

**DESCRIPTION**

MK24 are the smallest, magnetically operated Reed proximity switches for SMD mounting. Due to the offset design of the internal reed switch leads, the sensing characteristics are non-symmetrically related to the sensor body.

- **Lead design 1:** Flat, straight leads for PCB slot mounting.
- **Lead design 2:** Flat, bent SMD leads.
- **Lead design 3:** J-Lead.

The sensors are supplied in 16mm Tape & Reel package according to IEC 60286-3.



**FEATURES**

- Small dimensions: 5.0 x 2.2 x 1.7mm
- Three operate sensitivities available
- Tape and Reel available
- Excellent for low power operations
- No external power required for sensor operation
- UL approved

**APPLICATIONS**

- Electronic PCB's where all components are surface mounted
- Telecommunication applications (Hook switch in mobile and hard-wired phones)
- Switching element in microphones
- Medical technologies
- Rotary encoder

**ORDER INFORMATION**

Series	Contact Form	Magnetic Sensitivity	Lead Design
<b>MK24 -</b>		<b>x -</b>	<b>y</b>
<b>Options</b>	1 Form A	A, B, C	1, 2, 3
	1 Form B	B	2, 3

**MAGNETIC SENSITIVITY**

Sensitivity class	Pull In AT Range
A	5 - 10
B	10 - 15
C	15- 20

**Part Number Example**

MK24 - B - 1  
MK24 - B - 2 - OE

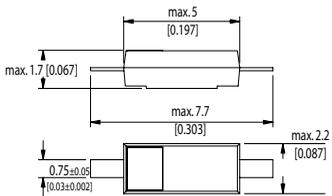
**B** is the magnetic sensitivity  
**1** is the lead design  
OE is Opener Form B

## Micro-Minature Reed Sensors for SMD Mounting

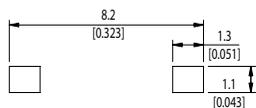
### DIMENSIONS

All dimensions in mm [inch]

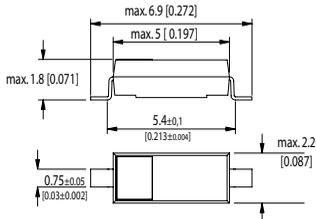
MK24-x-1



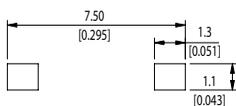
RECOMANDED PAD LAYOUT



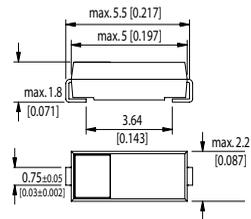
MK24-x-2



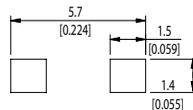
RECOMANDED PAD LAYOUT



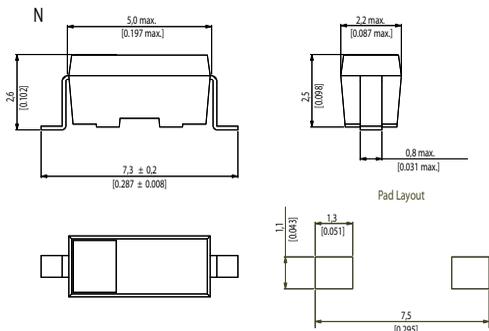
MK24-x-3



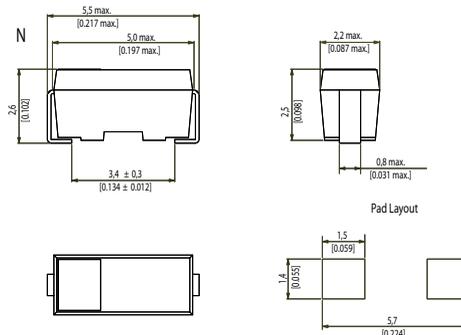
RECOMANDED PAD LAYOUT



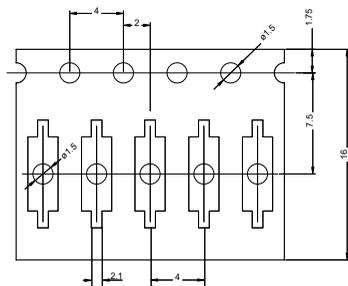
MK24-x-2-OE



MK24-x-3-OE

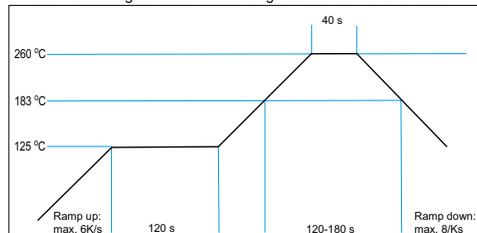


### TAPE & REEL



### SOLDERING INFORMATION

reflow soldering conditions according JEDEC norm J-STD-020C



CONTACT DATA

All Data at 20° C	Contact Form →	Form A									Unit
		Sensitivity Range A			Sensitivity Range B			Sensitivity Range C			
Contact Ratings	Conditions	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Unit
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			1			3			3	W
Switching Voltage	DC or peak AC			30			30			30	V
Switching Current	DC or peak AC			0.1			0.3			0.3	A
Carry Current	DC or peak AC			0.3			0.5			0.5	A
Static Contact Resistance	with 40% overdrive, start value			250			200			200	mΩ
Insulation Resistance	RH <45%, 100V test voltage	10 <sup>9</sup>			10 <sup>9</sup>			10 <sup>9</sup>			Ω
Breakdown Voltage	according to IEC 255-5	60			100			100			VDC
<b>Contact Operation</b>											
Pull-in MK24-x-1	measured by MS150			1.8 - 4.5			3.0 - 5.8			4.1 - 7.0	mT
Pull-in MK24-x-1	measured by KMS11			22 - 55			37 - 71			50 - 86	AT
Pull-in MK24-x-2	measured by MS150			1.8 - 4.5			3.0 - 5.8			4.1 - 7.0	mT
Pull-in MK24-x-2	measured by KMS11			22 - 55			37 - 71			50 - 86	AT
Pull-in MK24-x-3	measured by MS150			2.1 - 5.3			3.3 - 7.0			4.3 - 8.6	mT
Pull-in MK24-x-3	measured by KMS11			23 - 50			33 - 67			40 - 83	AT
<b>Environmental Data</b>											
Shock Resistance	1/2 sinus wave duration 11 ms			15			30			30	g
Vibration Resistance	From 10 - 2000 Hz			10			20			20	g
Ambient Temperature	10°C/ minute max. allowable	-40		130	-40		130	-40		130	°C
Stock Temperature	10°C/ minute max. allowable	-50		130	-50		130	-50		130	°C
Soldering Temperature	5 Sec.			260			260			260	°C
Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.											

## Micro-Miniature Reed Sensors for SMD Mounting

### CONTACT DATA

All Data at 20° C	Contact Form →	Form B			
Contact Ratings	Conditions	Min.	Typ.	Max.	Unit
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			1	W
Switching Voltage	DC or peak AC			30	V
Switching Current	DC or peak AC			0.3	A
Static Contact Resistance	measured by 40% overdrive			200	mΩ
Breakdown Voltage	According to IEC 255-5	100			VDC
Contact Operation					
	Lead option y		2, 3		
Pull-in MK24-x-y-OE	measured by MS150				mT
Drop-out MK24-x-y-OE	measured by MS150				mT
Pull-in MK24-x-y-OE	measured by KMS11		15 - 30		AT
Drop-out MK24-x-y-OE	measured by KMS11		5 - 20		AT
Environmental Data					
Shock Resistance	1/2 sinus wave duration 11 ms			30	g
Vibration Resistance	From 10 - 2000 Hz			20	g
Ambient Temperature	10°C/ minute max. allowable	-40		130	°C
Stock Temperature	10°C/ minute max. allowable	-50		130	°C
<p>Please note: The indicated electrical data are maximum values and can vary downwards when using a more sensitive switch.</p> <p>Examples of actuating magnets for Form B:                      AlNiCo500 – Rectangular Magnet 4x1.5x0.5mm, anisotropy in length direction (L. 4mm)                      AlNiCo500 – Cylindrical magnet D2x8mm; anisotropy in length direction (L. 8mm)                      Other magnets are possible (Note: direct touch with high power magnet must be avoided, due to the danger of change in sensor magnetization.)</p>					