

# MX Series

## Desktop Profile 0.60 Inch Keyswitches

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### FEATURES

- Desktop profile, 0.60 inch (15.2mm) from PCB (no keycap)
- Choice of feel: linear, soft tactile, click tactile
- PCB or frame mount
- Long life: 50 million operations (linear) and 20 million operations minimum (tactile)
- 4mm travel
- LED, diode or jumper option
- 12V maximum AC/DC
- Current Rating: 10mA
- Insulation Resistance: <100MΩ at 100V DC

### MX SERIES



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### SPECIFICATIONS

#### Electrical

Voltage:	12 VAC/DC max. 2 VDC min.
Current:	10mA AC/DC max. 10μA DC min.
Insulation Resistance:	100MΩ at 100V
Initial Contact Resistance:	200mΩ (25mΩ typical)
Bounce Time:	≤5msec (at 16 in/sec. actuation speed)
Capacitance:	<2pF (at 1kHz)
Operating Temperature:	-10°C to +70°C
Storage Temperature:	-40°C to +70°C
Flammability Rating:	UL94HB

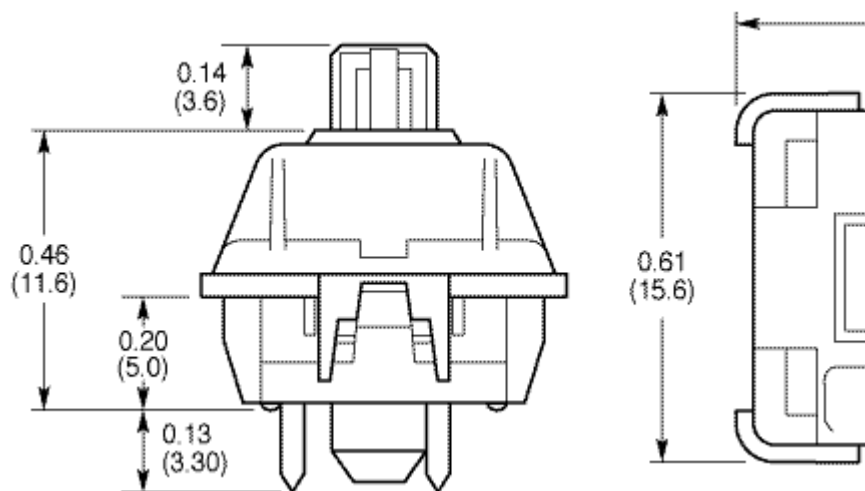
#### Materials

Case:	Thermoplastic
Contacts:	Silver-Gold?? (AuAg 10)
Spring:	Stainless Steel
Solderability:	Wave solder, 5 seconds at 500°F

### APPROVALS

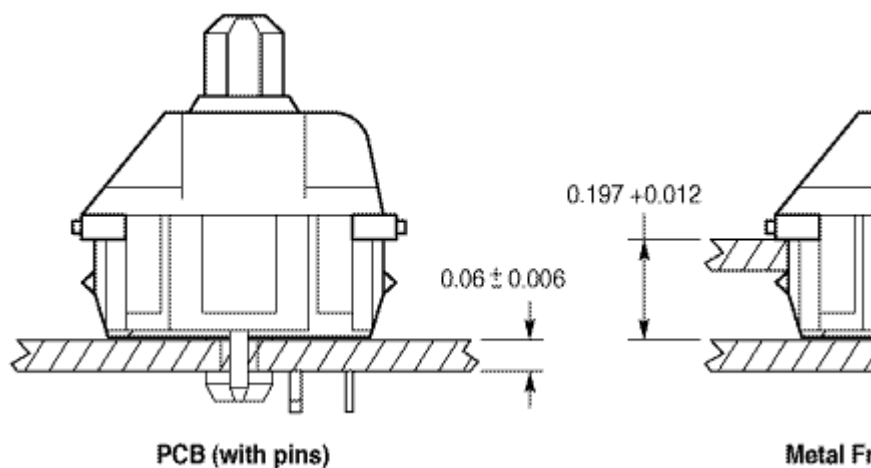


### DIMENSIONS



Inches (mm)

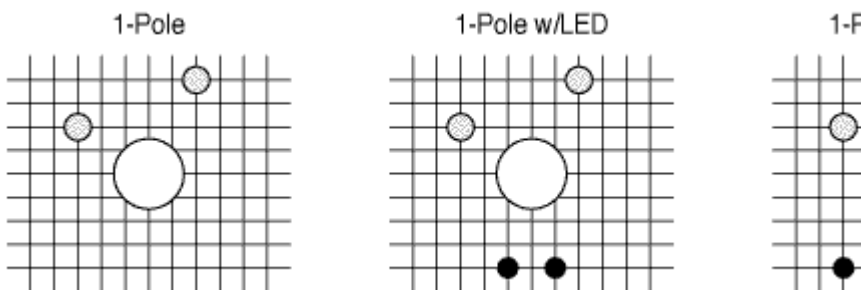
**MOUNTING OPTIONS**



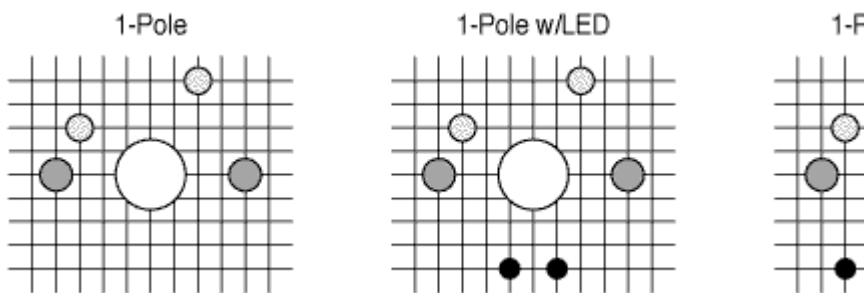
Inches (mm)

**CIRCUIT BOARD LAYOUTS**

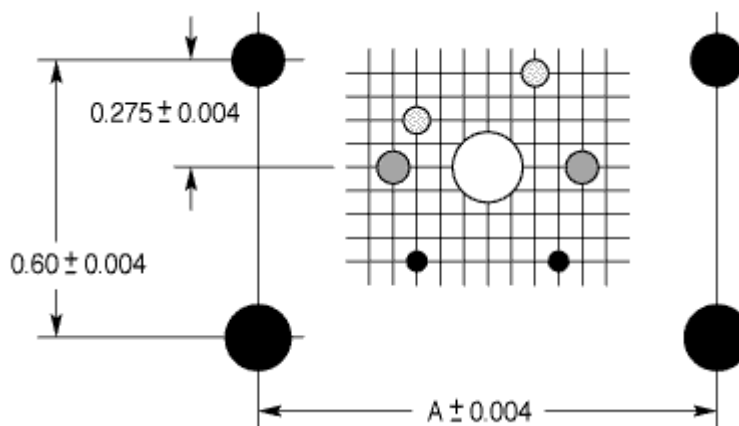
Keyswitch without Fixation Pins



Keyswitch with Fixation Pins



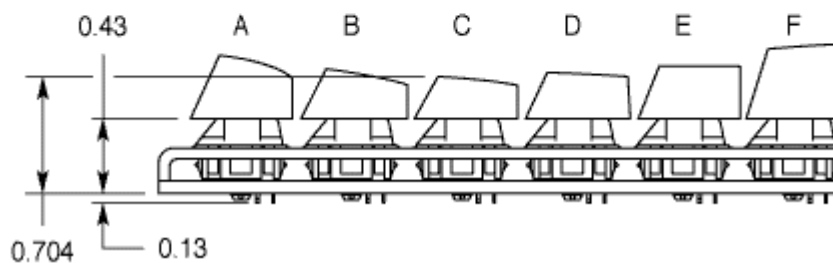
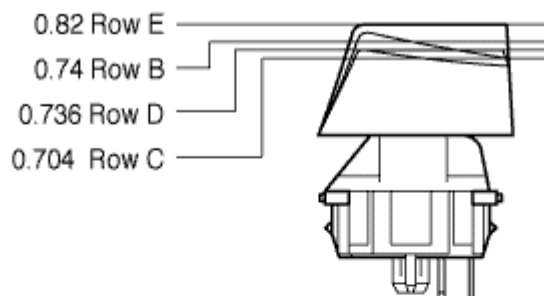
Spacebar without Frame



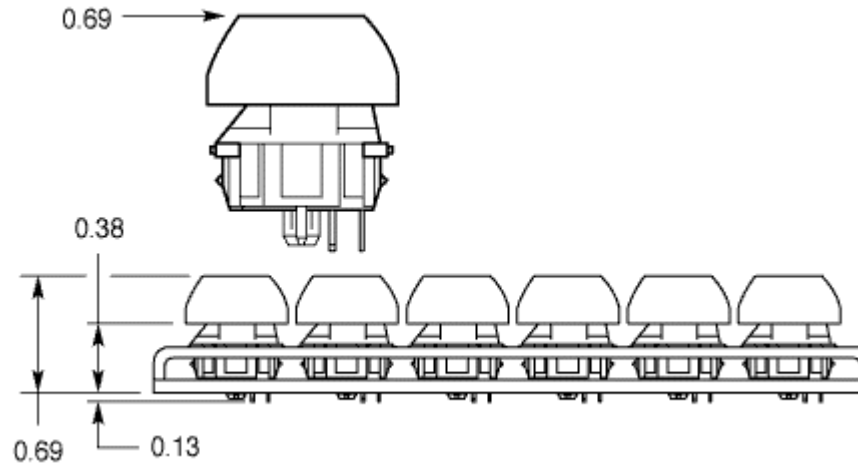
grid line spacing = 0.05 inch (1.27mm)

**KEYCAP DIMENSIONS**

Cylindrical Type (7mm)



Standard Type (8mm)

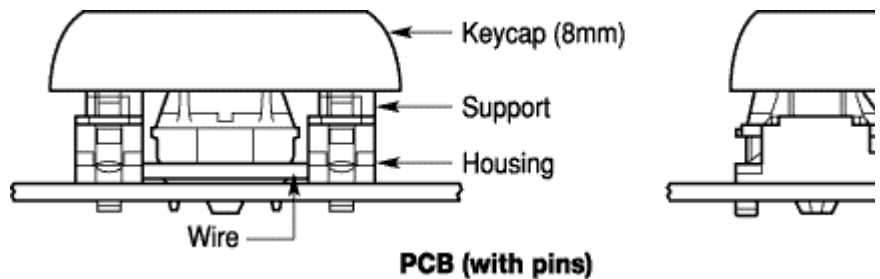


**ACTUATION SPECIFICATIONS**

Mechanical Motion	Linear Feel	Soft Tactile Feel	Click Tactile Feel
<b>Operating Force</b>	2.1 oz. ±0.7 oz.	2.0 oz. ±0.7 oz.	1.8 oz. ±0.5 oz.
<b>Pretravel</b>	0.08 in. ±0.024 in.	0.08 in. ±0.024 in.	0.09 in. ±0.024 in.
<b>Total Travel</b>	0.16 in. - 0.015 in.	0.16 in. - 0.02 in.	0.16 in. - 0.02 in.
<b>Tactile Force</b>	N/A	2.3 oz. ±0.7 oz.	2.1 oz. ±0.5 oz.

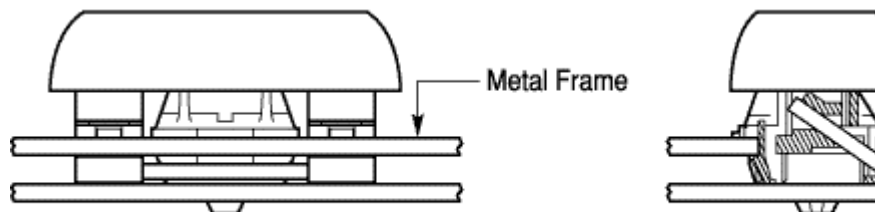
**SPACEBAR MOUNTING OPTIONS**

PCB (with pins)



**PCB (with pins)**

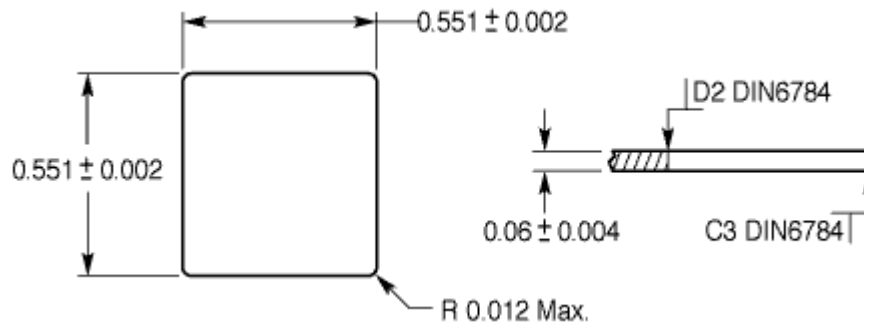
Metal Frame (without pins)



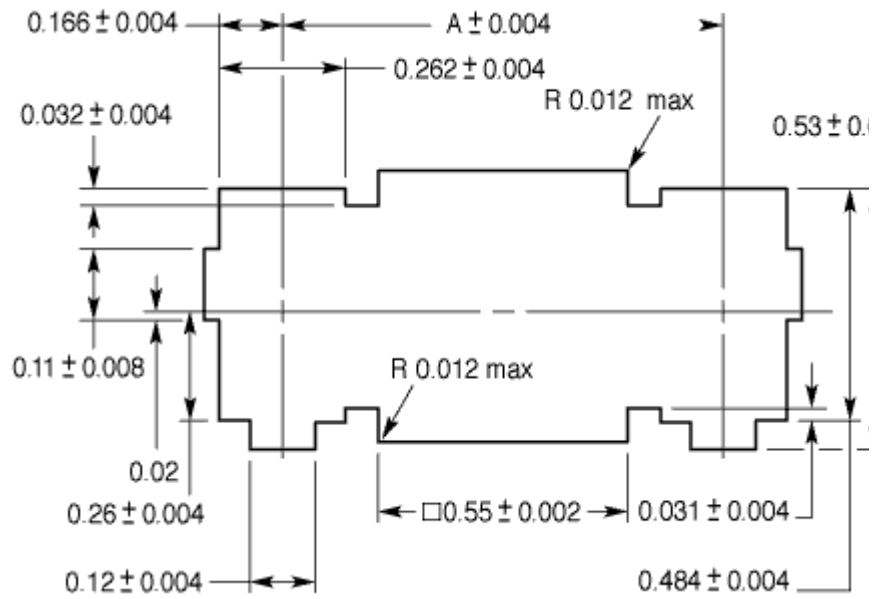
**Metal Frame (without pins)**

**METAL FRAME CUTOUT DIMENSIONS**

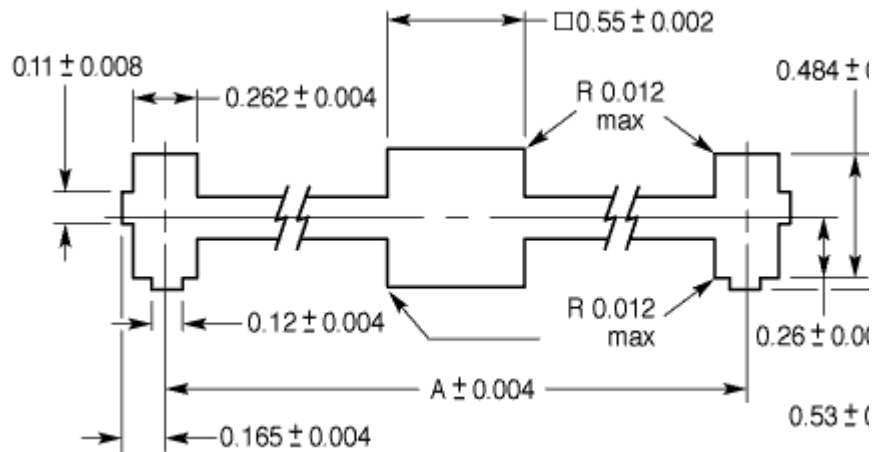
Keyswitch



Spacebar ( Keycap sizes 1x2, 1x2.5, 1x2.75)



Spacebar (Keycap sizes 1x3, 1x7, 1x8, 1x9, 1x10)



For dimension "A" refer to chart below. All dimensions shown are in inches.

**LEVELING MECHANISM KITS**

Keycap Size	1x2 1x2.5 1x2.75	1x3	1x8
Keycap Type	Standard & Cylindrical	Standard & Cylindrical	Standard
Dimension "A" (inches)	0.94	1.50	5.25

<b>Part Number with Frame</b>	G99-0224	G99-0225	G99-02
<b>Part Number without Frame</b>	G99-0742	G99-0743	G99-07

### ORDERING INFORMATION

<b>Part Number Examples</b>	<b>Description</b>
MX1A-11DN	Standard force, momentary, face plate mount with diode
MX1A-11NN	Standard force, linear, face plate mount
MX1A-11NW	Standard force, linear, PCB mount
MX1A-21NW	Higher force, linear, PCB mount
MX1A-31NN	Alternate action, face plate mount
MX1A-31NW	Alternate action, PCB mount
MX1A-C1NN	Standard force, soft tactile, face plate mount
MX1A-C1NW	Standard force, soft tactile, PCB mount
MX1A-E1NN	Standard force, click tactile, face plate mount
MX1A-E1NW	Standard force, click tactile, PCB mount

### ORDERING INFORMATION — BUILD A PART NUMBER

<b>MX</b>	<b>1</b>	<b>A</b>	<b>1</b>			
<b>Keyswitch Series</b>	<b>Code</b>	<b>Contact Material</b>	<b>Code</b>	<b>Contact Config.</b>	<b>Code</b>	<b>Operating Characteristic</b>
10mA, 12V max.	1	AuAg10, 10mA, 12V max.	A	SPST NO	0	Special
	5	Special	C	Special	1	Momentary, single-standard keyswitch
					2	Momentary, single-spacebar, grey 37 k
					3	Alternate action, silicon
					C	Momentary, single-2.3 oz., clear keyswitch
					D	Momentary, single-2.8 oz., spacebar, silicon
					E	Momentary, single-2.1 oz., "click" differential movement, blue keyswitch
					F	Momentary, single-2.8 oz., "click" differential movement, spacebar keyswitch

Specifications subject to change without notice.