

## 3.5 mm×2.9 mm SMD Light Touch Switches

Type: **EVPAA**  
**EVP2A**  
**EVP3A**



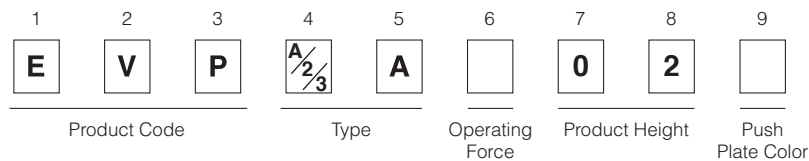
### ■ Features

- External dimensions : 3.5 mm×2.9 mm, Height 1.7 mm
- High operating force available  
(Operating force : 7.0 N max.)
- Optional ground terminal

### ■ Recommended Applications

- Operation switches for portable electronic equipments  
(Mobile phones, Digital still cameras, etc.)
- Operating switches for keyless entry systems

### ■ Explanation of Part Numbers




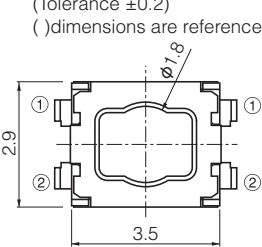
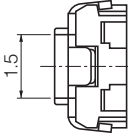
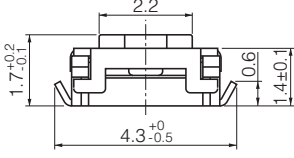
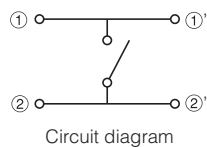
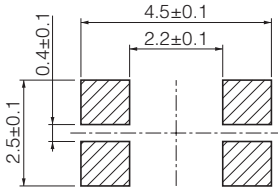
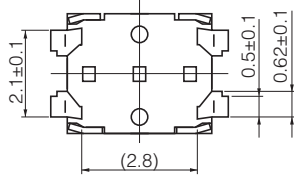
### ■ Specifications

Type		Snap action/Push-on type SPST
Electrical	Rating	10 μA 2 V DC to 20 mA 15 V DC (Resistive load)
	Contact Resistance	100 mΩ max.
	Insulation Resistance	100 MΩ min. (at 100 V DC)
	Dielectric Withstanding Voltage	250 V AC for 1 minute
	Bouncing	10 ms max. (ON, OFF)
Mechanical	Operating Force	1.0 N, 1.6 N, 2.4 N, 3.5 N, 5.0 N, 7.0 N
	Travel	0.15 mm±0.1 mm
Endurance	Operating Life	1,000,000 cycles min. (1.0 N) 500,000 cycles min. (3.5 N) 200,000 cycles min. (1.6 N, 2.4 N, 3.5 N, 5.0 N) 100,000 cycles min. (5.0 N, 7.0 N)
Operating Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C (Bulk) -20 °C to +60 °C (Taping)
Minimum Quantity/Packing Unit		5,000 pcs. Embossed Taping (Reel Pack)
Quantity/Carton		25,000 pcs.

Note: Non washable

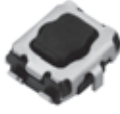
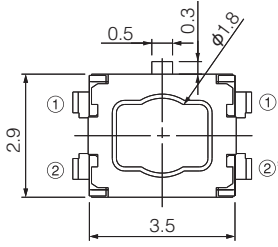
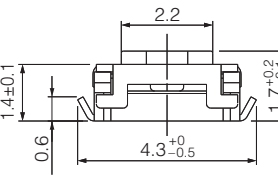
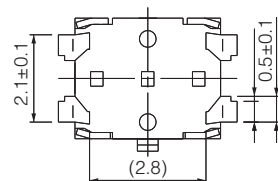
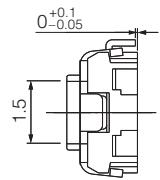
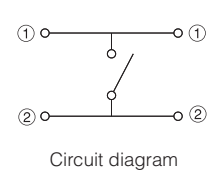
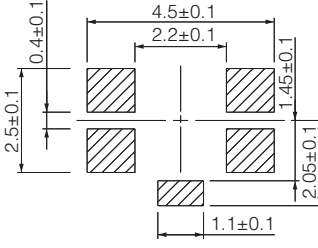
Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.  
 Should a safety concern arise regarding this product, please be sure to contact us immediately.

■ Dimensions in mm (not to scale)

<p>No. 1</p> <p><b>EVPAA</b> <b>EVP2A</b></p> <p>(Embossed Taping) Thickness : 1.7 mm With J-bent terminals Without Ground Terminal</p> 	<p>(Tolerance <math>\pm 0.2</math>) ( ) dimensions are reference dimensions.</p>     <p>Circuit diagram</p>  <p>PWB land pattern for reference</p> 			
<p>Part Numbers</p>	<p>Ground Terminal</p>	<p>Operating Force</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVPAA002K</p>	<p>Without</p>	<p>1.0 N</p>	<p>Black</p>	<p>1,000,000 cycles</p>
<p>EVPAA202K</p>	<p>Without</p>	<p>1.6 N</p>	<p>Black</p>	<p>200,000 cycles</p>
<p>EVPAA402W</p>	<p>Without</p>	<p>2.4 N</p>	<p>White</p>	<p>200,000 cycles</p>
<p>EVPAA602W</p>	<p>Without</p>	<p>3.5 N</p>	<p>White</p>	<p>200,000 cycles</p>
<p>EVPAAM02W</p>	<p>Without</p>	<p>3.5 N</p>	<p>White</p>	<p>500,000 cycles</p>
<p>EVPAA802Q</p>	<p>Without</p>	<p>5.0 N</p>	<p>Gray</p>	<p>100,000 cycles</p>
<p>EVPAAN02Q</p>	<p>Without</p>	<p>5.0 N</p>	<p>Gray</p>	<p>100,000 cycles (High load : 10N)</p>
<p>EVPAAU02Q</p>	<p>Without</p>	<p>7.0 N</p>	<p>Gray</p>	<p>100,000 cycles</p>
<p>EVP2AA02Q</p>	<p>Without</p>	<p>5.0 N</p>	<p>Gray</p>	<p>200,000 cycles (High load : 10N)</p>

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.

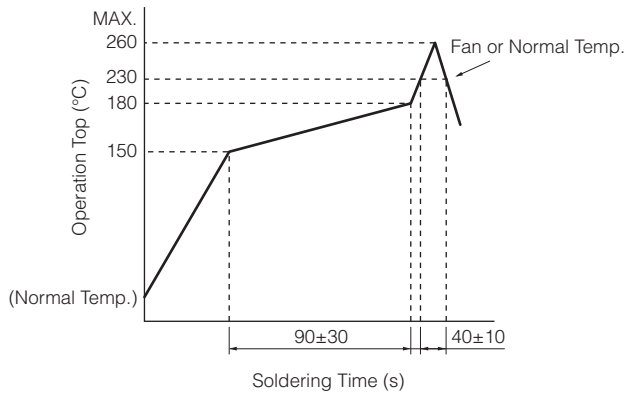
■ Dimensions in mm (not to scale)

<p>No. 2</p> <p><b>EVPAA</b> <b>EVP3A</b></p> <p>(Embossed Taping) Thickness : 1.7 mm With J-bent terminals With Ground Terminal</p> 	<p>(Tolerance <math>\pm 0.2</math>) ( ) dimensions are reference dimensions.</p>      <p style="text-align: center;">Circuit diagram</p>  <p style="text-align: center;">PWB land pattern for reference</p>
--	--

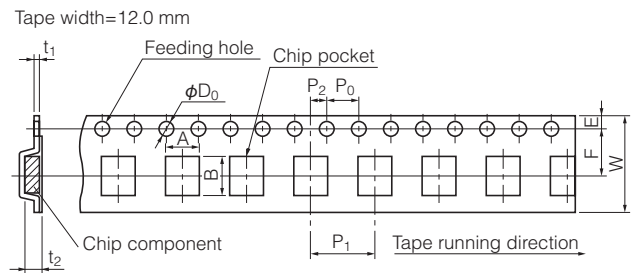
Part Numbers	Ground Terminal	Operating Force	Push Plate Color	Operating Life
EVPAA102K	With	1.0 N	Black	1,000,000 cycles
EVPAA302K	With	1.6 N	Black	200,000 cycles
EVPAA502W	With	2.4 N	White	200,000 cycles
EVPAA702W	With	3.5 N	White	200,000 cycles
EVPAAQ02W	With	3.5 N	White	500,000 cycles
EVPAA902Q	With	5.0 N	Gray	100,000 cycles
EVPAAR02Q	With	5.0 N	Gray	100,000 cycles (High load : 10N)
EVP3AA02Q	With	5.0 N	Gray	200,000 cycles (High load : 10N)

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.

### ■ Recommended Reflow Soldering Conditions



### ● Embossed Carrier Taping

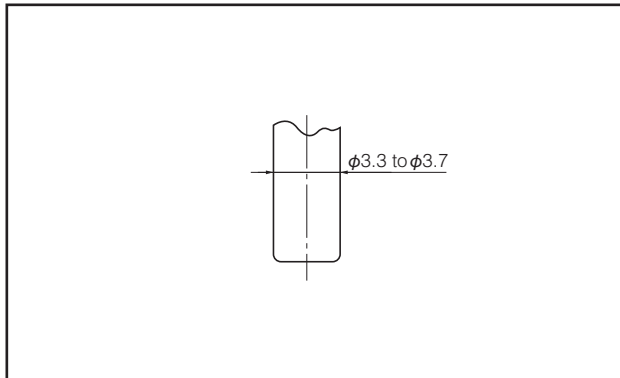


Taping condition : Lack of products in the middle of taping should be one MAX, but total quantity specified in the specifications should be secured.  
 Peeling off strength of top tape : It should be within 0.2N to 1.0N at 165 degree in peeling off angle.  
 Joint of carrier tape : One joint per one reel may exist.

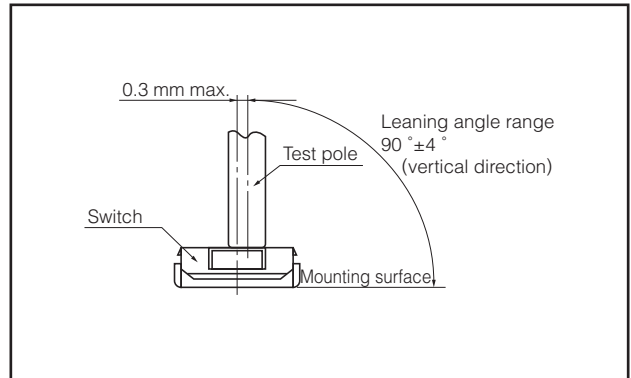
Unit: mm

Part No.	Height	A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub> Dia	t <sub>1</sub>	t <sub>2</sub>
EVPAA EVP2A EVP3A	1.7	4.5±0.2	3.8±0.2	12.0±0.3	5.5±0.1	1.75±0.10	8.0±0.1	2.0±0.1	4.0±0.1	1.5 <sup>+0.1</sup>	0.3±0.1	1.85±0.20

### ■ Recommended Shape of Test Pole



### ■ Recommended Operating Conditions



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.

## Guidelines and cautions for using the product technical information and the products displayed on this material

- The products described on this material were designed and manufactured for standard applications such as general electronics devices, office equipment, data and communications equipment, measuring instruments, household appliances and audio-video equipment. For special applications in which quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or cause threat of personal injury (such as for aircraft and aerospace equipment, traffic and transport equipment, combustion equipment, medical equipment, accident prevention and anti-theft devices, and safety equipment), please use only after your company has sufficiently tested our products' suitability for that application.
- When using our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you use protection circuits and redundancy circuits for equipment safety and test for safety.
- The products and product specifications described on this material are subject to change for improvement without prior notice. Therefore, be sure to request and confirm in advance the most current specifications, which explain the specifications in detail, before the final stage of your design, purchasing or use for any application.
- The technical information on this material provides examples of the products' typical operations and application circuits. It is not intended to guarantee the non-infringement of or grant license for intellectual property rights of this company or any third party.
- Permission must be obtained from the Japanese government if products, products specifications and technical information on this material that are subject to the "Foreign Exchange and Foreign Trade Law" are to be exported or taken out of Japan.
- The information contained on this material may not be reprinted or reproduced whether wholly or in part, without the prior written permission of Panasonic Corporation.

### Safety Precautions

When using our products, no matter what sort of equipment they might be used for, be sure to confirm the applications and environmental conditions with our specifications in advance.

Please contact .....

**Panasonic Corporation**

Electromechanical Control Business Division

■ 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8506, Japan  
[industrial.panasonic.com/ac/e/](http://industrial.panasonic.com/ac/e/)

**Panasonic**<sup>®</sup>

©Panasonic Corporation 2018