

# KSA & KSL Series

## Sealed Tact Switch



### Specifications

<b>Contact Arrangement</b>	SPST, N.O.	
<b>Sealing</b>	IP60	
<b>Terminals</b>	PC pins, ground pins	
<b>Electrical</b>	<b>Silver</b>	<b>Gold</b>
<b>Maximum Power</b>	1 VA	0.2 VA
<b>Min. / Max. Voltage</b>	1 - 32VDC	
<b>Min. / Max. Current</b>	1 - 50 mA	1 - 10 mA
<b>Dielectric Strength</b>	250 Vrms	
<b>Contact Resistance</b>	≤ 100 mΩ	
<b>Insulation Resistance</b>	(100 V): ≥ 10 <sup>9</sup> Ω	
<b>Bounce Time</b>	≤ 1 ms	
<b>Environmental</b>		
<b>Operating Temperature</b>	-40°C to 85°C	-40°C to 85°C
<b>Storage Temperature</b>	-40°C to 85°C	-55°C to 85°C
<b>Process</b>		
<b>Packaging</b>	Delivered in boxes of 500 pieces for manual insertion (250 pieces for KSL, KSLV, KSAV).	
<b>Soldering</b>	Wave soldering compatible with lead free soldering profile	

### Description

C&K's KSA series sealed tact switches feature top or side actuation and cambered terminals for secure self-retention. Designed for both automated and manual insertion processes, these switches offer high reliability and ease of integration. Their robust construction and versatile mounting options make them ideal for use in telecommunication networks, industrial systems, and automation applications.

### Features & Benefits

- Designed for automatic or manual insertion
- Cambered terminals to ensure self retention
- Top or side actuated
- Large choice of caps
- RoHS compliant and compatible

### Applications

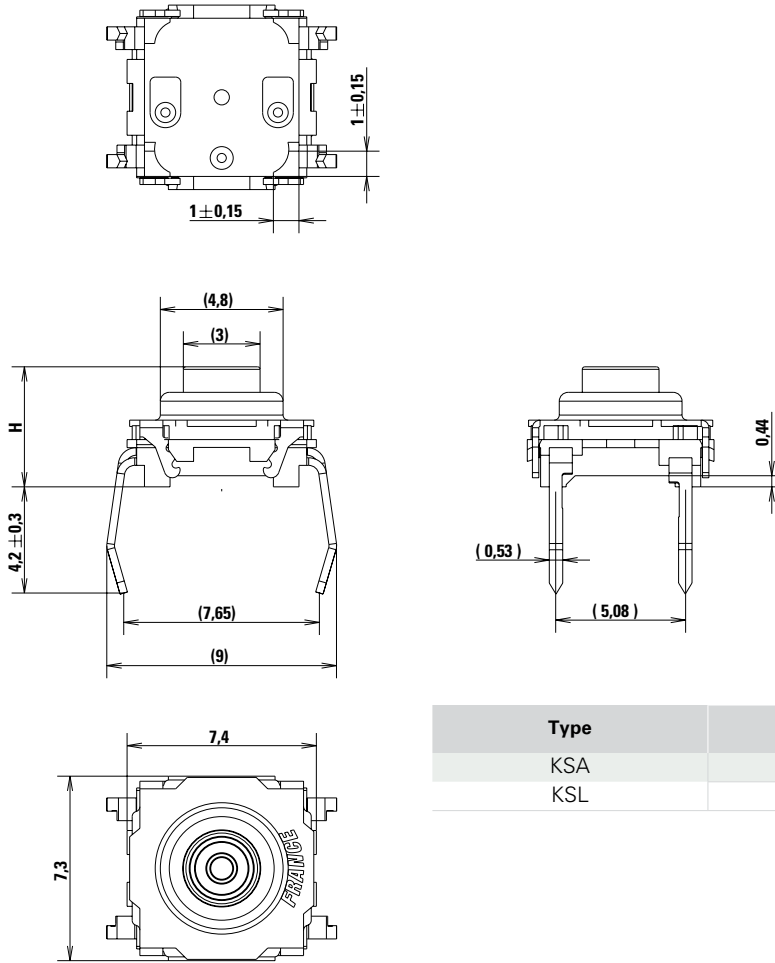
- Automotive
- Industrial
- Telecommunication networks

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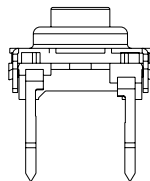
### Actuator type KSA & KSL



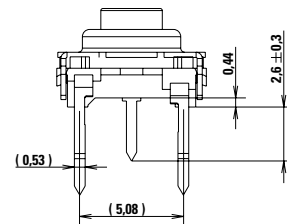
Type	H mm
KSA	$4.75 \pm 0.3$
KSL	$9.9 \pm 0.3$

### Ground Terminal

#### 0 Without



#### 1\* With



#### Notes

1. Not compatible with "V" insertion

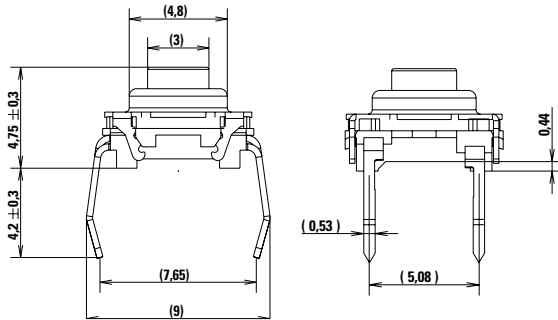
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## Sealed Tact Switch

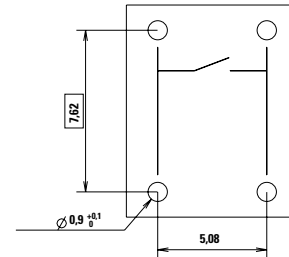


### Insertion

#### M Manual (Bulk Packaging)

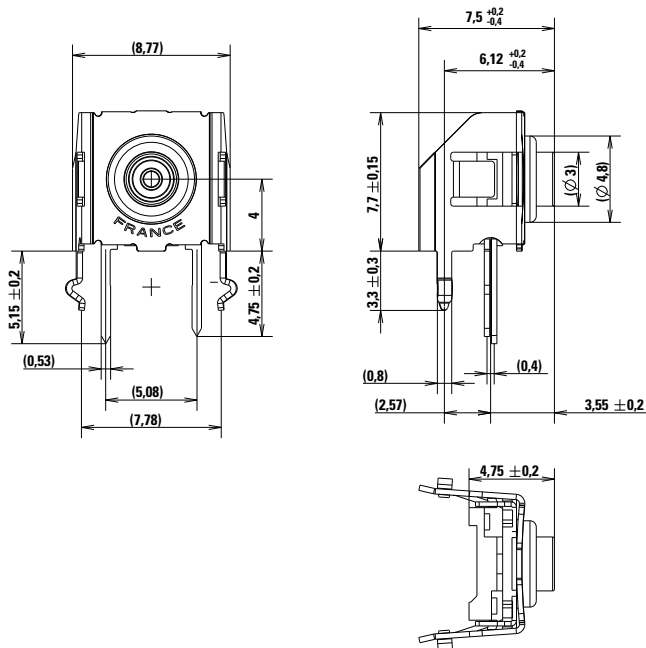


#### PCB Layout

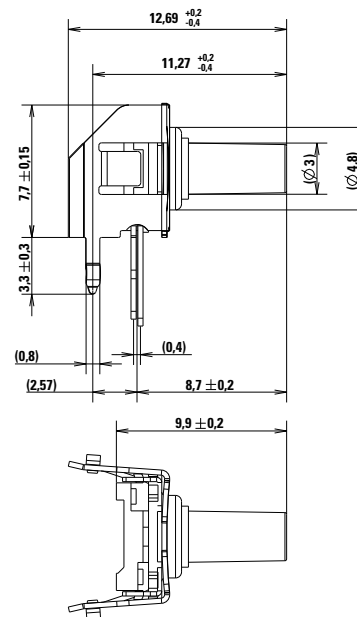


#### V Vertical (Bulk Packaging)

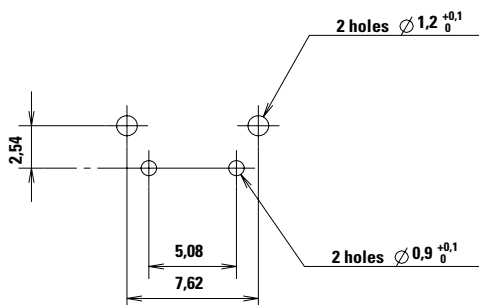
##### KSA



##### KSL



#### PCB Layout



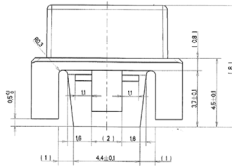
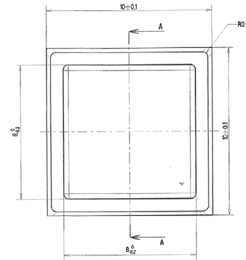
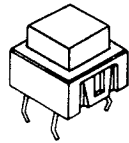
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## Sealed Tact Switch

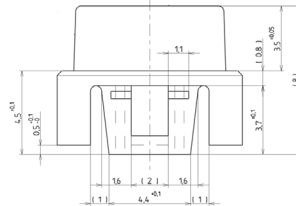
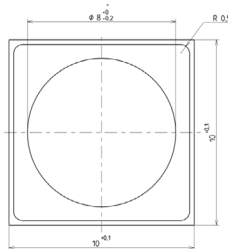
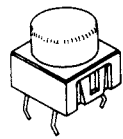


### Buttons Dimensions (mm)

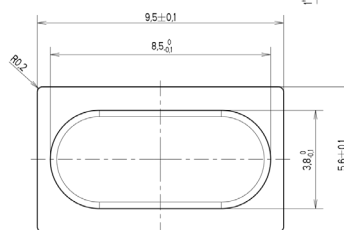
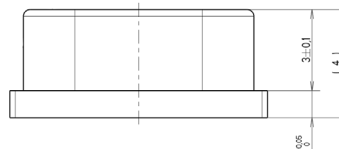
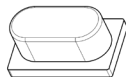
#### K01



#### K02



#### K03



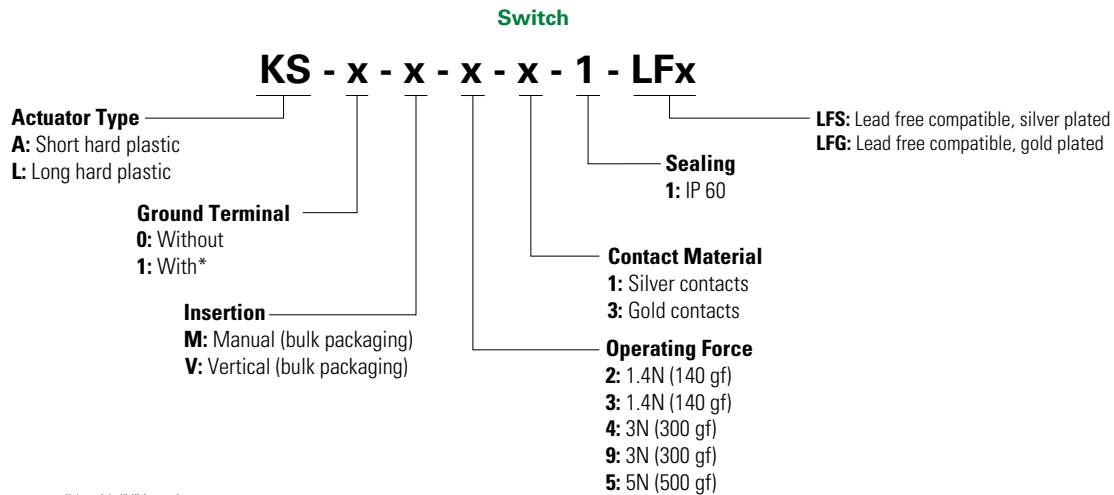
# KSA & KSL Series

## Sealed Tact Switch



### 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.



#### Notes

1. "1" Ground terminal not compatible with "V" insertion
2. The metallic frame are hop-dip tin plated

### Mechanical Characteristics

#### Short Actuator, Manual Insertion

Supply Status	Littelfuse Orderable Part Number	Description	Contact & Terminals Plating	Ground Pin	Operating Force Fa (Newtons)	Tactile ratio (min)	Operating Life (Operations)	Electrical Travel (mm)	Orientation & Mounting	Actuator Color
✓	Y33R21115FP	KSA0M211 LFS	Silver	No	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Natural
✓	Y33R21116FP	KSA1M211 LFS	Silver	Yes	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Natural
✓	Y33R31115FP	KSA0M311 LFS	Silver	No	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Ligth green
✓	Y33R31116FP	KSA1M311 LFS	Silver	Yes	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Ligth green
✓	Y33R33115FP	KSA0M331 LFG	Gold	No	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Red
✓	Y33R33116FP	KSA1M331 LFG	Gold	Yes	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	M: Thru-hole	Red
✓	Y33R41115FP	KSA0M411 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R41116FP	KSA1M411 LFS	Silver	Yes	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R43115FP	KSA0M431 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark grey
✓	Y33R43116FP	KSA1M431 LFG	Gold	Yes	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark grey
✓	Y33R91115FP	KSA0M911 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R91116FP	KSA1M911 LFS	Silver	Yes	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R93115FP	KSA0M931 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark grey
✓	Y33R51115FP	KSA0M511 LFS	Silver	No	5±1.5	Min 23%	100,000	0.7±0.2 mm	M: Thru-hole	Ligth yellow
✓	Y33R51116FP	KSA1M511 LFS	Silver	Yes	5±1.5	Min 23%	100,000	0.7±0.2 mm	M: Thru-hole	Ligth yellow
✓	Y33R53115FP	KSA0M531 LFG	Gold	No	5±1.5	Min 23%	100,000	0.7±0.2 mm	M: Thru-hole	Light orange
✓	Y33R53116FP	KSA1M531 LFG	Gold	Yes	5±1.5	Min 23%	100,000	0.7±0.2 mm	M: Thru-hole	Light orange

# KSA & KSL Series

## Sealed Tact Switch



### Short Actuator, Vertical Insertion

Supply Status	Littelfuse Orderable Part Number	Description	Contact & Terminals Plating	Ground Pin	Operating Force Fa (Newtons)	Tactile ratio (min)	Operating Life (Operations)	Electrical Travel (mm)	Orientation & Mounting	Actuator Color
✓	Y33R21119FP	KSA0V211 LFS	Silver	No	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	V: Vertical	Natural
✓	Y33R31119FP	KSA0V311 LFS	Silver	No	1.4±0.4	Min 20%	100,000	0.5±0.2 mm	V: Vertical	Ligth green
✓	Y33R33119FP	KSA0V331 LFG	Gold	No	1.4±0.4	Min 20%	1,000,000	0.5±0.2 mm	V: Vertical	Red
✓	Y33R41119FP	KSA0V411 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Dark blue
✓	Y33R43119FP	KSA0V431 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Dark grey
✓	Y33R91119FP	KSA0V911 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Dark blue
✓	Y33R93119FP	KSA0V931 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Dark grey
✓	Y33R51119FP	KSA0V511 LFS	Silver	No	5±1.5	Min 23%	100,000	0.7±0.2 mm	V: Vertical	Ligth yellow
✓	Y33R53119FP	KSA0V531 LFG	Gold	No	5±1.5	Min 23%	100,000	0.7±0.2 mm	V: Vertical	Light orange

### Long Actuator, Manual Insertion

Supply Status	Littelfuse Orderable Part Number	Description	Contact & Terminals Plating	Ground Pin	Operating Force Fa (Newtons)	Tactile ratio (min)	Operating Life (Operations)	Electrical Travel (mm)	Orientation & Mounting	Actuator Color
✓	Y33R21135FP	KSL0M211 LFS	Silver	No	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	M: Thru-hole	Dark grey
✓	Y33R21136FP	KSL1M211 LFS	Silver	Yes	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	M: Thru-hole	Dark grey
✓	Y33R31135FP	KSL0M311 LFS	Silver	No	1.4±0.4	Min 19%	1,000,000	0.5±0.2 mm	M: Thru-hole	Light green
✓	Y33R33135FP	KSL0M331 LFG	Gold	No	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	M: Thru-hole	Red
✓	Y33R33136FP	KSL1M331 LFG	Gold	Yes	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	M: Thru-hole	Red
✓	Y33R41135FP	KSL0M411 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R41136FP	KSL1M411 LFS	Silver	Yes	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Dark blue
✓	Y33R43135FP	KSL0M431 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Light grey
✓	Y33R43136FP	KSL1M431 LFG	Gold	Yes	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Light grey
✓	Y33R93135FP	KSL0M931 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	M: Thru-hole	Light grey
✓	Y33R51135FP	KSL0M511 LFS	Silver	No	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	M: Thru-hole	Light yellow
✓	Y33R51136FP	KSL1M511 LFS	Silver	Yes	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	M: Thru-hole	Light yellow
✓	Y33R53135FP	KSL0M531 LFG	Gold	No	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	M: Thru-hole	Light orange
✓	Y33R53136FP	KSL1M531 LFG	Gold	Yes	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	M: Thru-hole	Light orange

### Long Actuator, Vertical Insertion

Supply Status	Littelfuse Orderable Part Number	Description	Contact & Terminals Plating	Ground Pin	Operating Force Fa (Newtons)	Tactile ratio (min)	Operating Life (Operations)	Electrical Travel (mm)	Orientation & Mounting	Actuator Color
✓	Y33R21139FP	KSL0V211 LFS	Silver	No	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	V: Vertical	Dark grey
✓	Y33R31139FP	KSL0V311 LFS	Silver	No	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	V: Vertical	Light green
✓	Y33R33139FP	KSL0V331 LFG	Gold	No	1.4±0.4	Min 19%	100,000	0.5±0.2 mm	V: Vertical	Red
✓	Y33R41139FP	KSL0V411 LFS	Silver	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Dark blue
✓	Y33R43139FP	KSL0V431 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Light grey
✓	Y33R51139FP	KSL0V511 LFS	Silver	No	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	V: Vertical	Light yellow
✓	Y33R53139FP	KSL0V531 LFG	Gold	No	5,4±1.65	Min 21%	100,000	0.7±0.2 mm	V: Vertical	Light orange
✓	Y33R93139FP	KSL0V931 LFG	Gold	No	3±0.75	Min 21%	100,000	0.6±0.2 mm	V: Vertical	Light yellow

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.

# KSA & KSL Series

## Sealed Tact Switch



### Buttons

## BTN K0x - xx

#### Button Style

**K01:** 10 mm square snap-on  
**K02:** Ø8 mm round snap-on  
**K03:** 8.5 x 3.8 mm single floating

#### Button Color

**10:** Dark gray **60:** Blue  
**20:** Light gray **70:** Gray-blue  
**30:** Yellow **80:** Ivory  
**40:** Red **90:** Black  
**50:** Green

### Buttons

Button Type	KSA	KSL	KSAV	KSLV
K01	x			
K02	x			
K03	x	x	x	x

#### Notes:

Buttons must be ordered separately and will be supplied in bulk.

Supply Status	LITTELFUSE Orderable Part Number	Description	Button Color
✓	Y330081100P	BTN K01 10	Dark gray
✓	Y330081200P	BTN K01 20	Light gray
✓	Y330081300P	BTN K01 30	Yellow
✓	Y330081400P	BTN K01 40	Red 50
✓	Y330081500P	BTN K01 50	Green
✓	Y330081600P	BTN K01 60	Blue
✓	Y330081700P	BTN K01 70	Gray-blue
✓	Y330081800P	BTN K01 80	Ivory
✓	Y330081900P	BTN K01 90	Black

Supply Status	LITTELFUSE Orderable Part Number	Description	Button Color
✓	Y330080100P	BTN K02 10	Dark gray
✓	Y330080200P	BTN K02 20	Light gray
✓	Y330080300P	BTN K02 30	Yellow
✓	Y330080400P	BTN K02 40	Red 50
✓	Y330080500P	BTN K02 50	Green
✓	Y330080600P	BTN K02 60	Blue
✓	Y330080700P	BTN K02 70	Gray-blue
✓	Y330080800P	BTN K02 80	Ivory
✓	Y330080900P	BTN K02 90	Black

Supply Status	LITTELFUSE Orderable Part Number	Description	Button Color
✓	Y330090100P	BTN K03 10	Dark gray
✓	Y330090200P	BTN K03 20	Light gray
✓	Y330090300P	BTN K03 30	Yellow
✓	Y330090400P	BTN K03 40	Red 50
✓	Y330090500P	BTN K03 50	Green
✓	Y330090600P	BTN K03 60	Blue
✓	Y330090700P	BTN K03 70	Gray-blue
✓	Y330090800P	BTN K03 80	Ivory
✓	Y330090900P	BTN K03 90	Black

Notes: Supply status: ✓ Available for ordering.

### 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.

**Disclaimer Notice** - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <http://www.littelfuse.com/disclaimer-electronics>.