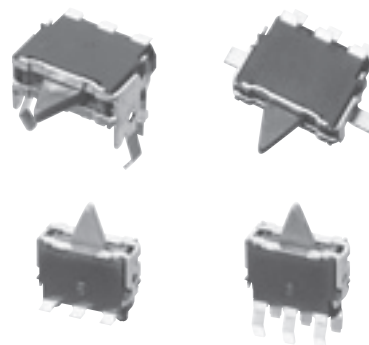


### ESE24 Detector Switches

Type: **ESE24**

Bidirectional operation, midpoint auto-return Type



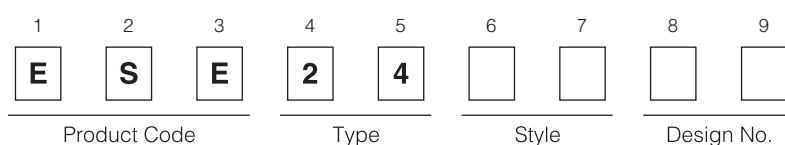
#### ■ Features

- A lever-type detector switch with high reliability using sliding mechanical contacts
- Long over-travel (through-operation available)
- Used as an operation switch (an input device)

#### ■ Recommended Applications

- Detection of media in portable electronic equipment (CD-ROM, DVD, Digital still cameras, etc.)
- Operating switches for other electronic equipment.

#### ■ Explanation of Part Number



| 6th & 7th | Mounting Method & Style              |
|-----------|--------------------------------------|
| SV        | Vertical type for wave soldering     |
| SH        | Horizontal type for wave soldering   |
| MV        | Vertical type for reflow soldering   |
| MH        | Horizontal type for reflow soldering |

#### ■ Specifications

|                                 |                                                                                                                                                                                                              |                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Rating                          | 50 $\mu$ A 3 V DC to 10 mA 5 V DC (Resistive load)                                                                                                                                                           |                                                      |
| Contact Resistance              | 500 m $\Omega$ max. (Initial)                                                                                                                                                                                |                                                      |
| Insulation Resistance           | 100 M $\Omega$ min. (at 100 V DC for 1 minute)                                                                                                                                                               |                                                      |
| Dielectric Withstanding Voltage | 100 V AC (50 Hz or 60 Hz) for 1 minute                                                                                                                                                                       |                                                      |
| Operating Force                 | 350 mN max.                                                                                                                                                                                                  |                                                      |
| Mounting Height                 | <ul style="list-style-type: none"> <li>· ESE24SV Type 5.6 mm</li> <li>· ESE24SH Type 4.65 mm</li> <li>· ESE24MV Type 5.6 mm</li> <li>· ESE24MH Type 3.0 mm</li> </ul>                                        |                                                      |
| Poles and Throws                | 1-pole 2-throws (OFF at midpoint)                                                                                                                                                                            |                                                      |
| Full Travel (Pushing distance)  | <ul style="list-style-type: none"> <li>· ESE24SV Type 6.1 mm (2.45 mm)</li> <li>· ESE24SH Type 2.6 mm (2.45 mm)</li> <li>· ESE24MV Type 6.1 mm (2.45 mm)</li> <li>· ESE24MH Type 1.4 mm (2.45 mm)</li> </ul> |                                                      |
| Operating Life                  | 50,000 cycles min.                                                                                                                                                                                           |                                                      |
| Temperature Range               | -10 °C to +70 °C (Standard), -40 °C to +85 °C (Automotive)                                                                                                                                                   |                                                      |
| Heat Resistance                 | +80 °C for 96 hours                                                                                                                                                                                          |                                                      |
| Low Temperature Resistance      | -25 °C for 96 hours                                                                                                                                                                                          |                                                      |
| Humidity Resistance             | +40 °C 90 % to 95 % RH for 96 hours                                                                                                                                                                          |                                                      |
| Minimum Quantity/Packing Unit   | ESE24MH, MV, SV, SH                                                                                                                                                                                          | 200 pcs. Polyethylene Bag (Bulk) <sup>*1</sup>       |
|                                 | ESE24MH□T                                                                                                                                                                                                    | 1,000 pcs. Embossed Taping (Reel Pack) <sup>*2</sup> |
|                                 | ESE24MV□T                                                                                                                                                                                                    | 500 pcs. Embossed Taping (Reel Pack)                 |
| Quantity/Carton                 | ESE24MH, MV, SV, SH                                                                                                                                                                                          | 10,000 pcs. Polyethylene Bag (Bulk)                  |
|                                 | ESE24MH□T                                                                                                                                                                                                    | 6,000 pcs. Embossed Taping (Reel Pack)               |
|                                 | ESE24MV□T                                                                                                                                                                                                    | 3,000 pcs. Embossed Taping (Reel Pack)               |

<sup>\*1</sup> ESE24SH type: 160 pcs. (Polyethylene Bag), 8,000 pcs. (Reel Pack)  
<sup>\*2</sup> ESE24SV, ESE24SH are excluded

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.

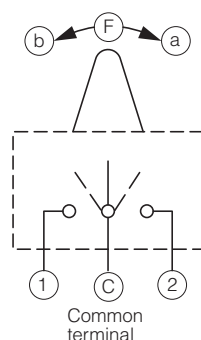
## ■ Dimensions in mm (not to scale)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>No. 1</b> ESE24SV3 Vertical type for wave soldering<br/>1-pole 2-throws</p> <p>7.05 to 7.55 (Pushing position)<br/>4.45 (Rotative center)</p> <p>PWB mounting hole for reference<br/>(Pitch tolerance: <math>\pm 0.05</math>)<br/>(PWB thickness=0.8)</p> <p>6-<math>\phi 1.10^{+0.05}_0</math></p> <p>2.50 2.50 2.90</p> <p>7.5 4.3 2.7 29° 24' 68° 26' 5.6 0.2 6.1 (Full position) 8.05 (ON starting position) 8.55</p> <p>1.0 2.5 2.5 1.0</p> <p>3.0 1.0 0.3 1.4 2.7 2.9 3.8</p>      | <p><b>No. 2</b> ESE24SH1 Horizontal type for wave soldering<br/>1-pole 2-throws</p> <p>8.4 7.25 2.5 2.5 1.6 2.55 2.75</p> <p>3.55 to 4.05 (Pushing position)<br/>0.95 (Rotative center)</p> <p>PWB mounting hole for reference<br/>(Pitch tolerance: <math>\pm 0.05</math>)<br/>(PWB thickness=0.8)</p> <p>2-<math>\phi 1.20^{+0.05}_0</math></p> <p>2.50 2.50 7.16</p> <p>7.5 4.3 2.7 29° 24' 68° 10.2 2.6 (Full position) 4.55 (ON starting position) 5.05 3.5</p> <p>4.65 3.65 1.0 1.0 3.0 3.0 1.65</p>                                                                                                         |
| <p><b>No. 3</b> ESE24MV1 Vertical type for reflow soldering<br/>1-pole 2-throws<br/>ESE24MV1T (Embossed Taping)</p> <p>7.05 to 7.55 (Pushing position)<br/>4.45 (Rotative center)</p> <p>PWB mounting hole for reference<br/>(Tolerance: <math>\pm 0.05</math>)</p> <p>2-<math>\phi 1.10^{+0.05}_0</math></p> <p>5.50 3.60 5.80 2.50 2.50 6-1.40</p> <p>7.5 4.3 2.7 29° 24' 68° 26' 5.6 6.1 (Full position) 8.05 (ON starting position) 8.55</p> <p>1.0 2.5 2.5 1.0</p> <p>3.0 1.0 4.0 5.4</p> | <p><b>No. 4</b> ESE24MH1 Horizontal type for reflow soldering<br/>1-pole 2-throws<br/>ESE24MH1T (Embossed Taping)</p> <p>0.25 7.25 0.25 2.00 7.50 2.00 1.60 7.25 1.60 4.50 2.20 2.50 2.50 3-1.40</p> <p>positioning boss</p> <p>PWB mounting hole for reference<br/>(Tolerance: <math>\pm 0.05</math>)</p> <p>2-<math>\phi 0.70</math> (Hole)</p> <p>1.5 7.5 1.5 4.3 2.7 29° 24' 68° 26' 0.2 0.9 1.2 1.6 3.85 4.7 1.5 1.4 (Full position) 3.35 (ON starting position) 1.0 2.5 2.5 1.0</p> <p>0.25 (Rotative center) 2.35 to 2.85 (Pushing position)</p> <p>3.0 0.5 2.0 1.0 0.6 0.2 0.1</p> <p>Positioning boss</p> |

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## Circuit Diagram

1-pole 2-throws (N . O)

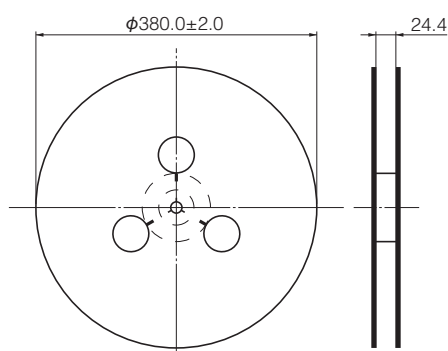


| Terminal No.<br>Lever position | 1 | c | 2 |
|--------------------------------|---|---|---|
| F                              |   | ○ |   |
| a                              | ○ | ○ |   |
| b                              |   | ○ | ○ |

## Packaging Specifications

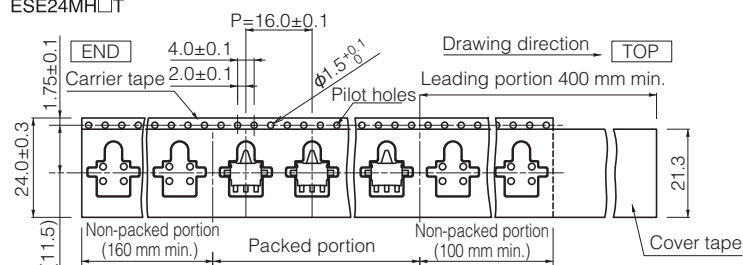
Standard Reel Dimensions in mm (not to scale)

### Taping Reel

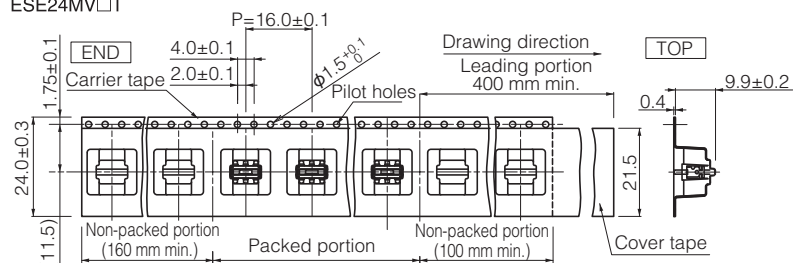


### Embossed Carrier Taping

ESE24MH□T



ESE24MV□T



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[ESE-24CMV6T](#) [ESE-24CSH6](#) [ESE-24CMV1T](#) [ESE-24CMV9T](#) [ESE-24CMH9T](#)

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