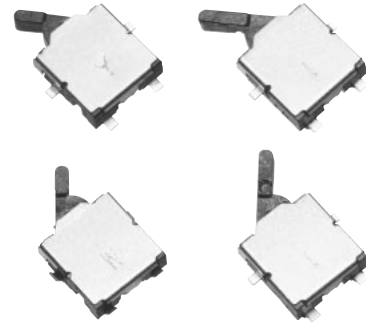


### 1HL Detector Switches

Japan

Type: **ESE18**

Detector switches that contribute to miniaturization, weight reduction, and expansion of the operation variety required for portable equipment.



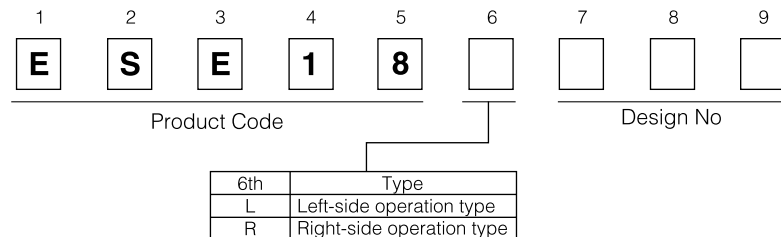
#### ■ Features

- Thin body: 1.2 mm
- Circuit type: Normally-open and a normally-closed types are available.
- Travel: Standard type: 1.5 mm  
Long type: 2.15 mm
- Surface mounted type: Packed with embossed tape. Supports reflow soldering.

#### ■ Recommended Applications

- Mechanisms or the detection of media in portable equipment (e.g. MD/CD-ROM/DVD players, DSCs)
- Operation switches (input devices)

#### ■ Explanation of Part Numbers



#### ■ Major Specifications

Power Rating		50 $\mu$ A 3 V dc to 10 mA 5 V dc
Contact Resistance		1 $\Omega$ max.
Insulation Resistance		100 M $\Omega$ max. (100 V dc)
Dielectric Withstanding Voltage		100 V ac for 1 minute
Operating Force		300 mN max.
Full Travel		1.5 mm, 2.15 mm
Operating Life		50000 cycles min.
Temperature Range		-10 $^{\circ}$ C to +60 $^{\circ}$ C
Heat Resistance		+70 $^{\circ}$ C for 96 hours
Low Temperature Resistance		-25 $^{\circ}$ C for 96 hours
Humidity Resistance		+40 $^{\circ}$ C 90 % to 95 % RH for 96 hours
Minimum Quantity/Packing Unit	ESE18L	5000 pcs. (Reel Pack)
	ESE18R	
Quantity/Carton	ESE18L	30000 pcs.
	ESE18R	

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

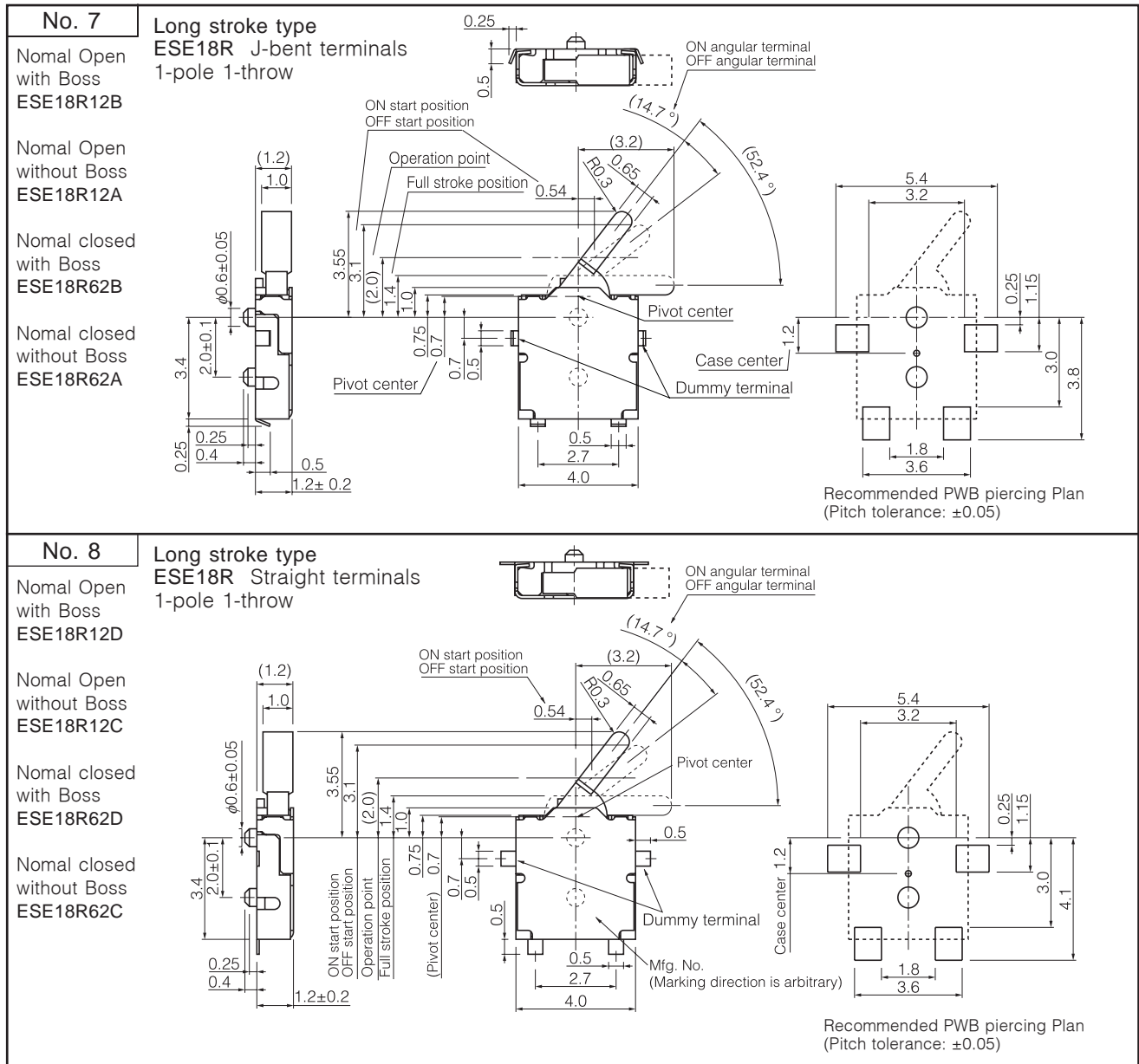
## ■ Dimensions in mm (not to scale)

<p><b>No. 1</b></p> <p>Standard stroke type ESE18L J-bent terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18LJ02 ESE18L11B</p> <p>Normal Open without Boss ESE18LJ01 ESE18L11A</p> <p>Normal closed with Boss ESE18L61B</p> <p>Normal closed without Boss ESE18L61A</p>	<p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>
<p><b>No. 2</b></p> <p>Standard stroke type ESE18L Straight terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18LF02 ESE18L11D</p> <p>Normal Open without Boss ESE18LF01 ESE18L11C</p> <p>Normal closed with Boss ESE18L61D</p> <p>Normal closed without Boss ESE18L61C</p>	<p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>
<p><b>No. 3</b></p> <p>Standard stroke type ESE18R J-bent terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18RJ02 ESE18R11B</p> <p>Normal Open without Boss ESE18RJ01 ESE18R11A</p> <p>Normal closed with Boss ESE18R61B</p> <p>Normal closed without Boss ESE18R61A</p>	<p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>

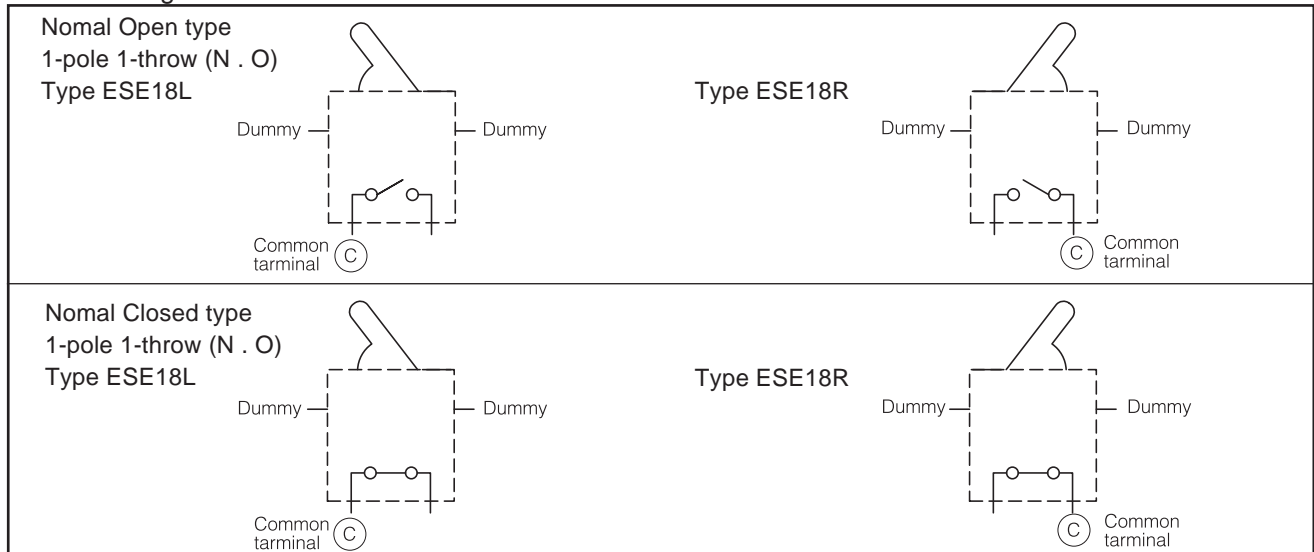
■ Dimensions in mm (not to scale)

<p><b>No. 4</b></p> <p>Standard stroke type ESE18R Straight terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18RF02 ESE18R11D</p> <p>Normal Open without Boss ESE18RF01 ESE18R11C</p> <p>Normal closed with Boss ESE18R61D</p> <p>Normal closed without Boss ESE18R61C</p>	<p>ON angular terminal OFF angular terminal</p> <p>(14.7°)</p> <p>(52.4°)</p> <p>Action direction</p> <p>2.6 max.</p> <p>0.65</p> <p>R0.3</p> <p>0.54</p> <p>Pivot center</p> <p>ON start position OFF start position</p> <p>3.4</p> <p>2.0±0.1</p> <p>0.6±0.05</p> <p>1.2</p> <p>1.0</p> <p>2.9</p> <p>2.6</p> <p>(2.0)</p> <p>1.4</p> <p>1.0</p> <p>0.75</p> <p>0.7</p> <p>0.5</p> <p>0.5</p> <p>0.5</p> <p>0.7 (Pivot center)</p> <p>0.5</p> <p>2.7</p> <p>4.0</p> <p>2.0</p> <p>0.5</p> <p>2</p> <p>Dummy terminal</p> <p>Mfg. No. (Marking direction is arbitrary)</p> <p>1.2±0.2</p>	<p>Case center 1.2</p> <p>5.4</p> <p>3.2</p> <p>0.25</p> <p>1.15</p> <p>3.0</p> <p>4.1</p> <p>1.8</p> <p>3.6</p> <p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>
<p><b>No. 5</b></p> <p>Long stroke type ESE18L J-bent terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18L12B</p> <p>Normal Open without Boss ESE18L12A</p> <p>Normal closed with Boss ESE18L62B</p> <p>Normal closed without Boss ESE18L62A</p>	<p>ON angular terminal OFF angular terminal</p> <p>(14.7°)</p> <p>(52.4°)</p> <p>0.25</p> <p>0.5</p> <p>3.2</p> <p>ON start position OFF start position</p> <p>0.65</p> <p>R0.3</p> <p>0.54</p> <p>Pivot center</p> <p>3.4</p> <p>2.0±0.1</p> <p>0.6±0.05</p> <p>1.2</p> <p>1.0</p> <p>3.55</p> <p>3.1</p> <p>(2.0)</p> <p>1.4</p> <p>1.0</p> <p>0.75</p> <p>0.7</p> <p>0.5</p> <p>0.5</p> <p>0.7 (Pivot center)</p> <p>0.5</p> <p>2.7</p> <p>4.0</p> <p>2.0</p> <p>0.5</p> <p>2</p> <p>Mfg. No. (Marking direction is arbitrary)</p> <p>1.2±0.2</p>	<p>Case center 1.2</p> <p>5.4</p> <p>3.2</p> <p>0.25</p> <p>1.15</p> <p>3.0</p> <p>3.8</p> <p>1.8</p> <p>3.6</p> <p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>
<p><b>No. 6</b></p> <p>Long stroke type ESE18L Straight terminals 1-pole 1-throw</p> <p>Normal Open with Boss ESE18L12D</p> <p>Normal Open without Boss ESE18L12C</p> <p>Normal closed with Boss ESE18L62D</p> <p>Normal closed without Boss ESE18L62C</p>	<p>ON angular terminal OFF angular terminal</p> <p>(14.7°)</p> <p>(52.4°)</p> <p>0.25</p> <p>0.5</p> <p>3.2</p> <p>ON start position OFF start position</p> <p>0.65</p> <p>R0.3</p> <p>0.54</p> <p>Pivot center</p> <p>3.4</p> <p>2.0±0.1</p> <p>0.6±0.05</p> <p>1.2</p> <p>1.0</p> <p>3.55</p> <p>3.1</p> <p>(2.0)</p> <p>1.4</p> <p>1.0</p> <p>0.75</p> <p>0.7</p> <p>0.5</p> <p>0.5</p> <p>0.7 (Pivot center)</p> <p>0.5</p> <p>2.7</p> <p>4.0</p> <p>2.0</p> <p>0.5</p> <p>2</p> <p>Mfg. No. (Marking direction is arbitrary)</p> <p>1.2±0.2</p>	<p>Case center 1.2</p> <p>5.4</p> <p>3.2</p> <p>0.25</p> <p>1.15</p> <p>3.0</p> <p>4.1</p> <p>1.8</p> <p>3.6</p> <p>Recommended PWB piercing Plan (Pitch tolerance: ±0.05)</p>

### ■ Dimensions in mm (not to scale)



### ■ Circuit Diagram



■ Packaging Specifications

Standard Reel Dimensions in mm (not to scale)

