



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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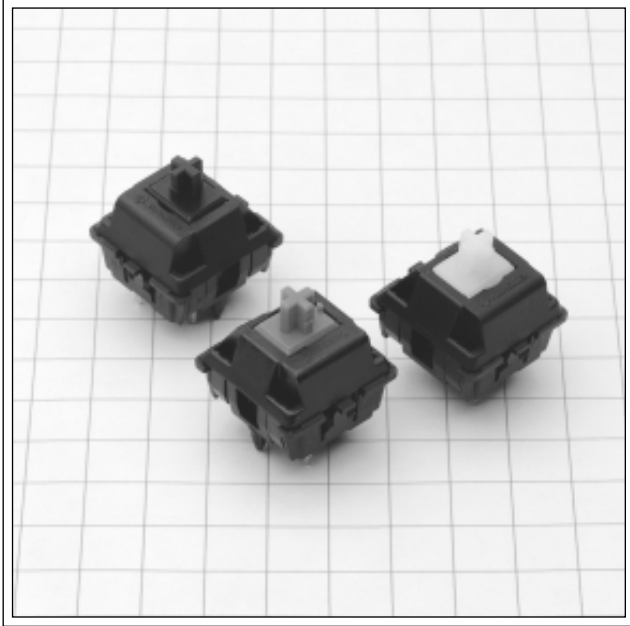
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



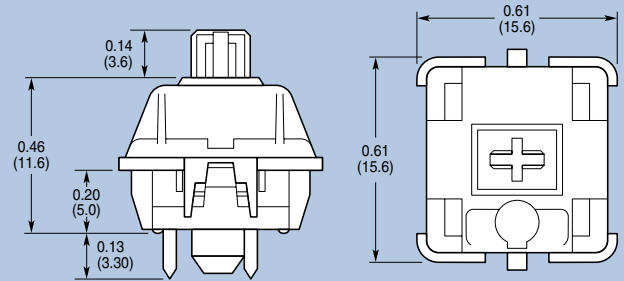
# MX Series

# Keypad

## MX Desktop Profile



### Dimensions: Inches (mm)



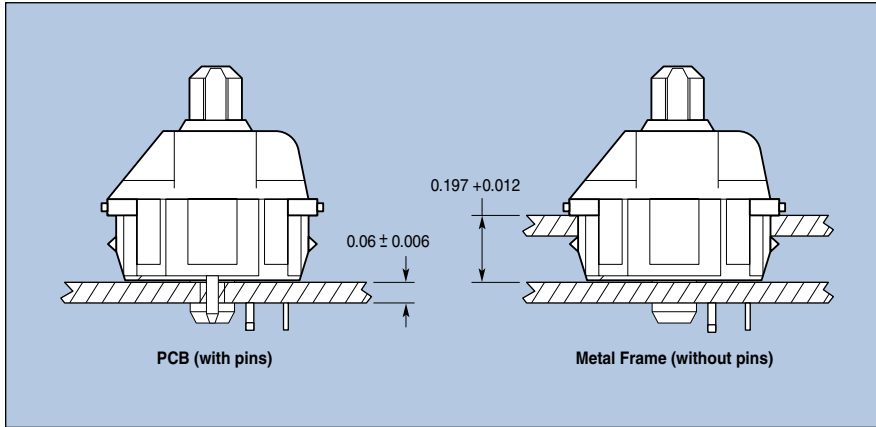
## Specifications

Voltage	12 VAC/DC max. 2 VDC min.
Current	10mA AC/DC max. 10µA DC min.
Insulation Resistance	100 M Ω at 100 VDC
Capacitance	<2pF (at 1kHz)
Bounce Time	≤5 msec (at 16 in/sec actuation speed)
Life	(at 5 V, 1mA, no load)
MX Linear	50 x 10 <sup>6</sup> cycles
MX Soft Tactile	20 x 10 <sup>6</sup> cycles
MX Click Tactile	20 x 10 <sup>6</sup> cycles
MX Alternate Action	50 x 10 <sup>5</sup> cycles
Initial Contact Resist.	200 m Ω (25 m Ω typical)
Materials	
Plastics	Thermoplastic, UL-rated
Contacts	AuAg 10
Spring	Stainless steel
Flammability Rating	UL94HB
Solderability	Wave solder 5 seconds at 500°F
Environmental	
Operating Temp. Range	-10° to +70°C
Storage Temp. Range	-40° to +70°C
Relative Humidity	5% to 95%, non-condensing

## Mechanical Motion

	Linear Feel	Soft Tactile Feel
Operating Force	2.1 oz ±0.7 oz	2.0 oz ±0.7 oz
Pretravel	0.08" ±0.24"	0.08" ±0.24"
Total Travel	0.16" -0.015"	0.16" -0.2"
Tactile Force	N/A	2.3 oz ±0.7 oz
	Click Tactile Feel	Alternate Action
Operating Force	1.8 oz ±0.5 oz	2.1 oz ±0.7 oz
Pretravel	0.09" ±0.24"	0.05" ±0.015"
Total Travel	0.16" -0.02"	0.16" ±0.01"
Tactile Force	2.1 oz ±0.5 oz	N/A

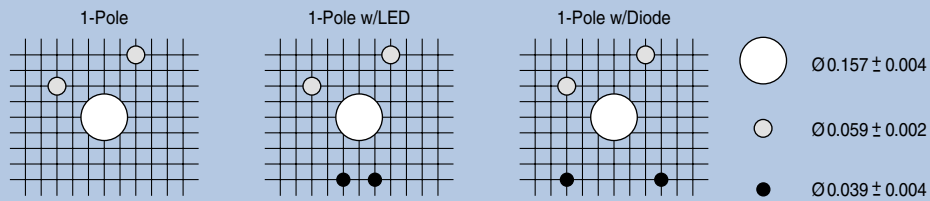
## Mounting Options



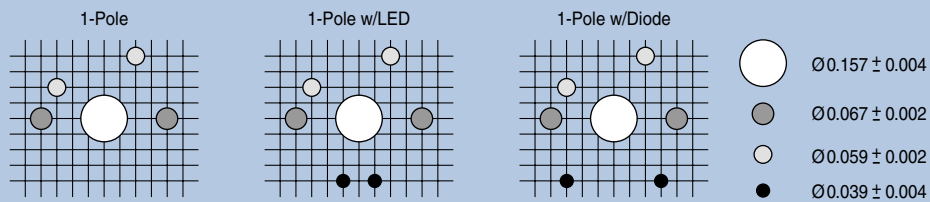
## Circuit Board Layouts

Grid line spacing = 0.05 inch

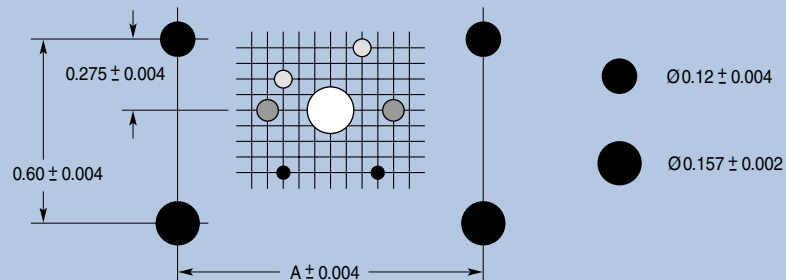
### Keypad without fixation pins



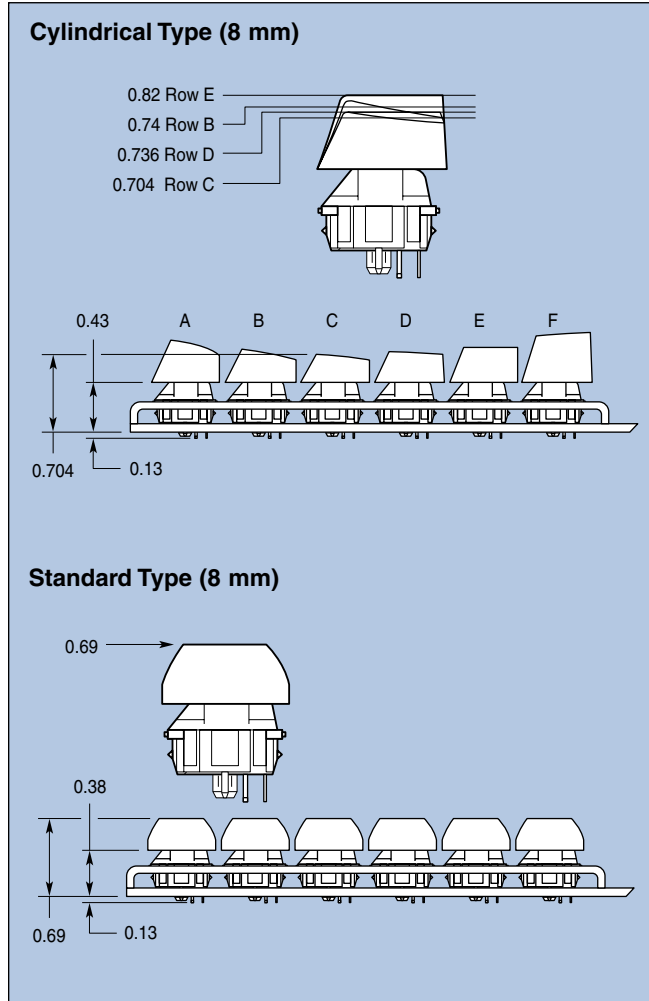
### Keypad with fixation pins



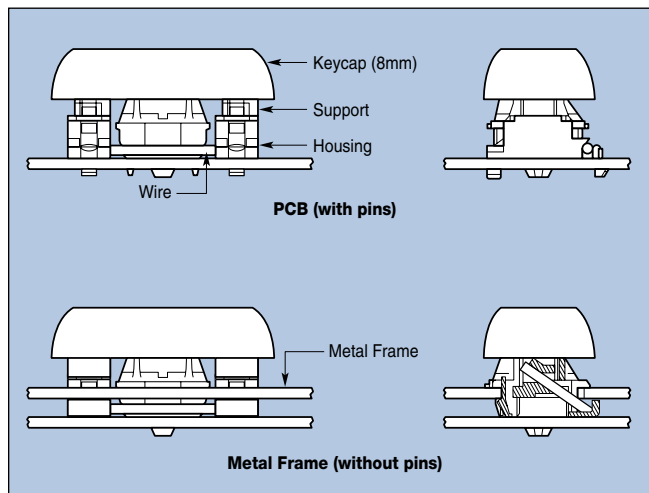
### Spacebar without frame



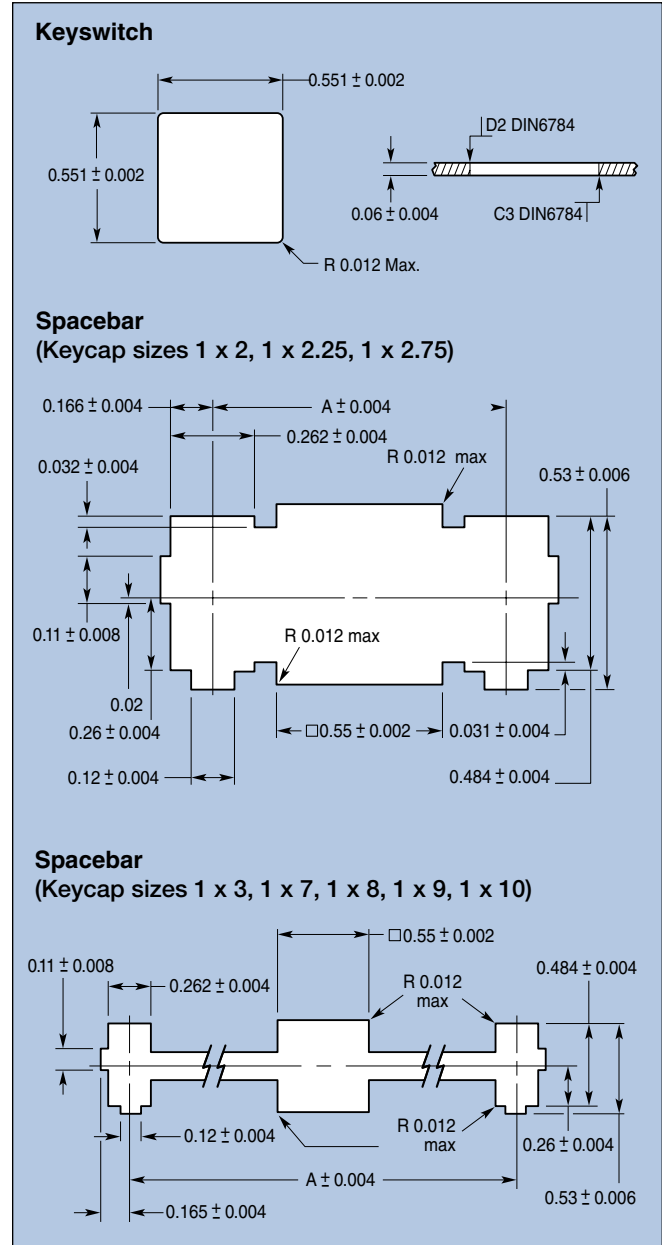
## Keycap Dimensions



## Spacebar Mounting Options



## Metal Frame Cutout Dimensions



## Leveling Mechanism Kits

Keycap Size	1 x 2 1 x 2, 2.5 1 x 2, 2.75	1 x 3	1 x 8	1 x 8 1 x 9 1 x 10	1 x 7
Keycap Type	Std & Cylin	Std & Cylin	Std	Cylin	Cylin
A (inches)	0.94	1.5	5.25	5.25	4.5
P/N w/frame	G99-0224	G99-0225	G99-0226	G99-0226	G99-0379
P/N w/o frame	G99-0742	G99-0743	G99-0744	G99-0744	G99-0745

## Soldering Parameters

### 1. Flux Station

- A. Flux – Fry type GR8
- B. Applied by foaming
- C. Specific gravity – 0.820 g/cm3

### 2. Conveyor Speed

- A. 2.3 meters/min.

### 3. Pre-heat Temperature

- A. +88°C measured on top surface of PCB

### 4. Solder

- A. 63/37 alloy
- B. Dry wave – no oil
- C. Approximate contact with wave – 2 seconds

### 5. Cleaning

- A. Fry GR8 is non-hygroscopic flux and does not require cleaning
- B. If cleaning is required on isolated areas such as finger connector, cold cleaning by hand with Alpha 564 is recommended. Care must be taken to avoid solvent entering the keymodule.

## Ordering Information

Part Number	Description
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

