

## Product Change Notice - EVQ-P7, EVQ-PU and EVP-AF Series Light Touch Switches

PCN.PG26.06.25.2013

06.25.2013

About this Notice:	In an effort to improve quality, Panasonic has decided to improve the packaging on these Light Touch Switch Series parts.
Effective Date:	June 7, 2013 or August 7, 2013 – See attached part number list for specific change dates.
Change Details:	To reduce the influence of electrostatic effects and improve packaging quality, Panasonic has changed the packaging cover film material. New package is slightly bluer in color. See below details.
Affected Parts:	See attached list.
Datasheet(s):	EVQ-P7/EVQ-P3/EVQ-9P7 Series Datasheet – see attachment.  EVQ-PU Series Datasheet – see attachment  EVP-AF Series Datasheet – see attachment
Notes:	See page 2 of this announcement for packaging upgrade details.

## Product Change Notice - EVQ-P7, EVQ-PU and EVP-AF Series Light Touch Switches

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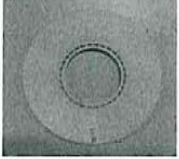



06.25.2013

### 1. Purpose

To reduce the influence of electrostatic which happened on peel off the packing film, we change the packing film material to high electrostatic prevention material; we compared current material and change material as below

### 2. Appraise Item:

#### ①. Apperance of material

Item	current material	change material	Result
The colour of material			The change material is bluer than current material
The colour of material after butt fusion			After butt fusion, the change material is bluer than current material

#### ②. The surface contact resistance of flim

unit:  $\Omega$

	current material	change material
SPEC.	$10 \times 10^{12}$	$9.9 \times 10^9$
1	$6.6 \times 10^9$	$0.94 \times 10^9$
2	$2.8 \times 10^9$	$0.99 \times 10^9$
3	$4.3 \times 10^9$	$1.1 \times 10^9$
4	$4.5 \times 10^9$	$1.16 \times 10^9$
AVE	$4.5 \times 10^9$	$1.05 \times 10^9$

Result: The surface contact resistance of flim is much lower for the change material.

The change material will provide well electrostatic prevention character

#### ③. The peel off strength of flim

SPEC: 0.2N~1.0N

	Compare the peel off strength		
	Min.	Max.	Avg.
current material	0.470	0.612	0.580
change material	0.423	0.574	0.517

Result : There is no obvious difference of peel off strength between current material and change material

### 3. Change mark

We will marked blue "N" on the C3 label of reel, this mark will continued 1 week from first outgoing.

current



change



Panasonic Industrial Devices Sales Company of America  
Industrial Components Division

<http://www.panasonic.com/industrial> | <http://pewa.panasonic.com>  
industrial@us.panasonic.com

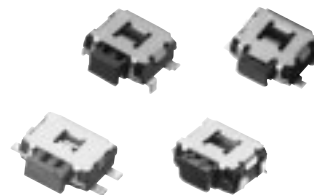
**Panasonic EVQ-P7, EVQ-PU and EVP-AF Series Light Touch Switches  
Part Numbers affected by Packaging Upgrade**

<b>Part Number</b>	<b>Change Date</b>
EVP-0AFB65	June 7, 2013
EVP-0AFC65	June 7, 2013
EVP-1AFB70	June 7, 2013
EVP-AF1B70	June 7, 2013
EVP-AF3C70	June 7, 2013
EVP-AF5B65	June 7, 2013
EVP-AF5B70	June 7, 2013
EVP-AF7B70	June 7, 2013
EVP-AF7C70	June 7, 2013
EVP-AFEB65	June 7, 2013
EVP-AFFB65	June 7, 2013
EVP-AFFC65	June 7, 2013
EVP-AFFG65	June 7, 2013
EVP-AFGB65	June 7, 2013
EVQ-0P301K	August 7, 2013
EVQ-2P301K	August 7, 2013
EVQ-5P701C	August 7, 2013
EVQ-9P701K	August 7, 2013
EVQ-9P701P	August 7, 2013
EVQ-P3401K	August 7, 2013
EVQ-P3L01K	August 7, 2013
EVQ-P3M01K	August 7, 2013
EVQ-P3N01K	August 7, 2013
EVQ-P3S01K	August 7, 2013
EVQ-P3S01M	August 7, 2013
EVQ-P7801P	August 7, 2013
EVQ-P7A01C	August 7, 2013
EVQ-P7A01K	August 7, 2013
EVQ-P7AA1C	August 7, 2013
EVQ-P7B01K	August 7, 2013
EVQ-P7C01K	August 7, 2013
EVQ-P7C01P	August 7, 2013
EVQ-P7D01K	August 7, 2013
EVQ-P7J01C	August 7, 2013
EVQ-P7J01K	August 7, 2013
EVQ-P7K01K	August 7, 2013
EVQ-P7L01K	August 7, 2013

EVQ-P7M01K	August 7, 2013
EVQ-1PU02K	August 7, 2013
EVQ-PUA02K	August 7, 2013
EVQ-PUB02K	August 7, 2013
EVQ-PUC02K	August 7, 2013
EVQ-PUD02K	August 7, 2013
EVQ-PUJ02K	August 7, 2013
EVQ-PUK02K	August 7, 2013
EVQ-PUL02K	August 7, 2013
EVQ-PUM02K	August 7, 2013

### 3.5 mm×2.9 mm Side-operational SMD Light Touch Switches

Type: **EVQP7/EVQP3/EVQ9P7**



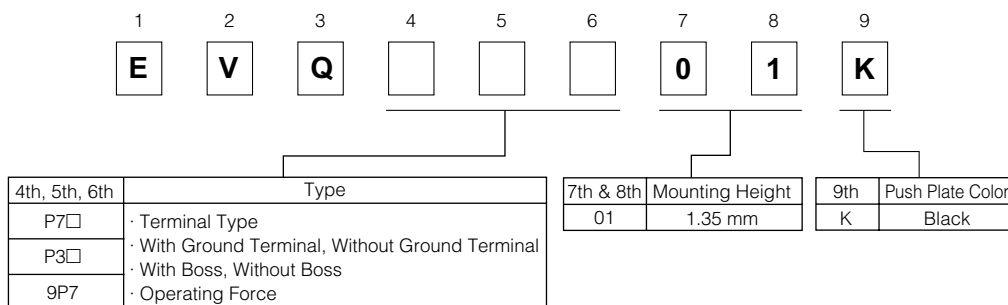
#### ■ Features

- External dimensions : 3.5 mm×2.9 mm, Height 1.35 mm
- A wide range of terminal type : L-shape, J-bent, Straight
- High mount ability
- Push plate strength enhanced type

#### ■ Recommended Applications

- Car navigation, Car audio


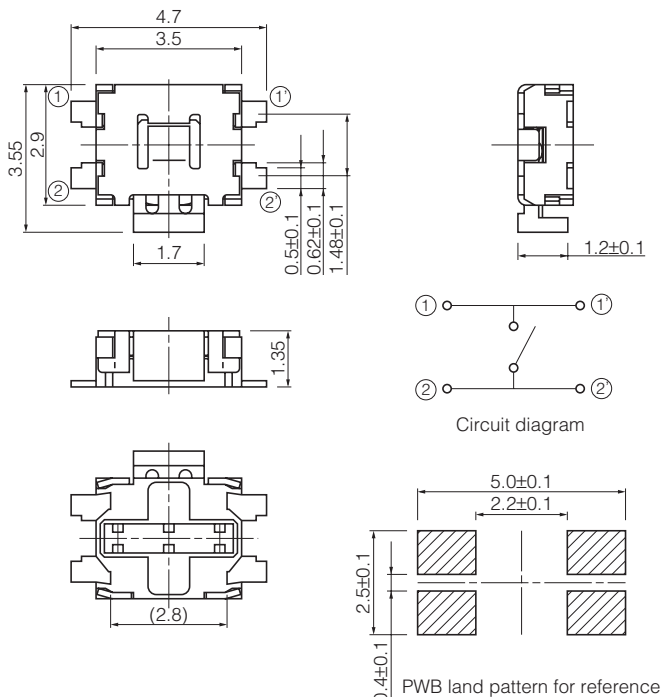

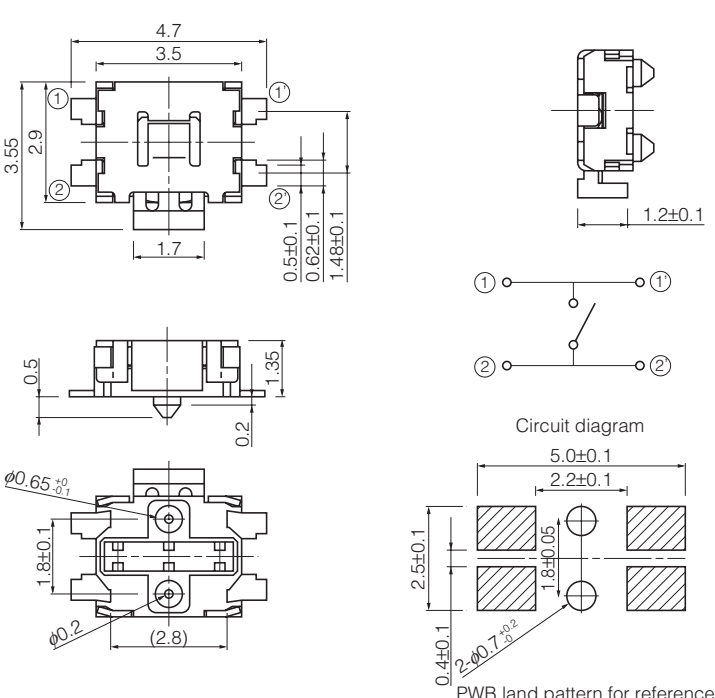
#### ■ Explanation of Part Numbers




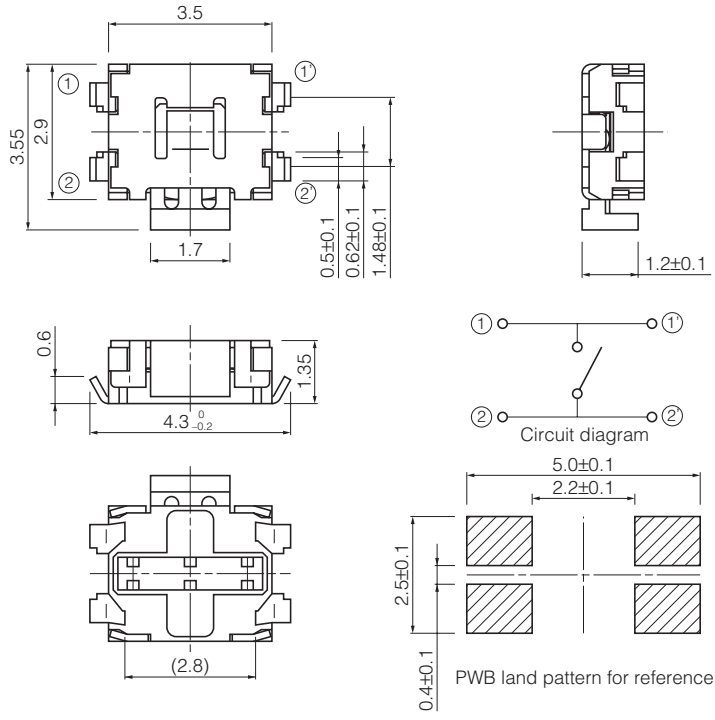

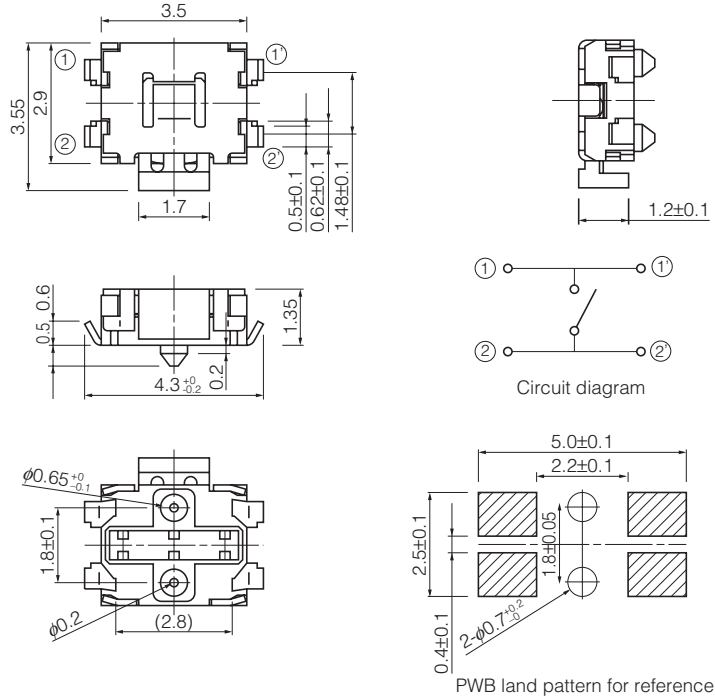
#### ■ Specifications

Type	Snap action / Push-on type SPST	
Electrical	Rating	10 $\mu$ A 2 Vdc to 50 mA 12 Vdc (Resistive load)
	Contact Resistance	500 m $\Omega$ max.
	Insulation Resistance	100 M $\Omega$ min. (at 100 Vdc)
	Dielectric Withstanding Voltage	250 Vac (1 minute)
	Bouncing	10 ms max. (ON, OFF)
Mechanical	Operating Force	1.6 N, 2.2 N
	Push Travel	0.2 mm
	Push Strength	30 N (1 minute)
Endurance	Operating Life	100000 cycles min.
Operating Temperature		-20 °C to +70 °C
Storage Temperature		-40 °C to +85 °C (Bulk)
		-20 °C to +60 °C (Taping)
Minimum Quantity/Packing Unit		5000 pcs. Embossed Taping (Reel Pack)
Quantity/Carton		25000 pcs.

■ Dimensions in mm (not to scale)

<p>No. 1</p> <p>EVQP7A EVQP7J</p> <p>(Embossed Taping)</p> <p>With straight terminals Without boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQP7A01K</p>	<p>2.2 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQP7J01K</p>	<p>1.6 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>No. 2</p> <p>EVQP7C EVQP7L</p> <p>(Embossed Taping)</p> <p>With straight terminals With boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQP7C01K</p>	<p>2.2 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQP7L01K</p>	<p>1.6 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>

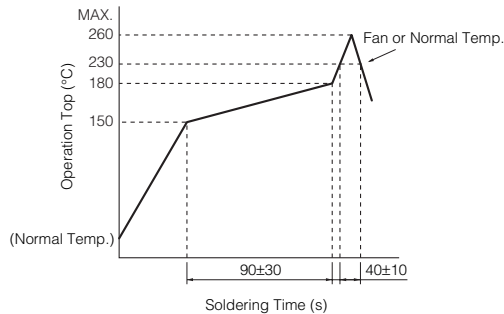
■ Dimensions in mm (not to scale)

<p>No. 3</p> <p>EVQP7B EVQP7K</p> <p>(Embossed Taping)</p> <p>With J-bent terminals Without boss</p> 	 <p>Circuit diagram</p> <p>PWB land pattern for reference</p>			
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQP7B01K</p>	<p>2.2 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQP7K01K</p>	<p>1.6 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>No. 4</p> <p>EVQP7D EVQP7M</p> <p>(Embossed Taping)</p> <p>With J-bent terminals With boss</p> 	 <p>Circuit diagram</p> <p>PWB land pattern for reference</p>			
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQP7D01K</p>	<p>2.2 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQP7M01K</p>	<p>1.6 N</p>	<p>1.35 mm</p>	<p>Black</p>	<p>100000 cycles</p>

### ■ Dimensions in mm (not to scale)

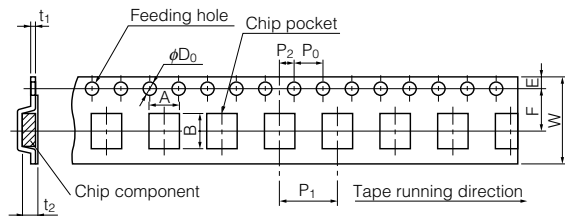
No. 5 EVQP3 EVQ9P (Embossed Taping) With L-shape terminals Without boss				
			<p>Circuit diagram</p>	
			<p>PWB land pattern for reference</p>	
Part Numbers	Operating Force	Height	Push Plate Color	Operating Life
EVQP3401K	2.2 N	1.35 mm	Black	100000 cycles
EVQ9P701K	1.6 N	1.35 mm	Black	100000 cycles

### ■ Recommended Reflow Soldering Conditions



### ● Embossed Carrier Taping

Tape width=12.0 mm



### ● Straight terminals, L-shape terminals type

Unit: mm

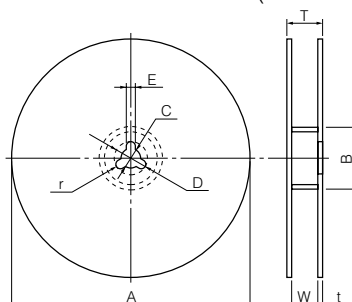
Part No.	Height	A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub> Dia.	t <sub>1</sub>	t <sub>2</sub>
EVQP7, EVQP3 EVQ9P7	1.35	5.2±0.2	4.5±0.2	12.0±0.3	5.5±0.1	1.75±0.10	8.0±0.1	2.0±0.1	4.0±0.1	1.5 <sup>+0.1</sup> <sub>-0</sub>	0.3±0.1	1.5±0.2

### ● J-bent type

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>
EVQP7, EVQP3	1.35	4.5±0.2	4.5±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> <sub>-0</sub>	0.3±0.1	1.5±0.2

### ● Standard Reel Dimensions in mm (not to scale)

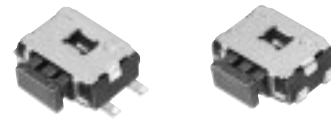


Item	A	B	C	D	E
Rate (mm)	φ380.0±2.0	φ80.0±1.0	φ13.0±0.5	φ21.0±1.0	2.0±0.5
Item	W	T	t	r	
Rate (mm)	13.5±1.0	17.5±1.0	1.0 to 3.0	1.0±0.5	



### Small-sized Side-operational SMD Light Touch Switches

Type: **EVQPU**



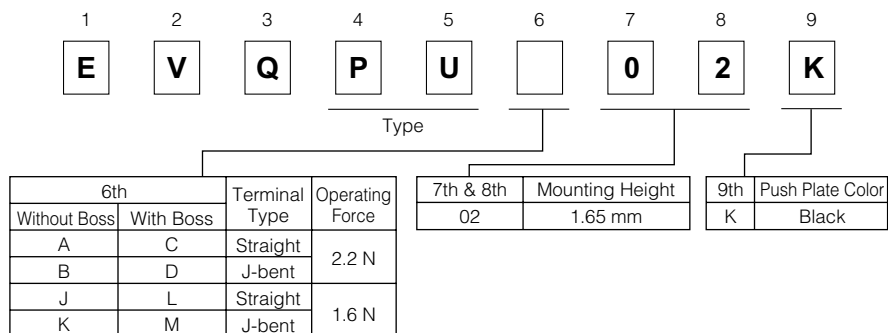
#### ■ Features

- External dimensions : 4.7 mm×3.5 mm, Height 1.65 mm
- A wide range of terminal type : J-bent, Straight

#### ■ Recommended Applications

- Operation switches for portable electronic equipment  
(Mobile phones, Digital still cameras, Camcorders,  
Portable audio players, etc.)

#### ■ Explanation of Part Numbers


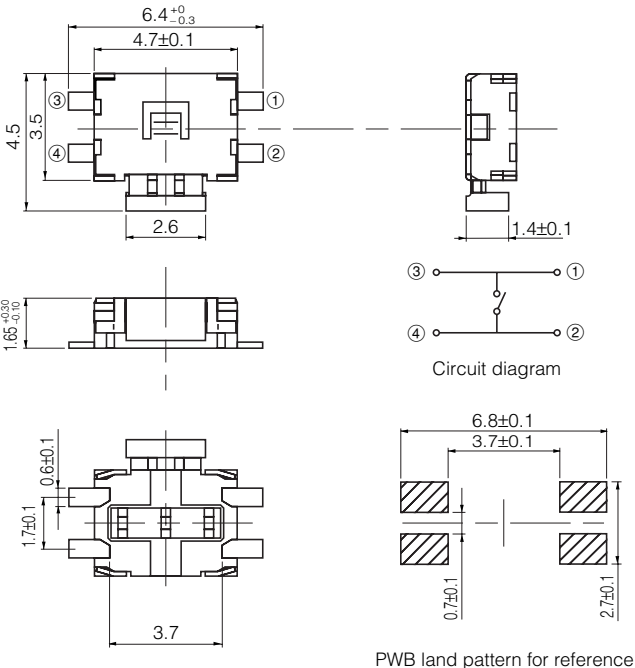

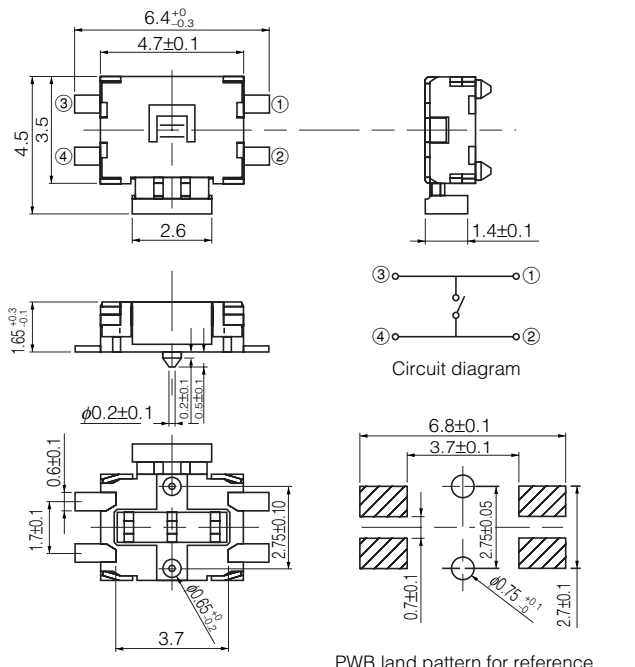


#### ■ Specifications


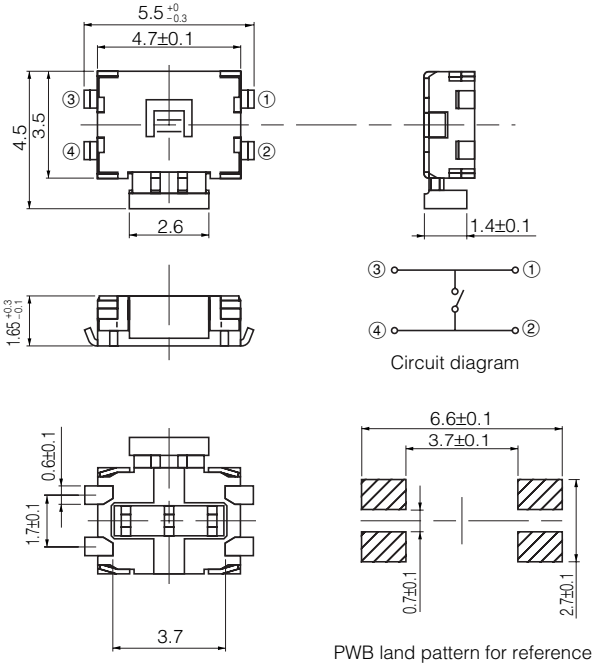

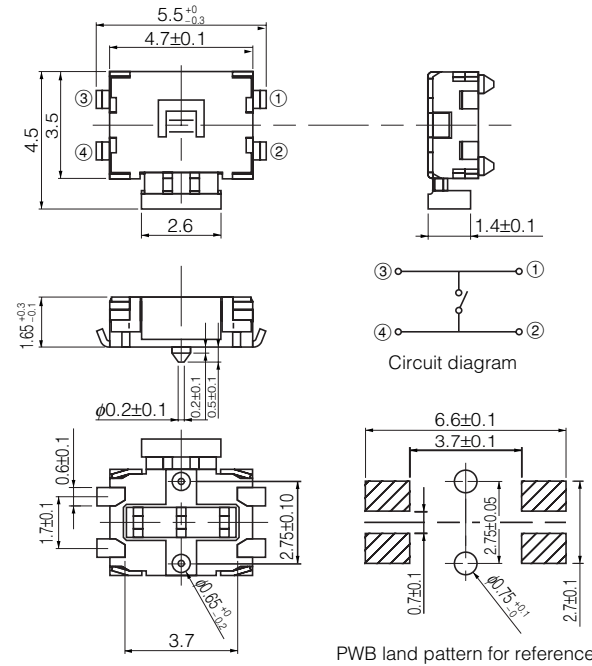
Type		Snap action / Push-on type SPST	
Electrical	Rating	10 $\mu$ A 2 Vdc to 50 mA 12 Vdc (Resistive load)	
	Contact Resistance	500 m $\Omega$ max.	
	Insulation Resistance	100 M $\Omega$ min. (at 100 Vdc)	
	Dielectric Withstanding Voltage	250 Vac for 1 minute	
	Bouncing	10 ms max. (ON, OFF)	
Mechanical	Operating Force	1.6 N <sup>+0.7</sup> <sub>-0.4</sub> N	2.2 N <sup>+0.8</sup> <sub>-0.7</sub> N
	Travel	0.3 mm <sup>+0.1</sup> <sub>-0.2</sub> mm	
	Push Strength	30 N (1 minute)	
Endurance	Operating Life	100000 cycles min.	
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		4000 pcs. Embossed Taping (Reel Pack)	
Quantity/Carton		20000 pcs.	

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.

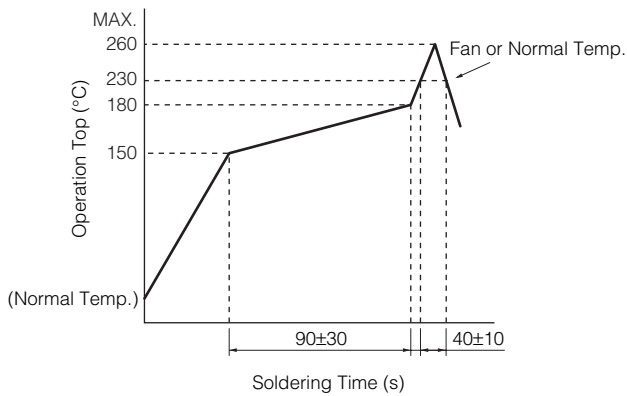
■ Dimensions in mm (not to scale)

<p>No. 1</p> <p><b>EVQPUJ</b> <b>EVQPUA</b></p> <p>(Embossed Taping)</p> <p>With straight terminals Without boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQPUJ02K</p>	<p>1.6 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQPUA02K</p>	<p>2.2 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>No. 2</p> <p><b>EVQPUL</b> <b>EVQPUC</b></p> <p>(Embossed Taping)</p> <p>With straight terminals With boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQPUL02K</p>	<p>1.6 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQPUC02K</p>	<p>2.2 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>

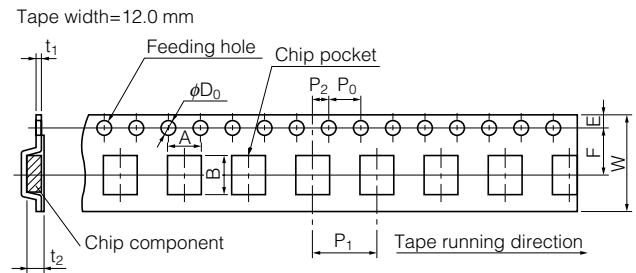
■ Dimensions in mm (not to scale)

<p>No. 3</p> <p><b>EVQPUK EVQPUB</b></p> <p>(Embossed Taping)</p> <p>With J-bent terminals Without boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQPUK02K</p>	<p>1.6 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQPUB02K</p>	<p>2.2 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>No. 4</p> <p><b>EVQPUM EVQPUD</b></p> <p>(Embossed Taping)</p> <p>With J-bent terminals With boss</p> 				
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Push Plate Color</p>	<p>Operating Life</p>
<p>EVQPUM02K</p>	<p>1.6 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>
<p>EVQPUD02K</p>	<p>2.2 N</p>	<p>1.65 mm</p>	<p>Black</p>	<p>100000 cycles</p>

### ■ Recommended Reflow Soldering Conditions



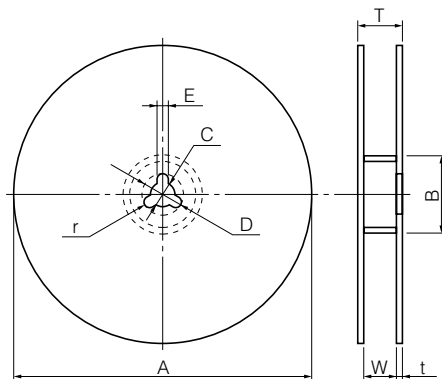
### ● Embossed Carrier Taping



Unit: mm

Part No.	Height	A	B	W	F	E	$P_1$	$P_2$	$P_0$	$D_0$ Dia.	$t_1$	$t_2$
EVQPU	1.65	7.0±0.2	5.75±0.20	12.0±0.3	5.78±0.10	1.75±0.10	8.0±0.1	2.0±0.1	4.0±0.1	1.5 <sup>+0.1</sup> <sub>0</sub>	0.35±0.05	2.4±0.2

### ● Standard Reel Dimensions in mm (not to scale)



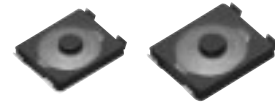
Item	A	B	C	D	E
Rate (mm)	$\phi 370.0 \pm 2.0$	$\phi 50.0$ min.	$\phi 13.0 \pm 0.5$	$\phi 21.0 \pm 1.0$	2.0±0.5

Item	W	T	t	r
Rate (mm)	14.0±1.5	—	1.0 to 3.0	1.0±0.5

### 3.0 mm×2.6 mm SMD Light Touch Switches

Type: **EVPAF**



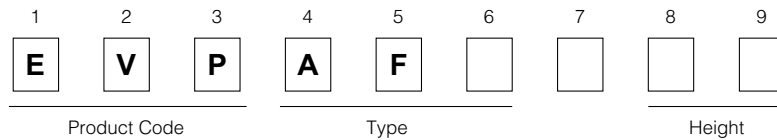
#### ■ Features

- External dimensions: 3.0 mm×2.6 mm, Height 0.65 mm
- High operability  
Equipped with an actuator (push plate)
- Low temperature use

#### ■ Recommended Applications

- Operation switches for portable electronic equipment  
(Mobile phone, Portable audio)

#### ■ Explanation of Part Numbers



#### ■ Specifications

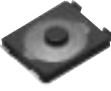
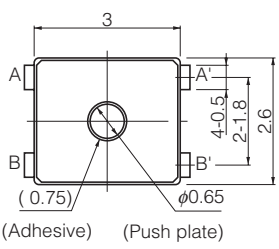
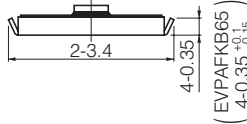
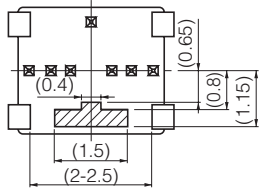
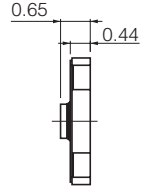
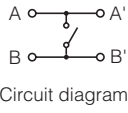
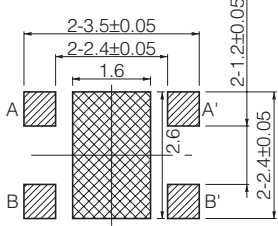



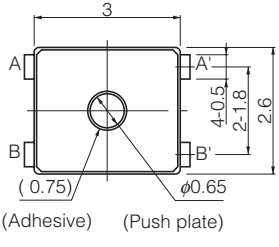
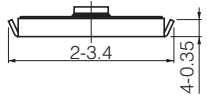
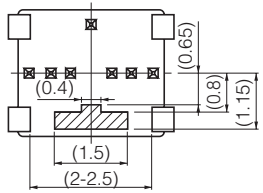
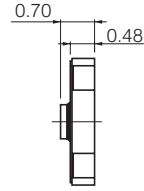
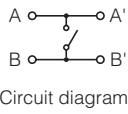
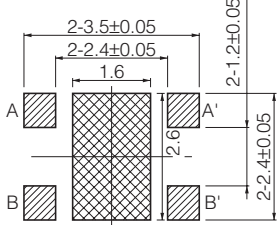


Type		Snap action/Push-on type SPST
Electrical	Rating	10 $\mu$ A 2 Vdc to 20 mA 15 Vdc (Resistive load)
	Contact Resistance	500 m $\Omega$ max.
	Insulation Resistance	50 M $\Omega$ min. (at 100 Vdc)
	Dielectric Withstanding Voltage	250 Vac for 1 minute
	Bouncing	10 ms max. (ON, OFF)
Mechanical	Operating Force	1.3 N, 1.6 N, 2.4 N, 3.4 N
	Travel	0.15 mm
Endurance	Operating Life	1.3 N, 1.6 N, 3.4 N : 100000 cycles min., 2.4 N : 500000 cycles min.
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		8000 pcs. Embossed Taping (Reel Pack)
Quantity/Carton		40000 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.

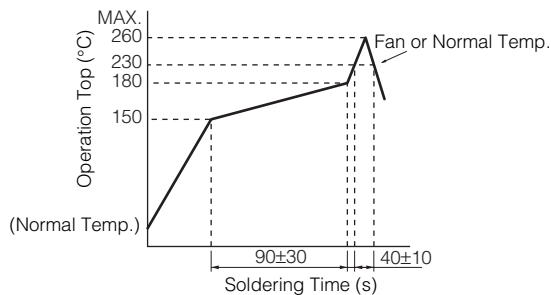
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■ Dimensions in mm (not to scale)

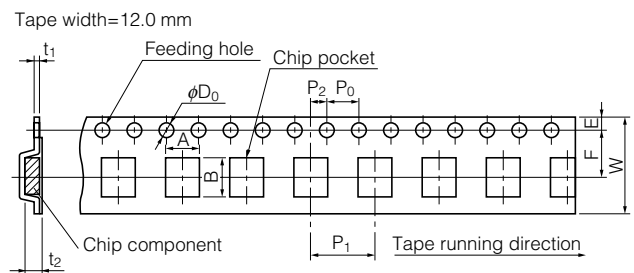
<p>No. 1</p> <p><b>EVPAF</b> (Embossed Taping) With J-bent terminals</p> 	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>(Without the remainder of the gate)</p>   </div> <div style="width: 45%;">    <p>PWB land pattern for reference</p> <p>Part of A-A' terminal is exposed at  area. Any land pattern or vias shall not be provided at  area.</p> </div> </div>		
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Operating Life</p>
<p>EVPAFKB65</p>	<p>1.3 N</p>	<p>0.65 mm</p>	<p>100000 cycles</p>
<p>EVPAFFB65</p>	<p>1.6 N</p>	<p>0.65 mm</p>	<p>100000 cycles</p>
<p>No. 2</p> <p><b>EVPAF</b> (Embossed Taping) With J-bent terminals</p> 	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>(Without the remainder of the gate)</p>   </div> <div style="width: 45%;">    <p>PWB land pattern for reference</p> <p>Part of A-A' terminal is exposed at  area. Any land pattern or vias shall not be provided at  area.</p> </div> </div>		
<p>Part Numbers</p>	<p>Operating Force</p>	<p>Height</p>	<p>Operating Life</p>
<p>EVPAF5B70</p>	<p>3.4 N</p>	<p>0.7 mm</p>	<p>100000 cycles</p>
<p>EVPAF7B70</p>	<p>2.4 N</p>	<p>0.7 mm</p>	<p>500000 cycles</p>

<b>No. 3</b> <b>EVPAF</b> <b>Low profile</b> (Embossed Taping) With J-bent terminals			
		PWB land pattern for reference Part of A-A' terminal is exposed at  area. Any land pattern or vias shall not be provided at  area.	
Part Numbers	Operating Force	Height	Operating Life
EVPOAFB65	1.6 N	0.65 mm	500000 cycles
EVPAF7B65	2.4 N	0.65 mm	500000 cycles
EVPAF5B65	3.4 N	0.65 mm	100000 cycles

### Recommended Reflow Soldering Conditions



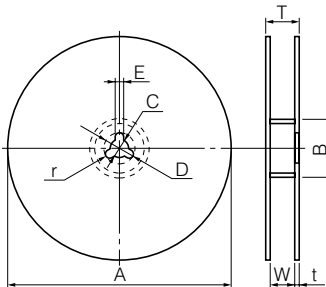
### Embossed Carrier Taping



Part No.	Height	A	B	W	F	E	P1	P2	P0	D0 Dia	t1	t2
EVPAF EVPOAF	0.65/0.70	3.75±0.2	2.95±0.2	12.0±0.3	5.5±0.1	1.75±0.1	8.0±0.1	2.0±0.1	4.0±0.1	1.5±0.3	0.3±0.1	0.8±0.2

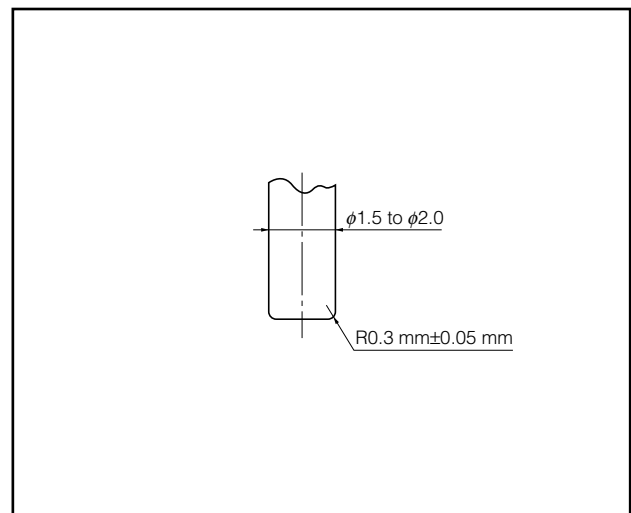
Unit: mm

### Standard Reel Dimensions in mm (not to scale)



Item	A	B	C	D	E
Rate (mm)	φ380.0±2.0	φ80.0±1.0	φ13.0±0.5	φ21.0±1.0	2.0±0.5
Item	W	T	t	r	
Rate (mm)	13.5±1.0	17.5±1.0	-	-	

### Recommended Shape of Test Pole



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