

# KSJ Series

## Sealed Spherical Actuator Tactile Switches 7.4 x 7.4 mm



### Specifications

Function	Momentary Action
Contact Arrangement	1 make contact = SPST, N.O.
Distance Between Button Centers (min.)	7.62 (0.300)
Terminals	PC pins
Sealing	IP60
Packaging	Delivered in boxes of 250 pieces

### Electrical Characteristics

	Silver	Gold
Maximum Power	1 VA	0.2 VA
Min. / Max. Voltage	1 - 32 VDC	
Min. / Max. Current	1 - 50 mA	1 - 10 mA
Dielectric Strength	(50 Hz, 1 min.): $\geq 250$ Vrms	
Contact Resistance	$\leq 100$ m $\Omega$	
Insulation Resistance	(100 V): $\geq 10^9$ ohms	
Bounce Time	$\leq 1$ ms	

### Environmental Characteristics

	Silver	Gold
Operating Temperature	-40°C to 85°C	-40°C to 85°C
Storage Temperature	-40°C to 85°C	-55°C to 85°C

### Process

Packaging	Delivered in boxes of 250 pieces for manual & vertical insertion
Soldering	Wave soldering compatible with lead free soldering profile.

### Description

The KSJ series spherical actuator tactile switch is designed for mechanisms found in cranes, off-road and railway products, as well as in factory automation and automotive applications. It features compliant side actuation and its spherical actuator allows an actuation force off center  $\pm 30^\circ$  with regard to vertical.

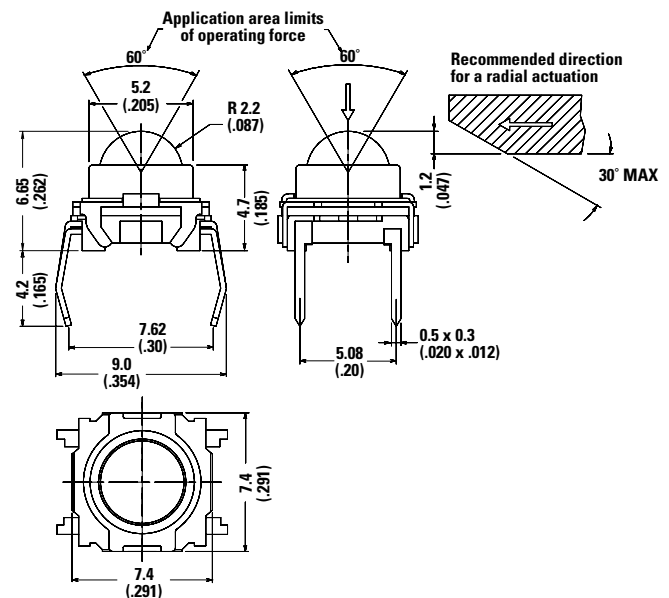
### Features & Benefits

- Spherical actuator allows actuation force off center  $\pm 30^\circ$  with regard to vertical
- RoHS compliant and compatible
- Designed for mechanisms
- Compliant side actuation

### Applications

- Transportation
- Cranes, off-road, railway
- Factory automation
- Security systems

### Dimensions inches (mm)



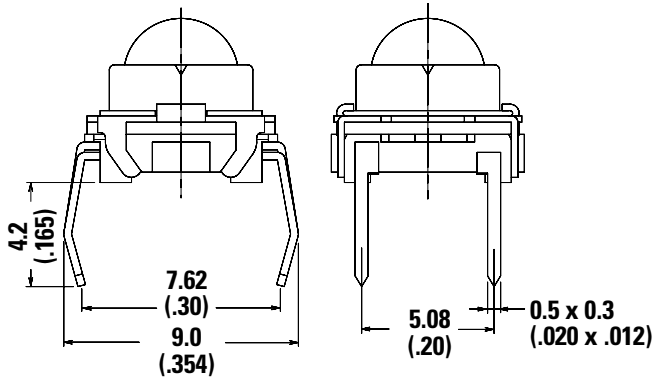
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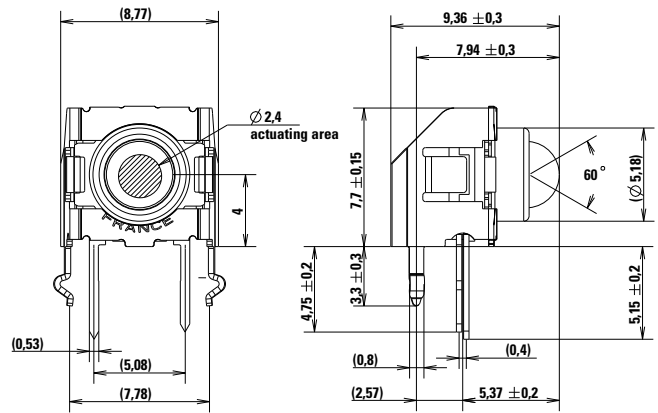


## Insertion

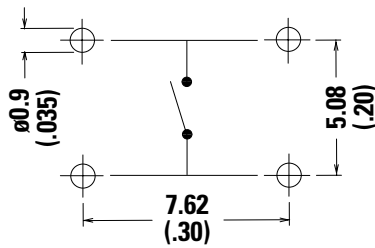
**M** Thru-hole



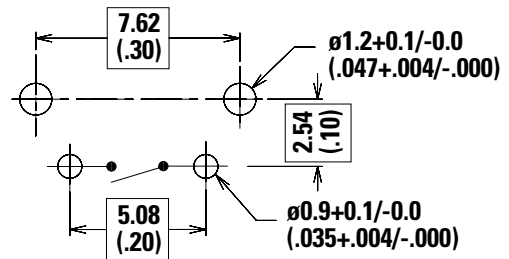
**V** Vertical



**PCB Layout**



**PCB Layout**



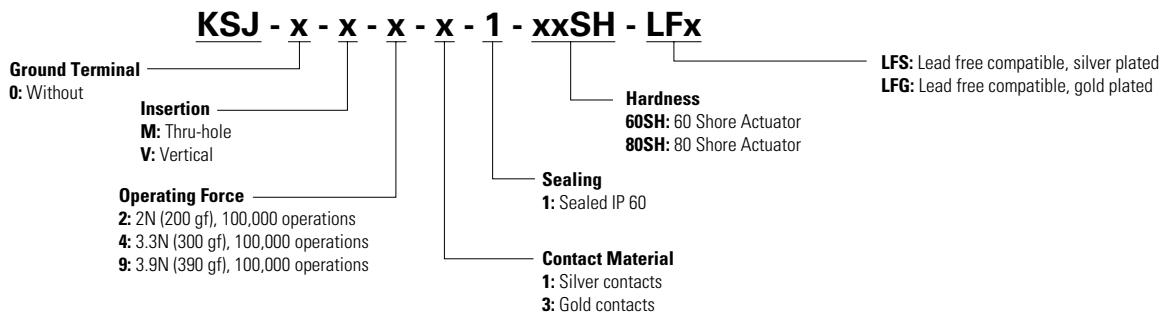
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### Ordering Number

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box. However, please note that all the combinations of these options are not feasible. For any part number different from those listed above, please consult your local representative.



### Mechanical Characteristics

Supply Status	LITTELFUSE Orderable Part Number	Description	Contact & Terminals Plating	Operating Force Fa (Newtons)	Tactile ratio (Min)	Operating Life (operations)	Electrical Travel (mm)	Orientation & Mounting
✓	Y33R21175FP	KSJ0M211 60SH LFS	Silver	2±0.5	Min 15%	100,000	0.6±0.3	M: Thru-hole
✓	Y33R21179FP	KSJ0V211 60SH LFS	Silver	2±0.5	Min 15%	100,000	0.6±0.3	V: Vertical
✓	Y33R211N5FP	KSJ0M211 80SH LFS	Silver	2±0.5	Min 15%	100,000	0.35±0.2	M: Thru-hole
✓	Y33R211N9FP	KSJ0V211 80SH LFS	Silver	2±0.5	Min 15%	100,000	0.35±0.2	V: Vertical
✓	Y33R23179FP	KSJ0V231 60SH LFG	Gold	2±0.5	Min 15%	100,000	0.6±0.3	V: Vertical
✓	Y33R231N5FP	KSJ0M231 80SH LFG	Gold	2±0.5	Min 15%	100,000	0.35±0.2	M: Thru-hole
✓	Y33R231N9FP	KSJ0M231 80SH LFG	Gold	2±0.5	Min 15%	100,000	0.35±0.2	M: Thru-hole
✓	Y33R411N5FP	KSJ0M411 80SH LFS	Silver	3.3±0.83	Min 15%	100,000	0.55±0.25	M: Thru-hole
✓	Y33R411N9FP	KSJ0V411 80SH LFS	Silver	3.3±0.83	Min 15%	100,000	0.55±0.25	V: Vertical
✓	Y33R431N5FP	KSJ0M431 80SH LFG	Gold	3.3±0.83	Min 15%	100,000	0.55±0.25	M: Thru-hole
✓	Y33R431N9FP	KSJ0V431 80SH LFG	Gold	3.3±0.83	Min 15%	100,000	0.55±0.25	V: Vertical
✓	Y33R911N5FP	KSJ0M911 80SH LFS	Silver	3.9±0.8	Min 15%	100,000	0.7±0.25	M: Thru-hole
✓	Y33R931N5FP	KSJ0M931 80SH LFG	Gold	3.9±0.8	Min 15%	100,000	0.7±0.25	M: Thru-hole

**Notes:** Supply status: ✓ Available for ordering.

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

### Liability Limitation

This datasheet does not provide enough information for applications that require a certain level of quality or safety such as automotive, medical systems, or safety equipment. Please contact customer service for the contractual specification package.

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