



A

Pushbutton

# F Series Pushbutton Switches

## Features/Benefits

- Up to 10 poles per module
- Various contact terminals
- Various mounting & switch ganging configurations
- Mechanical indicator buttons
- RoHS compliant

## Typical Applications

- Audio selection
- Digital equipment interface
- Medical equipment interface



## Specifications

SWITCHING POWER: F module max. AC/DC: Silver: 50 VA/15W, Gold: 1 VA/300 mW.

SWITCHING VOLTAGE: F module max. AC/DC: Silver: 125/30V, Gold: 50/30 V.

SWITCHING CURRENT: F module max. AC/DC: Silver: 0.5A/0.5A, Gold: 0.04A/0.01A.

CARRYING CURRENT: Max at du = 20C: Silver: < 2A, Gold: <0.5A.

DIELECTRIC STRENGTH (50 Hz, 1 min.): Chassis/contact: ^1500V  
Between contacts: ^1500V.

OPERATING LIFE "OA/EE" (24V/200mA): >10<sup>5</sup> operations  
"GR": >3.5 x 10<sup>4</sup> operations.

CONTACT RESISTANCE: Initial: Typical %10 mΩ, max. 20 mΩ  
After operating life: %100 mΩ

INSULATION RESISTANCE: ^10<sup>9</sup> Ω between open contacts,  
^10<sup>9</sup> Ω between chassis and contacts.

CAPACITANCE (at f = 10 kHz): %0.7 pF between 2 contacts.

TOTAL TRAVEL/LATCHING TRAVEL: 4.7mm/3.3mm (.185 inch/.130 inch).

All models and options are RoHS compliant and compatible.

**NOTE:** All models and options are RoHS compliant and compatible.

**NOTE:** Specifications and materials listed above are for switches with standard options.  
For information on specific and custom switches, consult Customer Service Center.

TYPICAL F OPERATING FORCE: 2U: 6.5N (650 grams); 4U: 6.5N (650 grams); 6U: 7.5N (750 grams); 8U: 9.0N (900 grams); 10U: 9.0N (900 grams).

EUROPEAN TYPICAL SF OPERATING FORCE:

2U: 3.5N±0.5N (350 grams±100 grams); 4U: 5N±1N (500 grams±100 grams); 6U: 6.5N±1N (650 grams±100 grams); 8U: 9.0N±1N (900 grams±100 grams).

OPERATING TEMPERATURE RANGE: -40°C to 70°C.

## Materials

HOUSING: Polycarbonate UL 94V-0 or polyester UL 94V-0.

ACTUATOR: Polyester UL 94V-0.

MOVABLE CONTACTS: Bimetal brass, silver plated, gold plate over nickel.

STATIONARY CONTACTS & TERMINALS: Brass, silver plated, gold plated.

TERMINAL BOARD: Polyester UL 94V-0.

RETURN SPRING: Music wire.

TERMINAL SEAL: RTV adhesive sealant.

CHASSIS: Steel.

LOCKOUT PIN: Steel.

BLOCKERS: Steel.

## Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-89 thru A-97. For additional options not shown in catalog, consult Customer Service Center.

If requesting only a switch, select either a North American or European switch as noted below. Chassis and buttons are sold separately. If multiple stations are selected, we will assume all switches are the same unless noted otherwise.

## North American Order Code - Switch Only

<div>Designation</div> <div>F F Series</div> <div>FLT Light touch F series</div> <div>ZF Central mounted F series</div>	<div>Contact Arrangement</div> <div>2U 2PDT</div> <div>4U 4PDT</div> <div>6U 6PDT</div> <div>8U SPDT</div> <div>10U 10PDT</div>	<div>Mechanical Function</div> <div>OA Momentary</div> <div>EE Alternate (push-push)</div> <div>GR Interlock</div> <div>AOR Central release</div> <div>OASP Momentary with lockout</div> <div>GRSP Interlock with lockout</div>	<div>Terminal Sealing</div> <div>(NONE) None</div> <div>TB Top/bottom</div>	<div>Terminal Style</div> <div>(NONE) Solder lugs &amp; PC pins</div> <div>01A Cut solder lugs</div> <div>01B Cut PC pins, for other configurations, consult factory</div>	<div>Electrical Function</div> <div>(NONE) BBM Break-Before-Make</div> <div>M MBB (special) Make-Before-Break</div>	<div>Contact Material</div> <div>(NONE) Silver, AG</div> <div>AU Gold</div>	<div>Dress nut*</div> <div>*Central mounted F series only</div> <div>(NONE) No dress nut</div> <div>B Black</div> <div>C Chrome</div>
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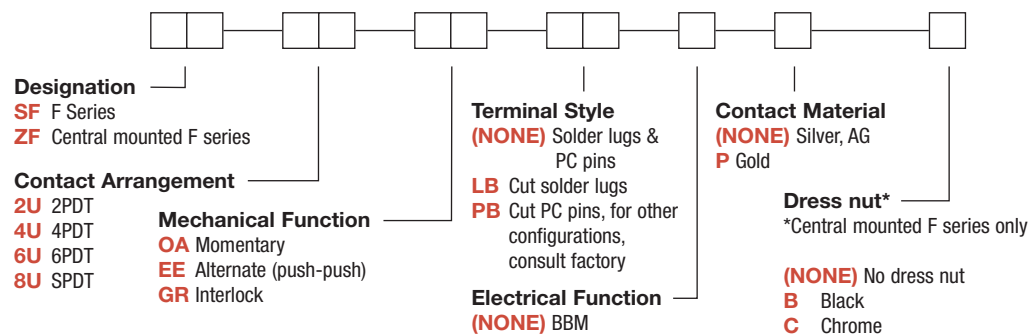
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

F Series  
Pushbutton Switches



Pushbutton

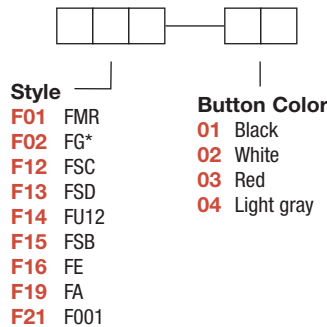
European Order Code - Switch Only



\*Minimum order quantities apply.

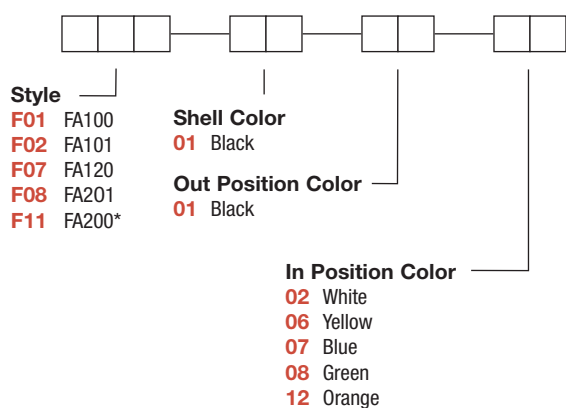
Order Code - Buttons

Solid Buttons



\*Button options for central mounting configurations, use 'FG' for central mount with chrome dress nut, use 'FA200' for central mount with black dress nut.

Mechanical Indicator Buttons



BUTTON REMOVAL

A button of a push-push switch should only be removed in the "OFF" non-latching position.





# F Series Pushbutton Switches

## Order Code - Chassis

To order a switch with chassis, create the switch part number listed above and add the Chassis part number configurator information at the end of the part number.

Note: We do not guarantee or recommend interlocking beyond 10 stations.



### No. of Stations

01 thru 23

Comes with standard  
.094 (2,4mm) mounting holes  
Note: Single station chassis  
available with special mounting  
configurations, consult factory.

### Spacing between Stations

00	Single station
10	10mm
12.5	12.5mm
15	15mm
17.5	17.5mm
20	20mm

### Special Acknowledgements

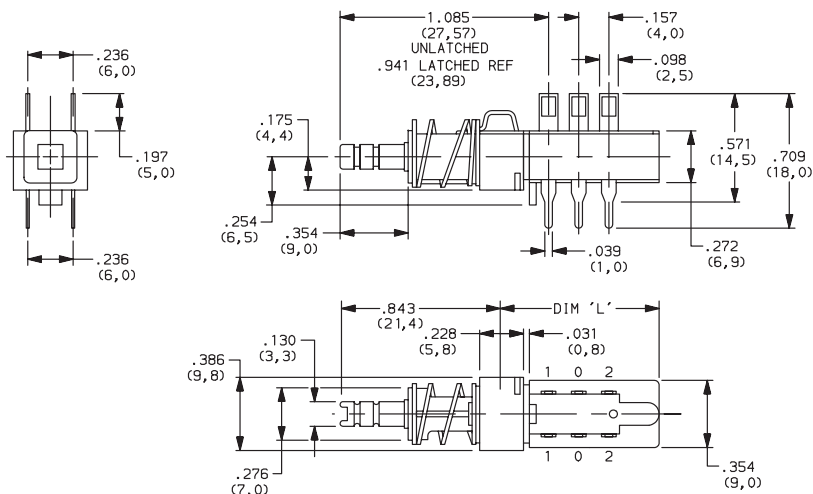
See note

\*Minimum order quantities apply.

## SWITCHES WITH STANDARD OPTIONS

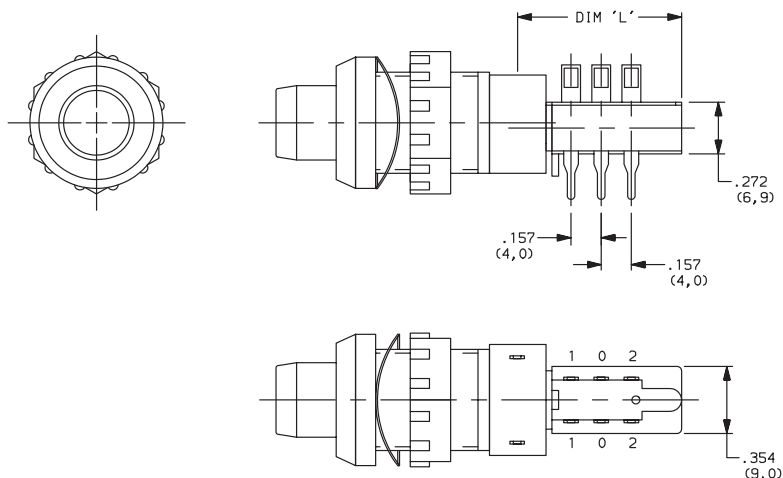
### F2UEE

CONTACT ARRANGEMENT	LENGTH DIM 'L'
2U	0.827 (21,00)
4U	1.300 (33,00)
6U	1.770 (45,00)
8U	2.240 (57,00)
10U	2.720 (69,00)



### ZF2UEEBF11010108

CONTACT ARRANGEMENT	LENGTH DIM 'L'
2U	0.827 (21,00)
4U	1.300 (33,00)
6U	1.770 (45,00)
8U	2.240 (57,00)
10U	2.720 (69,00)



Third Angle  
Projection



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Pushbutton Switches



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DESIGNATION



Designation, North America

- F** F Series
- FLT** Light touch F series
- ZF** Central mounted F series

Designation, Europe

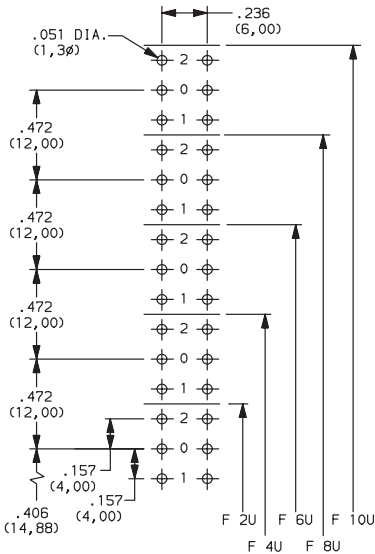
- SF** F Series
- ZF** Central mounted F series

CONTACT ARRANGEMENT



OPTION CODE	NO. OF POLES	SCHEMATIC
2U	2PDT	
4U	4PDT	2X
6U	6PDT	3X
8U	8PDT	4X
10U	10PDT	5X

PC MOUNTING



MECHANICAL FUNCTION



North America

OPTION CODE	FUNCTION
OA	Momentary
EE	Alternate (push-push)
GR	Interlock
AOR	Central release
OASP	Momentary with lockout
GRSP	Interlock with lockout

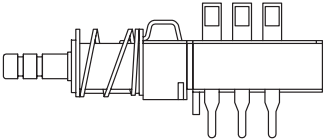
Europe

OPTION CODE	FUNCTION
OA	Momentary
EE	Alternate (push-push)
GR	Interlock

TERMINAL SEALING

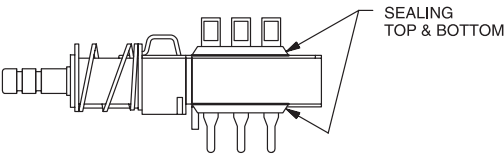


(NONE) NO SEAL

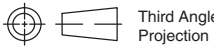


F2UEE shown in example above.

TB TOP & BOTTOM



NOTE: Available for North America only



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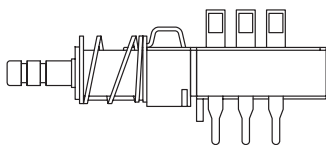
# F Series Pushbutton Switches

## TERMINAL STYLE



(NONE)

SOLDER LUGS & PC PINS

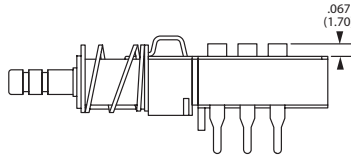


01A

CUT SOLDER LUGS (North America)

LB

CUT SOLDER LUGS (Europe)

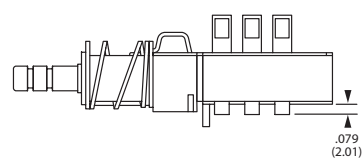


01B

CUT PC PINS (North America)

PB

CUT PC PINS (Europe)



## ELECTRICAL FUNCTION



OPTION CODE	FUNCTION
(NONE)	BBM Non-shorting
M	MBB Shorting (North America only)

## CONTACT MATERIAL



NORTH AMERICA OPTION CODE	EUROPE OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	MATERIAL	RATING
(NONE)	(NONE)	YES	YES	SILVER, AG	50 VA/15 W; 125/30 V; 0.5/0.5 A
AU	P	YES	YES	GOLD	1 VA/300mW; 50/30 V; 0.04 A/0.01 A

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

## DRESS NUT

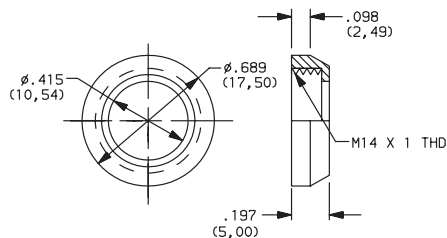


(NONE)

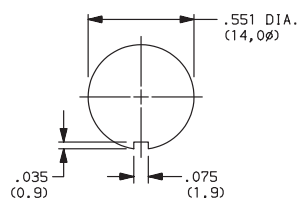
NO DRESS NUT FOR F & F/LT  
DESIGNATIONS

B

BLACK



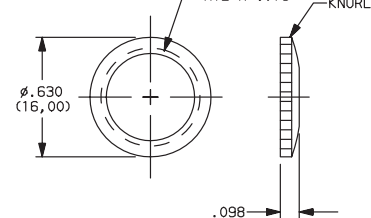
### PANEL CUTOUT



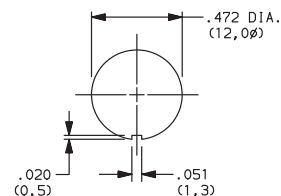
NOTE: Available with ZF designation and FA200 buttons.

C

CHROME



### PANEL CUTOUT



NOTE: Available with ZF designation and  
FG button.



Third Angle  
Projection

Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



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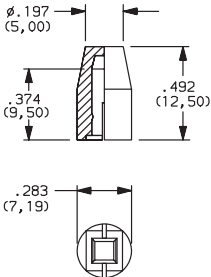
SOLID BUTTON

STYLE

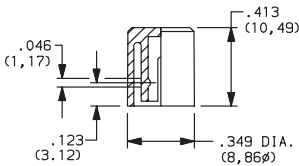
COLOR

## STYLE

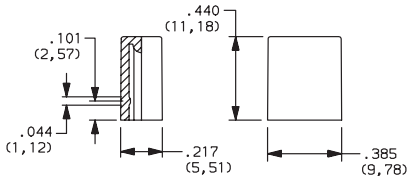
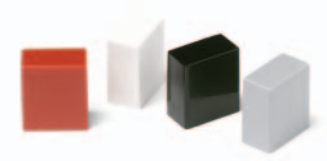
F01 FMR



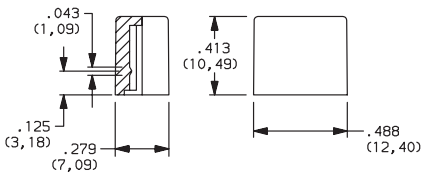
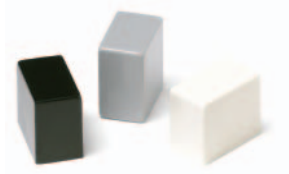
F02 FG



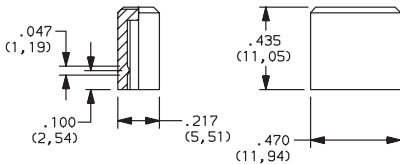
F12 FSC



F13 FSD



F14 FU12



OPTION CODE	COLOR
01	BLACK
02	WHITE
03	RED
04	LT. GRAY



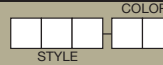
Dimensions are shown: Inches (mm)  
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# F Series Pushbutton Switches

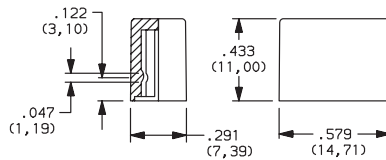
Pushbutton  
A

## SOLID BUTTON

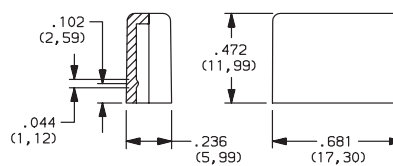


### STYLE

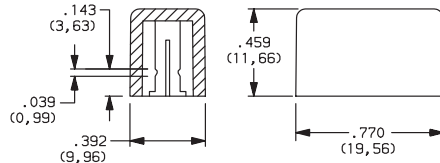
#### F15 FSB



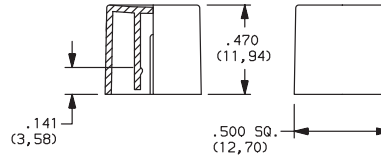
#### F16 FE



#### F19 FA

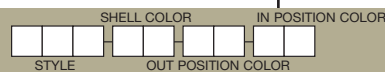


#### F21 F001



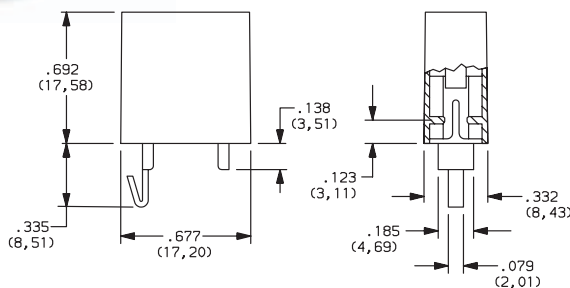
OPTION CODE	COLOR
01	BLACK
02	WHITE
03	RED
04	LT. GRAY

## MECHANICAL BUTTON

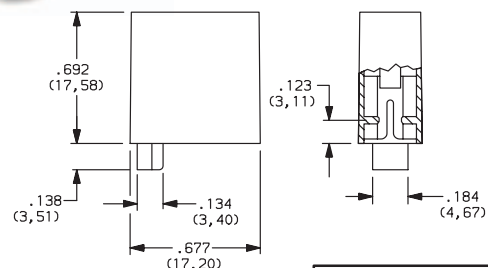


### STYLE

#### F01 FA100



#### F02 FA101



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

# F Series Pushbutton Switches



MECHANICAL BUTTON

SHELL COLOR

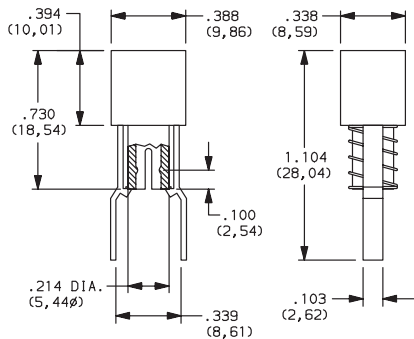
IN POSITION COLOR

STYLE

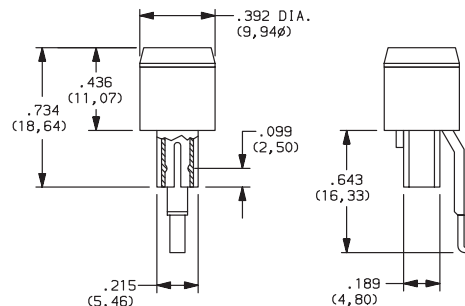
OUT POSITION COLOR

## STYLE

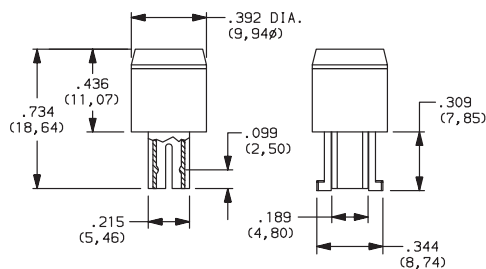
**F07** FA120



**F08** FA201



**F11** FA200



## SHELL COLOR

**01** BLACK

## OUT POSITION COLOR

**01** BLACK

## IN POSITION COLOR

OPTION CODE	COLOR
<b>02</b>	WHITE
<b>06</b>	YELLOW
<b>07</b>	BLUE
<b>08</b>	GREEN
<b>12</b>	ORANGE



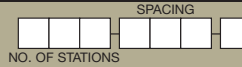
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change





# F Series Pushbutton Switches

## CHASSIS



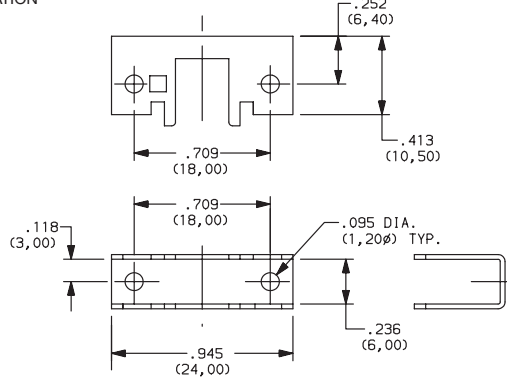
## NUMBER OF STATIONS

**C00 Thru C10** Comes with standard 0.094 (2,44mm) mounting holes

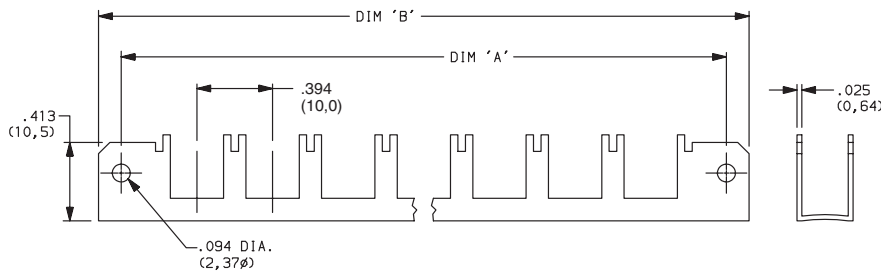
**NOTE:** Single station chassis available with mounting configurations, consult factory.

## SPACING

**00** SINGLE STATION

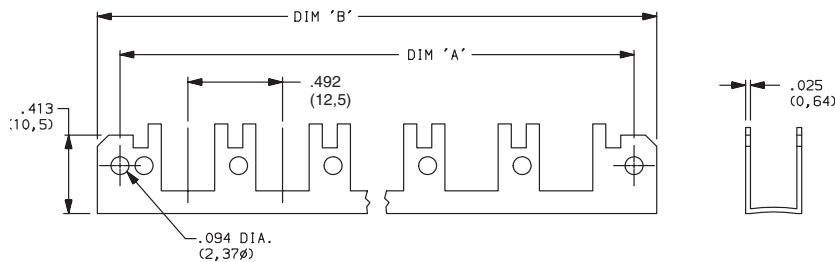


**10** 10mm



No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.182 (30,02)	1.418 (36,02)	0.005
3	1.575 (40,01)	1.811 (46,00)	0.010
4	1.969 (50,01)	2.205 (56,01)	0.010
5	2.363 (60,02)	2.599 (66,01)	0.010
6	2.757 (70,03)	2.993 (76,02)	0.015
7	3.150 (80,01)	3.386 (86,00)	0.015
8	3.544 (90,02)	3.780 (96,01)	0.015
9	3.938 (100,03)	4.174 (106,02)	0.015
10	4.331 (110,01)	4.567 (116,00)	0.015

**12.5** 12.5mm



No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.200 (30,48)	1.436 (36,47)	0.005
3	1.692 (42,98)	1.928 (48,97)	0.010
4	2.184 (55,47)	2.420 (61,47)	0.010
5	2.676 (67,97)	2.912 (73,96)	0.010
6	3.169 (80,49)	3.405 (86,49)	0.015
7	3.661 (92,99)	3.897 (98,98)	0.015
8	4.153 (105,49)	4.389 (111,48)	0.015
9	4.645 (117,98)	4.881 (123,98)	0.015
10	5.137 (130,48)	5.373 (136,47)	0.015



Third Angle  
Projection

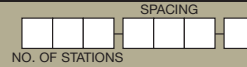
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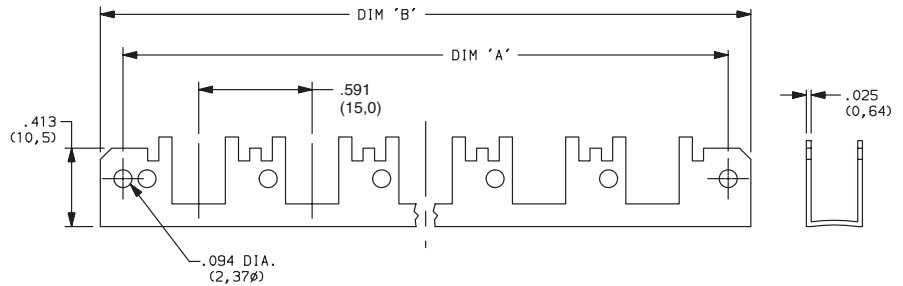
CHASSIS



## SPACING

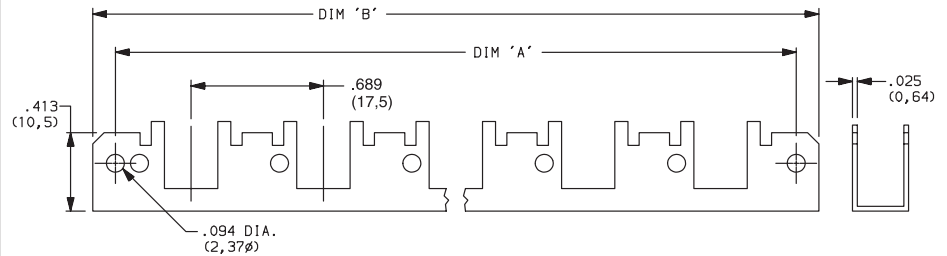
**15** 15mm

No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.374 (34,90)	1.615 (41,02)	0.005
3	1.969 (50,01)	2.205 (56,01)	0.010
4	2.560 (65,02)	2.796 (71,02)	0.010
5	3.150 (80,01)	3.386 (86,00)	0.010
6	3.741 (95,02)	3.977 (101,02)	0.015
7	4.332 (110,03)	4.568 (116,03)	0.015
8	4.922 (125,02)	5.158 (131,01)	0.015
9	5.513 (140,03)	5.749 (146,02)	0.015
10	6.103 (155,02)	6.339 (161,01)	0.015



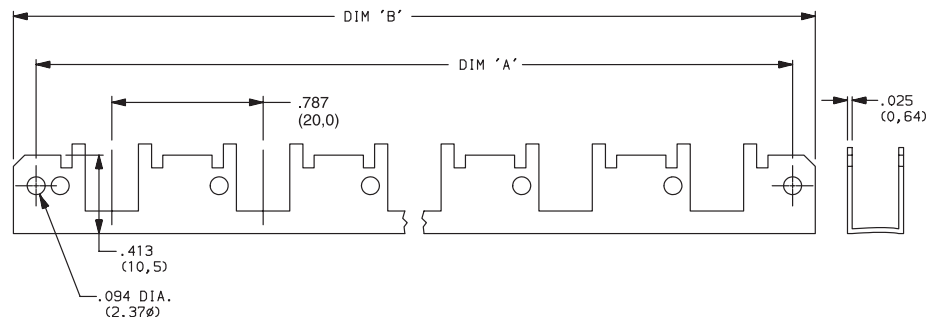
**17.5** 17.5mm

No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.477 (37,52)	1.713 (43,51)	0.005
3	2.166 (55,02)	2.402 (61,01)	0.010
4	2.855 (75,52)	3.091 (78,51)	0.010
5	3.544 (90,02)	3.780 (96,01)	0.010
6	4.233 (107,52)	4.469 (113,51)	0.015
7	4.922 (125,02)	5.158 (131,01)	0.015
8	5.611 (142,52)	5.847 (148,51)	0.015
9	6.300 (160,02)	6.536 (166,01)	0.015
10	6.989 (177,52)	7.225 (183,52)	0.015



**20** 20mm

No. of Stations	Dim. 'A'	Dim. 'B'	Tolerance
2	1.575 (40,01)	1.811 (46,00)	0.005
3	2.363 (60,02)	2.599 (66,01)	0.010
4	3.150 (80,01)	3.386 (86,00)	0.010
5	3.938 (100,03)	4.174 (106,02)	0.010
6	4.725 (120,02)	4.961 (126,01)	0.015
7	5.512 (140,00)	5.748 (146,00)	0.015
8	6.300 (160,02)	6.536 (166,01)	0.015
9	7.087 (180,01)	7.323 (186,00)	0.015
10	7.875 (200,03)	8.111 (206,02)	0.015



Third Angle  
Projection



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change

# Mouser Electronics

Authorized Distributor

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[F6U0ATBAU](#) [F8U0ATB](#)