

# KMR4 Series

## Micro Miniature Tactile Switch for SMT

### 4.6 x 2.8 mm, with 2.5 mm Height Actuator



## Description

The KMR4 series microminiature SMT top actuated switch has ultra-low current capabilities and is ideal for industrial, medical and automotive applications. It is a long-lasting switch with an excellent tactile feel, even when used in the harshest environments.

## Features & Benefits

- Small footprint
- 4 actuation forces
- Excellent tactile feel
- Ultra low current capabilities
- IP40

## Applications

- Transportation
- Industrial electronics
- Medical equipment

## Specifications

<b>Function</b>	Momentary action
<b>Contact Arrangement</b>	1 make contact = SPST, N.O.
<b>Terminals</b>	Gullwing type for SMT
<b>Tactile Feeling</b>	KMR 4 series with actuation force in 2N - 3N - 4N: $\geq 25\%$ KMR 4 series with actuation force in 1.2N: $\geq 20\%$
<b>Packaging</b>	In reels of 6,000 pieces. External diameter 330 mm $\pm$ 2mm

## Electrical Characteristics

	Silver	Gold
<b>Maximum Power</b>	1 VA	0.2 VA
<b>Maximum Voltage</b>	32 VDC	32 VDC
<b>Minimum Voltage</b>	20 mVDC	20 mVDC
<b>Maximum Current</b>	50 mA	10 mA
<b>Minimum Current</b>	1 mA <sup>1</sup>	1 mA <sup>1</sup>
<b>Dielectric Strength</b>	$\geq 250$ Vrms	
<b>Contact Resistance</b>	$\leq 100$ m $\Omega$	
<b>Insulation Resistance</b>	$\geq 1$ G $\Omega$	
<b>Bounce Time</b>	$\leq 3$ ms	

## Environmental Characteristics

<b>Operating Temperature</b>	-40°C to 85°C	-40°C to 125°C
<b>Storage Temperature</b>	-55°C to 85°C	-55°C to 125°C

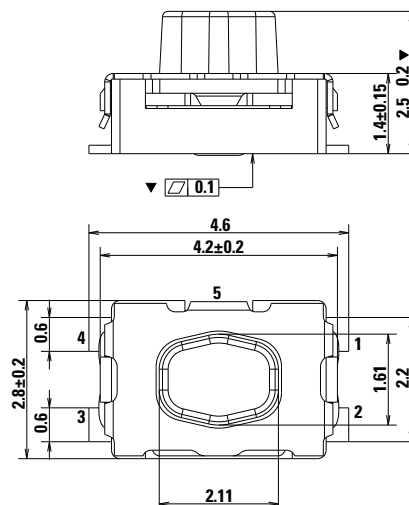
## Process

<b>Soldering</b>	Lead free reflow soldering process in accordance with IEC 61760-1.
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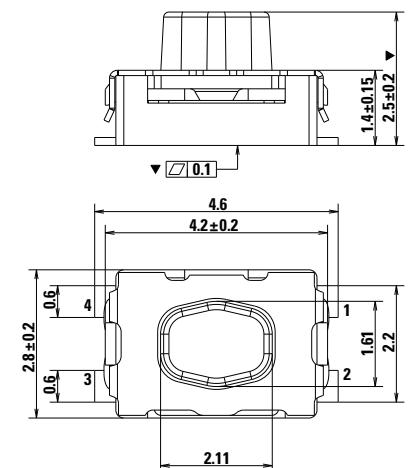
### Notes:

1. For ULC version minimum current is 1 $\mu$ A at 1.8 VDC
2. Specifications listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

## G - Ground Pin



## NG - No Ground Pin



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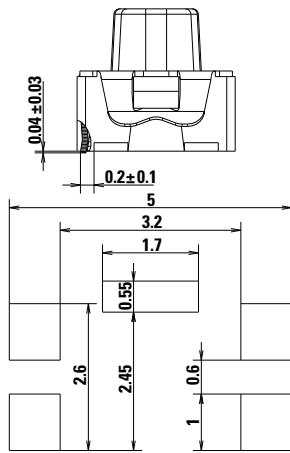


### Mechanical Characteristics

Type G and NG	Operation Force N (grs)	Operating Life (cycles)	Travel (mm)
KMR411 LFS, KMR411 ULC LFS	1.2 (120) ± 0.30	100,000	0.20 mm ± 0.1
KMR413 LFG, KMR413 ULC LFG	1.2 (120) ± 0.30	100,000	0.20 mm ± 0.1
KMR421 LFS, KMR421 ULC LFS	2.0 (200) ± 0.50	100,000	0.25 mm ± 0.1
KMR423 LFG, KMR423 ULC LFG	2.0 (200) ± 0.50	100,000	0.25 mm ± 0.1
KMR431 LFS, KMR431 ULC LFS	3.0 (300) ± 0.75	100,000	0.25 mm ± 0.1
KMR432 LFS, KMR432 ULC LFS	3.0 (300) ± 0.75	300,000	0.25 mm ± 0.1
KMR433 LFG, KMR433 ULC LFG	3.0 (300) ± 0.75	100,000	0.25 mm ± 0.1
KMR441 LFS, KMR441 ULC LFS	4.0 (400) ± 1.00	100,000	0.30 mm ± 0.1
KMR442 LFS, KMR442 ULC LFS	4.0 (400) ± 1.00	200,000	0.30 mm ± 0.1
KMR443 LFG, KMR443 ULC LFG	4.0 (400) ± 1.00	100,000	0.30 mm ± 0.1

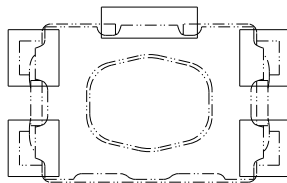
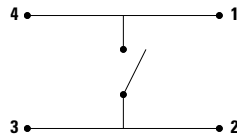
**Notes:**  
1. Silver long life is available in 3N and 4N actuation force. For other versions, please contact Customer Service.

#### G - Ground Pin

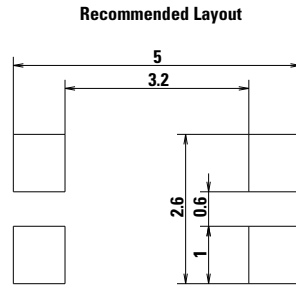


Recommended Layout

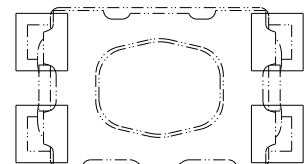
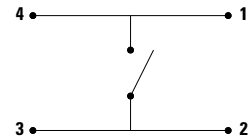
#### Electrical Diagram



#### NG - No Ground Pin



#### Electrical Diagram

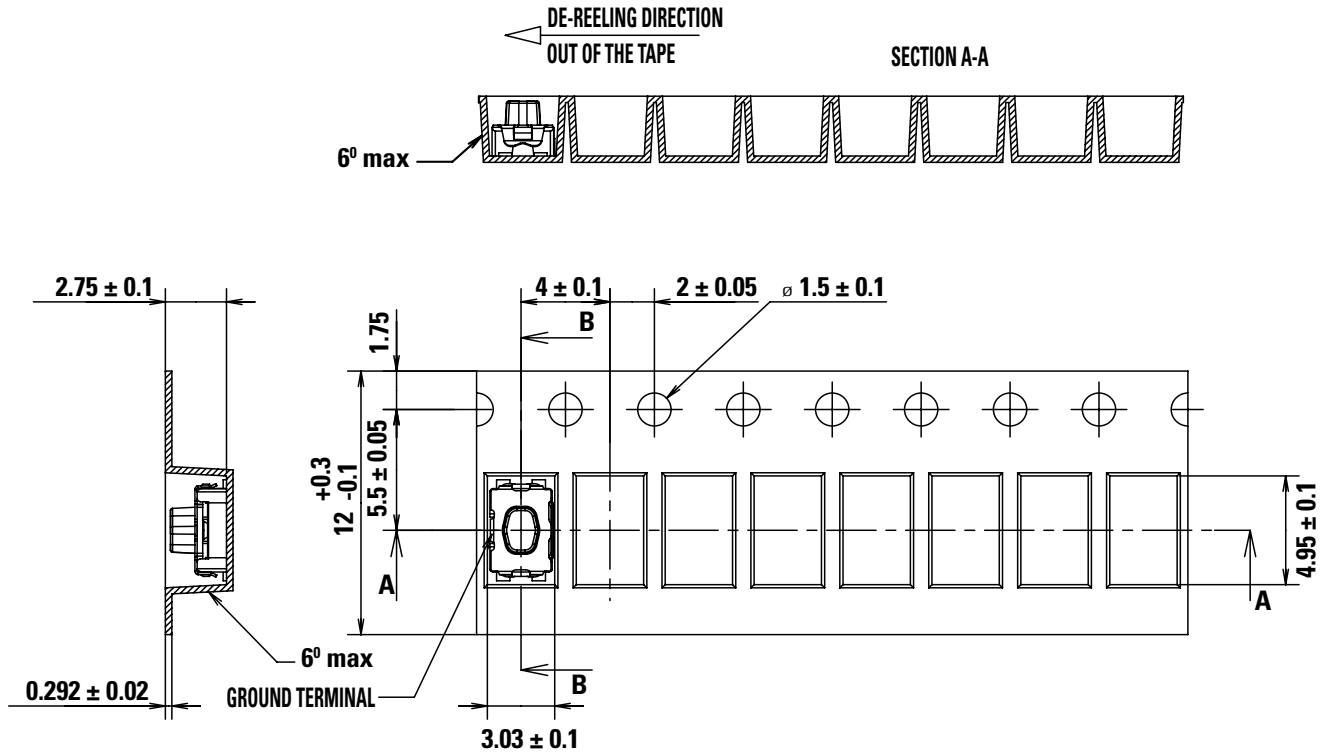


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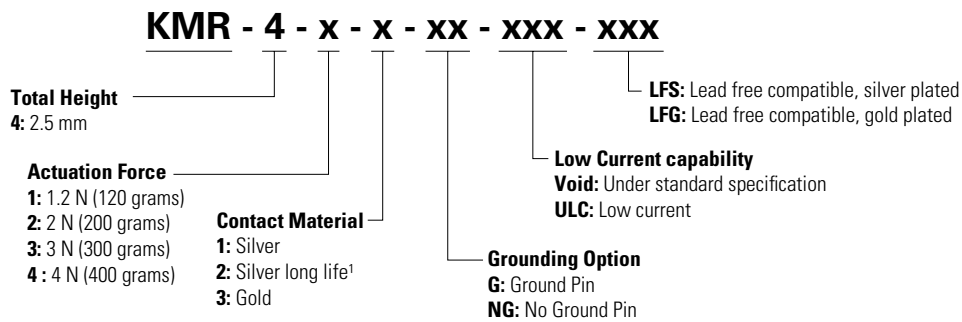


### Tape & Reel



### Ordering Number

For any part number different from those listed above, please consult your local representative.



### 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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