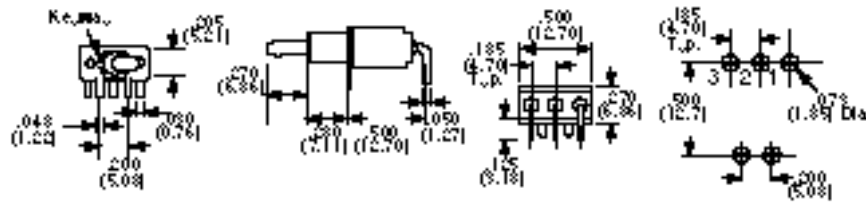


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"A" Series Toggles Right Angle
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The Gemini Series

PRODUCT SPECIFICATIONS

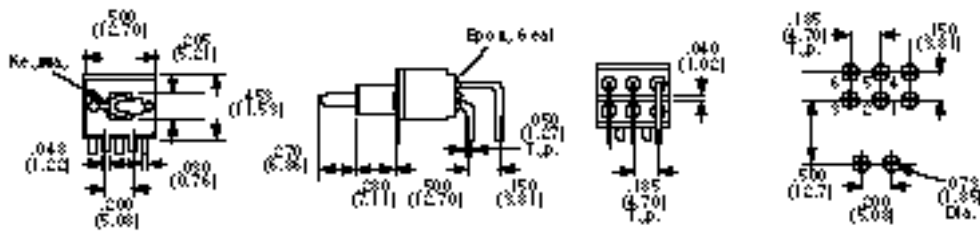


SPDT



A101MD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P.	M8			
A101MD9AQ	A101MD9AB	SPDT	1	On	None	On		
A103MD9AQ	A103MD9AB	SPDT	5	On	Off	On		
A108MD9AQ	A108MD9AB	SPDT	1	On	None	(On)		

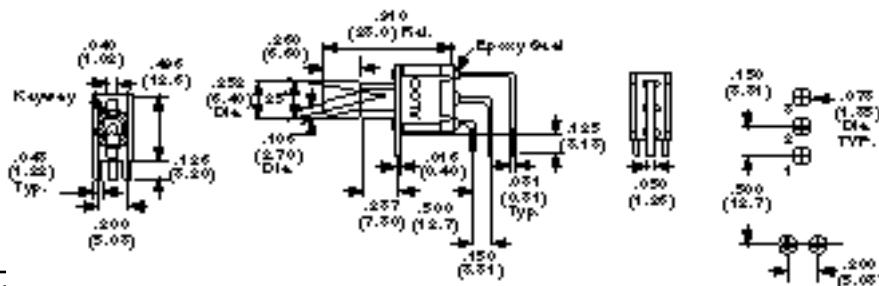


DPDT



A201MD9AQ
Horizontal Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P.	M8			
A201MD9AQ	A201MD9AB	DPDT	2	On	None	On		
	A203MD9AB	DPDT	6	On	Off	On		

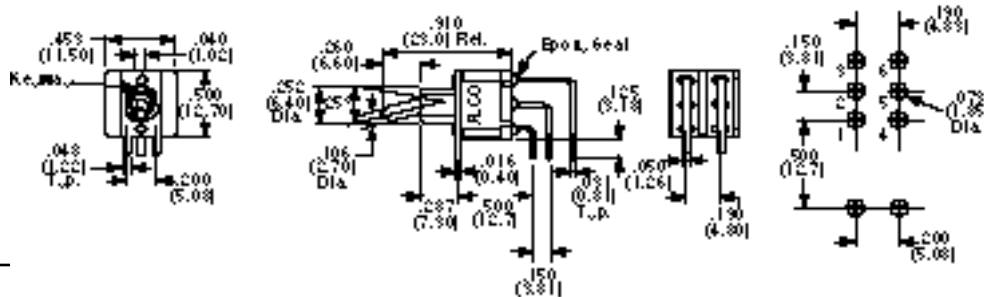


SPDT



A101MD9AV2Q
Vertical Actuation

Silver Contacts Model	Gold Contacts Model	Type	Act. Code	P.	M8			
A101MD9AV2Q	A101MD9AV2B	SPDT	1	On	None	On		
A103MD9AV2Q	A103MD9AV2B	SPDT	5	On	Off	On		
A108MD9AV2Q		SPDT	1	On	None	(On)		



DPDT



A201MD9AV2AQ
Vertical Actuation

Silver Contacts Model	Model	Type	Act. Code	P.	M8			
A201MD9AV2Q	A201MD9AV2B	DPDT	2	On	None	On		
A203MD9AV2Q	A203MD9AV2B	DPDT	6	On	Off	On		
A208MD9AV2Q	A208MD9AV2B	DPDT	2	On	None	(On)		

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The Gemini Series "A" Series Toggles Flat Actuators/Wire Lug

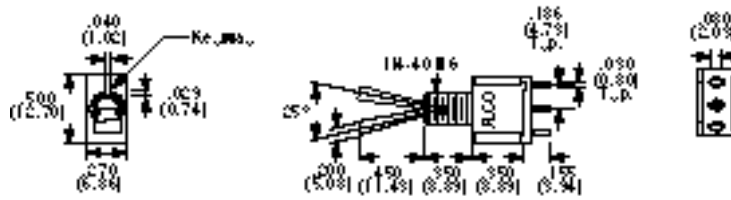
Refer to Pages C32-C36 for Additional Options

SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

SPDT



A101P3YZQ

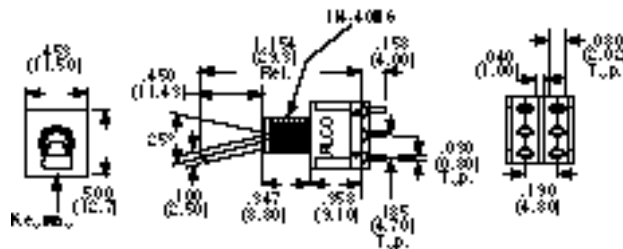


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A101P3YZQ	SPDT	1		On	None	On
A103P3YZQ	SPDT	5		On	Off	On
A105P3YZQ	SPDT	5	(On)	Off	(On)	
A107P3YZQ	SPDT	5		On	Off	(On)
A108P3YZQ	SPDT	1		On	None	(On)

DPDT



A201P3YZQ

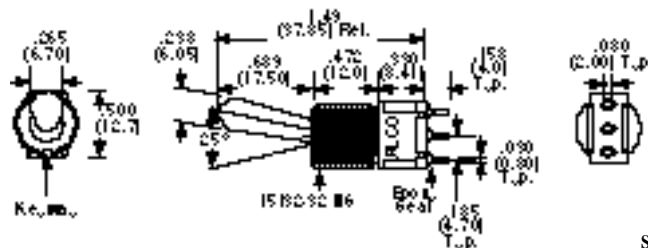


Model	Type	Act. Code	P.M8	Silver Contacts		
A201P3YZQ	DPDT	2		On	None	On
A203P3YZQ	DPDT	6		On	Off	On
A205P3YZQ	DPDT	6	(On)	Off	(On)	
A207P3YZQ	DPDT	6		On	Off	(On)
A208P3YZQ	DPDT	2		On	None	(On)
A211P3YZQ	SP3T	11		On	On	On
A215P3YZQ	SP3T	11	(On)	On	(On)	

SPDT



A101TZQ

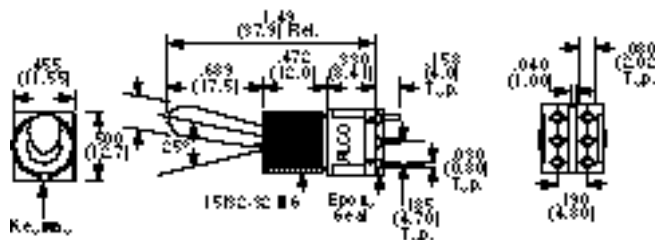


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A101TZQ	SPDT	1		On	None	On
A103TZQ	SPDT	5		On	Off	On

DPDT



A201TZQ



Model	Type	Act. Code	P.M8	Silver Contacts		
A201TZQ	DPDT	2		On	None	On
A203TZQ	DPDT	6		On	Off	On
A211TZQ	SP3T	11		On	On	On



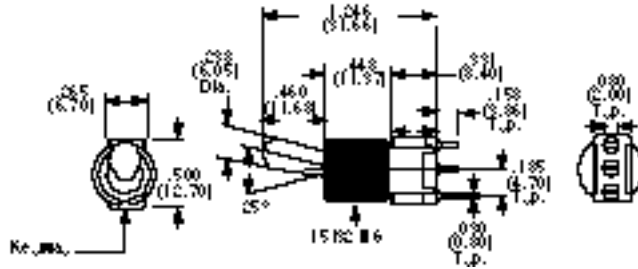
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"A" Series Toggles 15/32 Bushing The Gemini Series

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SEE PAGE C24 FOR PRODUCT SPECIFICATIONS

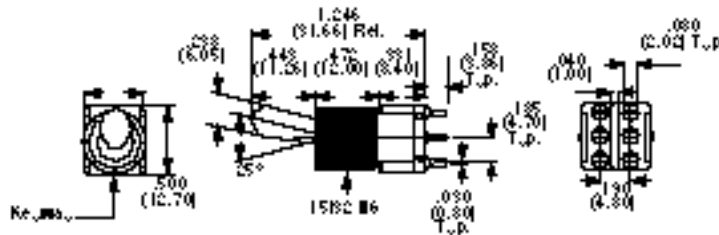
SPDT



A103T1ZQ

Silver Contacts Model	Type	Act. Code	P. M8			
A101T1ZQ	SPDT	1		On	None	On
A103T1ZQ	SPDT	5		On	Off	On
A105T1ZQ	SPDT	5		(On)	Off	(On)
A108T1ZQ	SPDT	1		On	None	(On)

DPDT



A201T1ZQ

Silver Contacts Model	Type	Act. Code	P. M8			
A201T1ZQ	DPDT	2		On	None	On
A203T1ZQ	DPDT	6		On	Off	On
A205T1ZQ	DPDT	6		(On)	Off	(On)
A207T1ZQ	DPDT	6		On	Off	(On)
A208T1ZQ	DPDT	2		On	None	(On)
A211T1ZQ	SP3T	11		On	On	On

Need more technical information?

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The Gemini Series "A" Series Miniature Toggles

FEATURES

Hardware supplied with threaded bushings: two hex nuts, one internal tooth lockwasher and one locking ring. (See Hardware Section for: dress nuts, plastic caps and environment boot seals.)

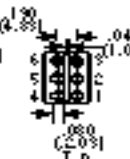
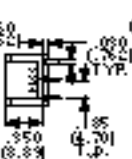
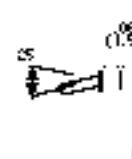
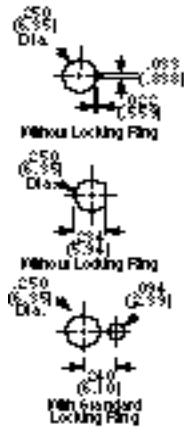
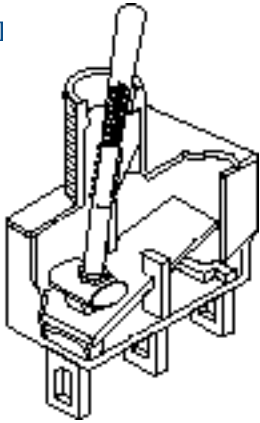
TYPICAL PERFORMANCE CHARACTERISTICS:

Contact RatingSilver: 2 A @ 250 VAC or 5 A @ 125 VAC
 Gold: 0.4 VA @ 20 VAC/DC max.
 Insulation Resistance1,000 Megohms min. @ 500 VDC.
 Dielectric Strength1,000 Volts RMS @ sea level initial
 Electrical Life30,000 Cycles

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature..... -20°C to + 85°C (-4°F to + 185°F)
 Storage Temperature.....-45°C to + 100°C (-49°F to + 212°F)

DES1



PART NUMBERING

Model	Function	Toggle	Bushing	Terminal	Contact	K, K1: Cap Color	Option	
A1 Single Pole	S K K1 L L1 L2 M P3 P4 T T1 T2P	Bat. Long	Y 1/4-40 threaded, .35" long, slotted Y9 unthreaded, .35" long CW 1/4-40 threaded, .37" long, actuator & bushing flange environmental seals D 1/4-40 threaded, .28" long, slotted D9 Unthreaded, .28" long H 1/4-40 threaded, flanged, .30" long	Z Wire Lug	Q Silver B Gold G Gold over Silver	(Nickel Standard) 0 Black 2 Red	U.L.(Q or G contact only)	
A2 Double Pole		Locking		A Right Angle				V30 V40 V90 Vertical Support V60 V70 V80 Bracket W W1 W3 W4 W5 Wire Wrap Z3 Quick Connect
01 On-On		Locking		AV2 Vertical Right Angle				
03 On-Off-On		Lever		C Printed Circuit				
05 (On)-Off-(On)		Lever						
07 On-Off-(On)		Lever						
08 On-(On)		Bat. Short						
11 On-On-On		Flatted (with Y only)						
13 On-On-(On)		Flatted (with Y only)						
15 (On)-On-(On)		Large Toggle & Bushing						
	Large Toggle & Bushing							
	Large Flatted Toggle and Bushing							

Note: For surface mount termination, use the "TST" series, Page C8

Other Options
N Black finish toggle, bushing and hardware. Add "N" to end of part number, but before U.L. option.
O Internal O-ring environmental actuator seal. Add letter after toggle option: S,M,L,L1 & L2.
P Anti-Push-In/Anti rotate. Add letter after toggle S,M,L,L1 & L2

See page C33 for SP3T wiring diagram.

See pages M2-M4 for application specific indexing.



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"A" Series Miniature Toggles The Gemini Series

FUNCTIONS

The following functions available in SP or DP.



01	2 Positions	None indicates no mechanical position	On	None	On
03	3 Positions		On	Off	On
05	3 Positions	Off indicates a mechanical position with no electrical connection.	(On)	Off	(On)
07	3 Positions		(On)	Off	On
08	2 Positions	(On) indicates momentary action.	(On)	None	On
		SPDT, connect terminals:	1—2	—	2—3
		DPDT, connect terminals:	1—2 4—5	— —	2—3 5—6

11	3 Positions	On	On	On
13	3 Positions	(On)	On	On
15	3 Positions	(On)	On	(On)

Functions available in DP only

Connect terminals:

1—2	2—3	2—3
4—5	4—5	5—6

* SP3T functions achieved with external jumper installed by customer

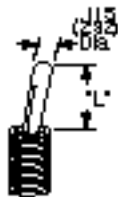
WIRING DIAGRAM FOR FUNCTION:

11 **13** **15**

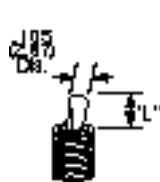


TOGGLES

S
Standard

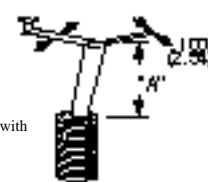


M
Short

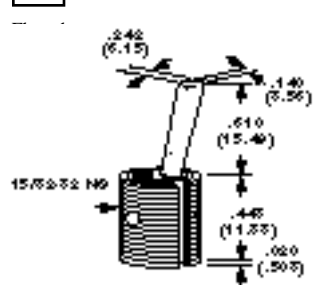


P3
P4

Flatted
Available only with "Y" bushing. Pinned for anti-rotation. Use N-3 dress nut for enhancement.

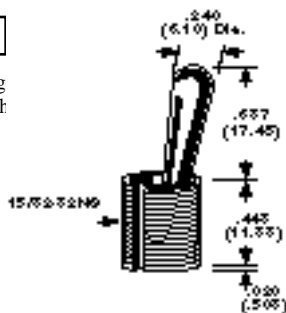


T2P

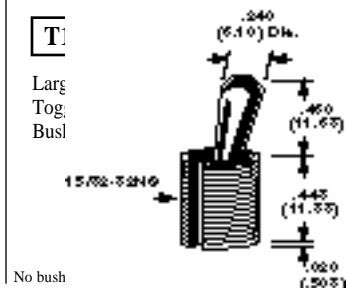


Dimension "L"	Bushing	Dimension "L"	Bushing Type	Actuator	"A"	Dimension "B"	
.410 (10.41)	"Y", "H", "CW"	.200 (5.08)	"Y", "H", "CW"	P3	.450 (11.43)	.200 (5.08)	Pinned for anti-rotation
.480 (12.19)	"D", "D9"	.270 (6.86)	"D", "D9"	P4	.250 (6.35)	.165 (4.19)	

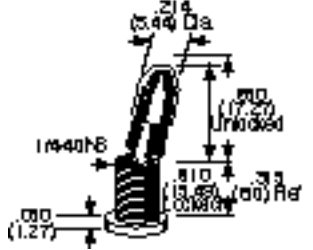
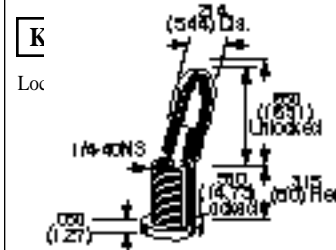
T
Larg
Bush



T
Larg
Tog.
Busl



K
Loc



No bushing option needed for "K" or K1 "K" locking levers are used to prevent accidental switching and must be lifted up prior to actuation. Standard nickel finish. Actuator option continued on Page C34.

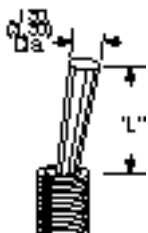
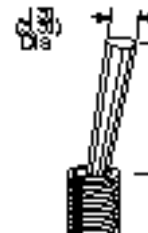
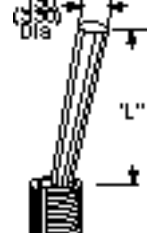
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Contact your local ABE office--(800) 453-1692--or AboveBoardElectronics.com.

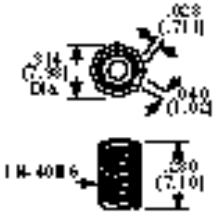
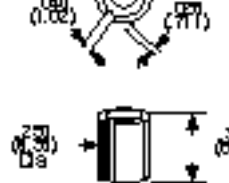
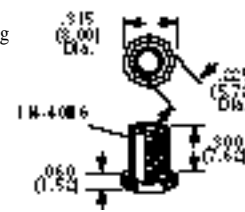
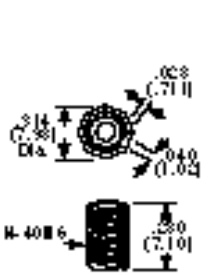
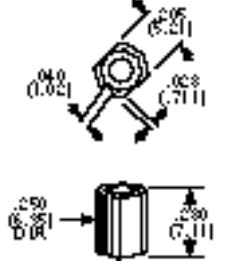
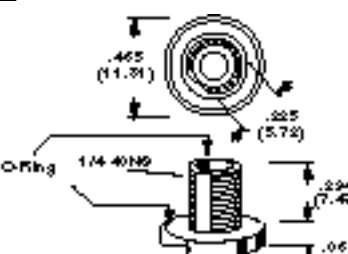
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1918 Junction Avenue
San Jose, CA 95131

The Gemini Series "A" Series Miniature Toggles "Bushing / Terminal Options"

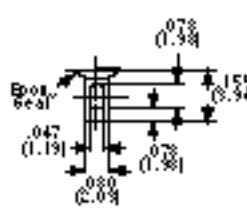
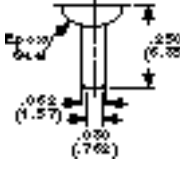
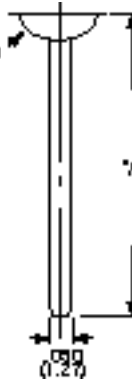
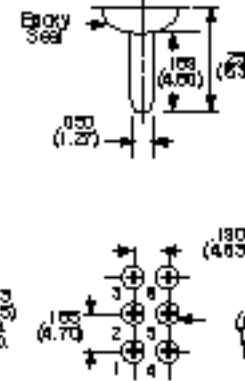
TOGGLES

<p>L</p> <p>Lever</p> 	<p>L1</p> <p>Lever</p> 	<p>L2</p> <p>Lever</p> 
<p>Dimension "L"</p> <p>.840 (21.34) .910 (23.4)</p> <p>Bushing</p> <p>"Y", "H" "CW" "D", "D9"</p>	<p>Dimension "L"</p> <p>.640 (16.26) .710 (18.03)</p> <p>Bushing Type</p> <p>"Y", "H" "CW" "D", "D9"</p>	<p>Dimension "L"</p> <p>.550 (13.97) .620 (15.75)</p> <p>Bushing Type</p> <p>"Y", "H", "D", "D9"</p>

BUSHINGS

<p>Y</p> <p>1/4-40 Thread .35" long, slotted (Standard)</p> 	<p>D9</p> <p>Unthreaded .28" long</p>  <p>Used with Z, C & W terminations</p>	<p>H</p> <p>1/4-40 Thread Flanged, .30" long</p> 
<p>D</p> <p>1/4-40 Thread .28" long, slotted</p> 	<p>CW</p>  <p>Used with A, AV2, V30 V80 & V90 terminations</p>	<p>CW</p>  <p>For S & M Toggles</p>

TERMINALS

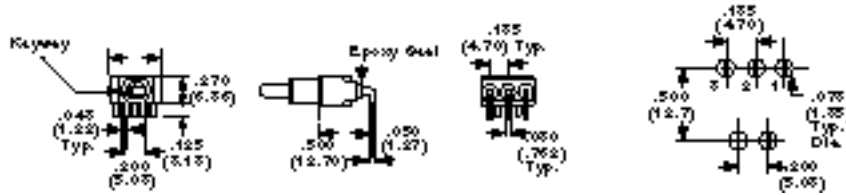
<p>Z</p> <p>Wire Lug</p> 	<p>Z</p> <p>Quick Connect</p>  <p>Mates with AMP 61454 or 60900.</p>	<p>W W1 W3 W4 W5</p> <p>Wire Wrap</p>  <table border="1"> <tr> <td colspan="2">"A"</td> </tr> <tr> <td>W</td> <td>.750</td> </tr> <tr> <td>W1</td> <td>.964</td> </tr> <tr> <td>W3</td> <td>.425</td> </tr> <tr> <td>W4</td> <td>1.062</td> </tr> <tr> <td>W5</td> <td>1.305</td> </tr> </table>	"A"		W	.750	W1	.964	W3	.425	W4	1.062	W5	1.305	<p>C</p>  <p>Single pole</p> <p>Double pole</p>
"A"															
W	.750														
W1	.964														
W3	.425														
W4	1.062														
W5	1.305														

"A" Series Miniature Toggles The Gemini Series

TERMINALS

A

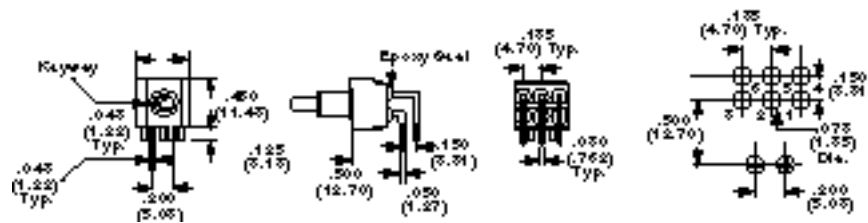
Right Angle
Single Pole



Note: Terminal numbers viewed from top of P.C. boards.

A

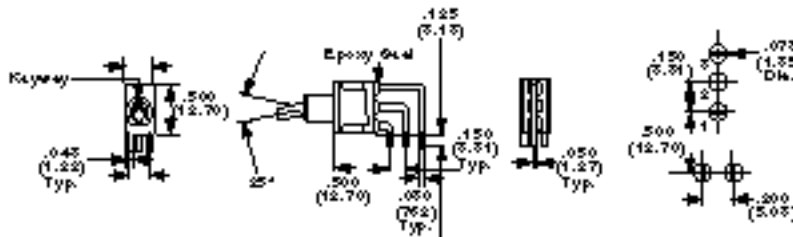
Right Angle
Double Pole



Note: Terminal numbers viewed from top of P.C. boards.

AV2

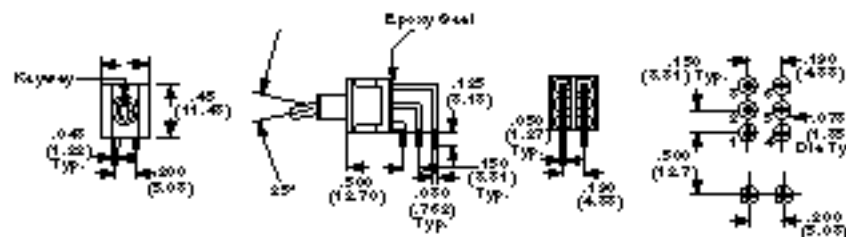
Vertical Right Angle
Single Pole



Note: Terminal numbers viewed from top of P.C. boards.

AV2

Vertical Right Angle
Double Pole



Note: Terminal numbers viewed from top of P.C. boards.

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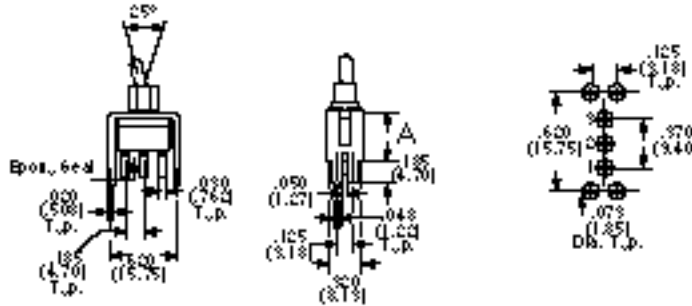
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The Gemini Series "A" Series Miniature Toggles "5 Amp" Terminal Options

TERMINALS NOTE: Terminal numbers viewed from top of P.C. board

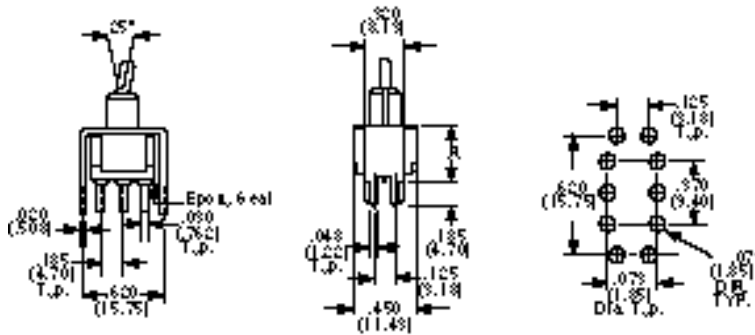
V30 V40 V90

Vertical Support Bracket
Single Pole



Option Code	Dim."A"
V30	.460 (11.68)
V40	.630 (16.00)
V90	1.150 (29.21)

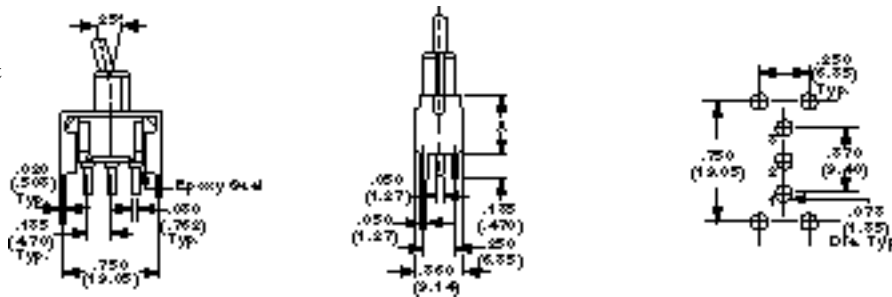
Vertical Support Bracket
Double Pole



Option Code	Dim."A"
V30	.460 (11.68)
V40	.630 (16.00)
V90	1.150 (29.21)

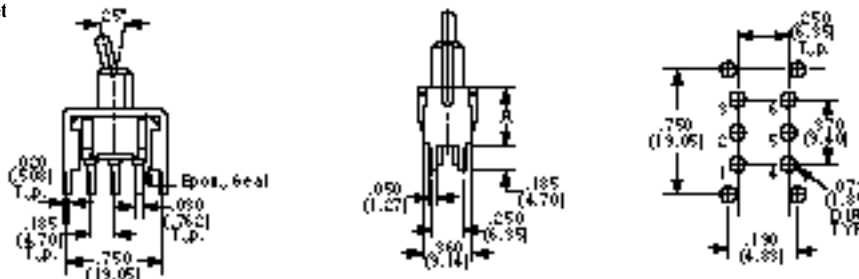
V60 V70 V80

Vertical Support Bracket
Single Pole



Option Code	Dim."A"
V60	.460 (11.68)
V70	.630 (16.00)
V80	.953 (24.71)

Vertical Support Bracket
Double Pole



Option Code	Dim."A"
V60	.460 (11.68)
V70	.630 (16.00)
V80	.953 (24.71)

CONTACTS

B CONTACTS: Copper alloy with gold plate, welded button.

TERMINALS: Brass with gold plate.

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC.

Q CONTACTS: Copper alloy with silver, welded button.

TERMINALS: Brass with tin/lead plate.

ELECTRICAL RATING: 5 A @ 125 VAC, 2 A @ 250 VAC, 5 A @ 28 VDC.

UL/CSA RATING: 5A @ 125 VAC, 3A @ 250 VAC.
(Specify "UL" option code)

G CONTACTS: Copper alloy with gold plate over silver, welded button.

TERMINALS: Brass alloy, with gold plate.

Note: This contact option can be used for low-level or power switching. If level is above 0.4 VA @ 20 VAC/DC, the switch is rendered usable only for power switching due to arc-removal of gold plate.

UL/CSA RATING: 5A @ 125 VAC, 3A @ 250 VAC
(Specify "UL" option code)

ELECTRICAL RATING: 0.4 VA @ 20 VAC/DC or 5 A @ 125 VAC, 2 A @ 250 VAC, 5 A @ 28 VDC.



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