

9 mm Square Rotary Potentiometers with Insulated Shaft (Single Type)

Japan
Malaysia

Type: **EVUE/EVUF**

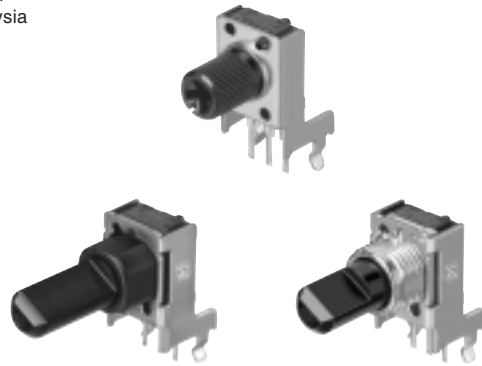
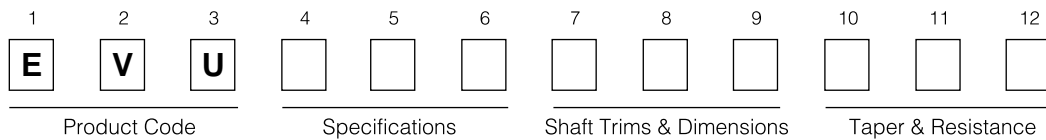
■ Features

- Multi-gang block can be provided upon request
- DC voltage available
- Rigid rectangular shape suited for automatic insertion

■ Recommended Applications

- Audio Equipment
- Video Equipment
- Electronic Musical Instruments
- Audio Mixers

■ Explanation of Part Numbers



■ Product Chart

Type	Construction & Function	Construction			Detent		
		Horizontal (height from PWB to shaft)			Vertical	Without detent	Midpoint
		6.5 mm	10.0 mm	12.5 mm			
Single type without bushing		○	○	○	○	○	
Single type with bushing		○	○	—	○	○	
Single type with sleeve		○	○	—	○	○	

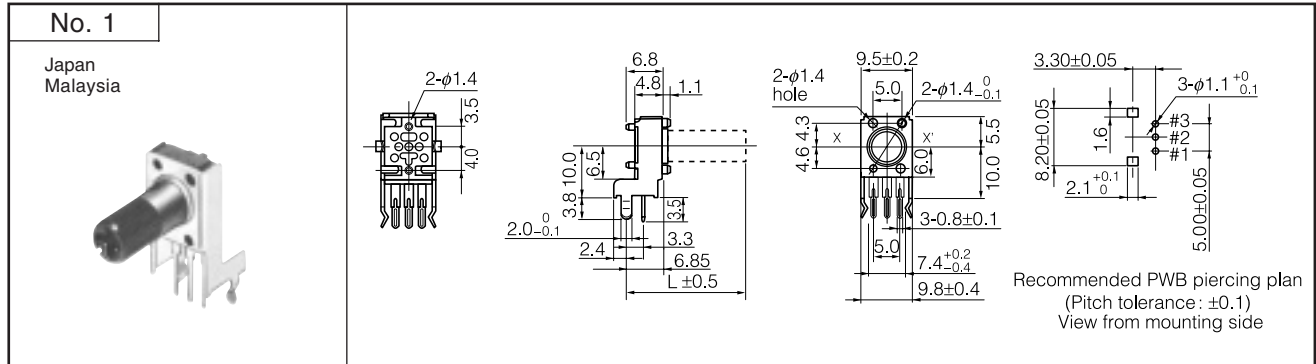
■ Minimum Quantity/Packing Unit

Minimum Quantity/Packing Unit	EVUE/EVUF	200 pcs. (Vinyl Bag)
Quantity/Carton	EVUE/EVUF	2000 pcs.

■ Dimensions in mm (not to scale)

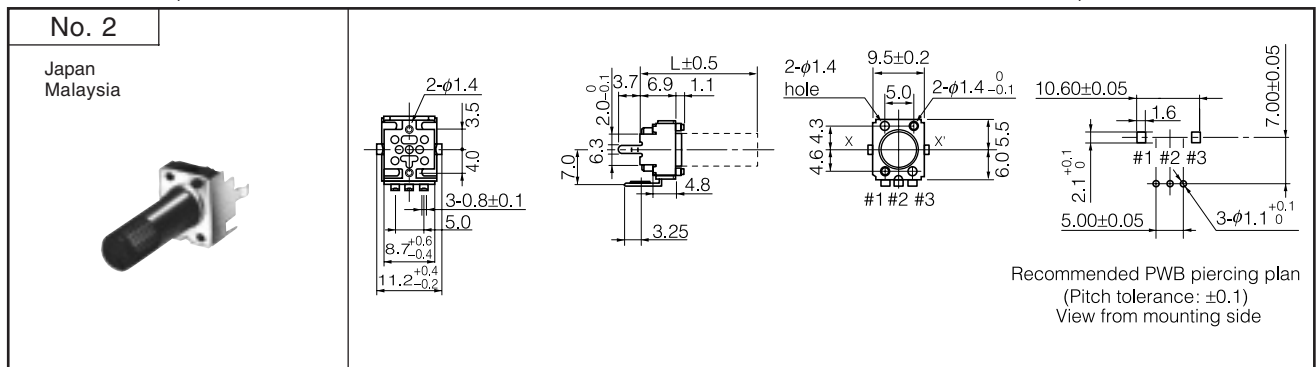
- Single Type without Bushing
Horizontal, Snap-in

without midpoint detent: EVUE2A
with midpoint detent: EVUE3A



- Vertical, Snap-in

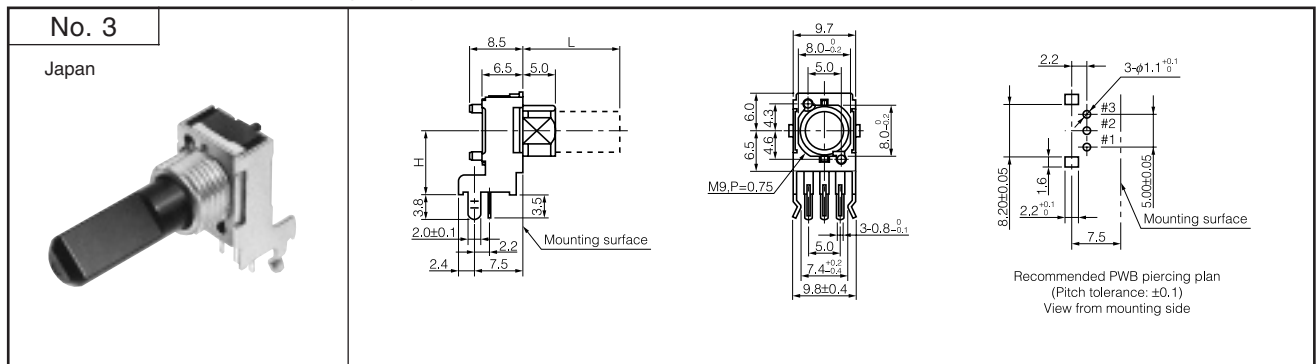
without midpoint detent: EVUF2A
with midpoint detent: EVUF3A



- Single Type with Bushing

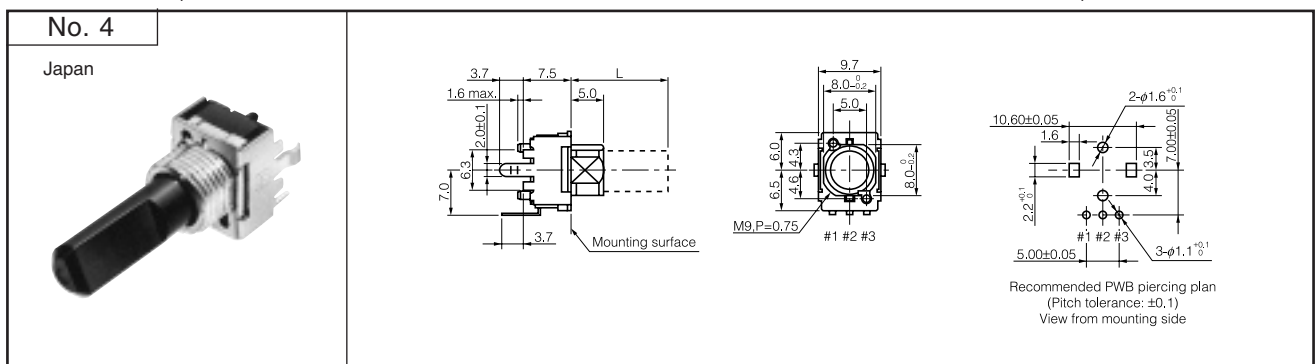
Horizontal, Snap-in, Mounting Height H=10.0 mm

without midpoint detent: EVUE2J
with midpoint detent: EVUE3J




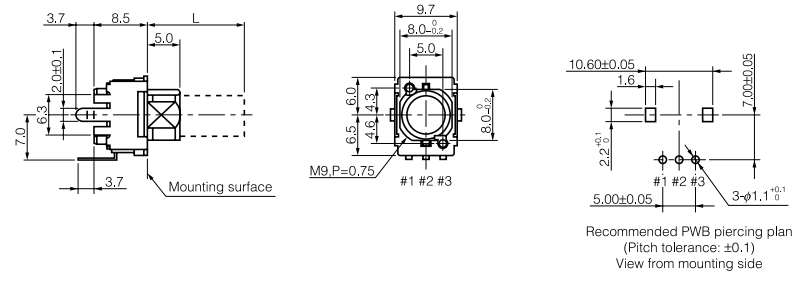
- Vertical, Snap-in

without midpoint detent: EVUF2J
with midpoint detent: EVUF3J



Vertical, Snap-in


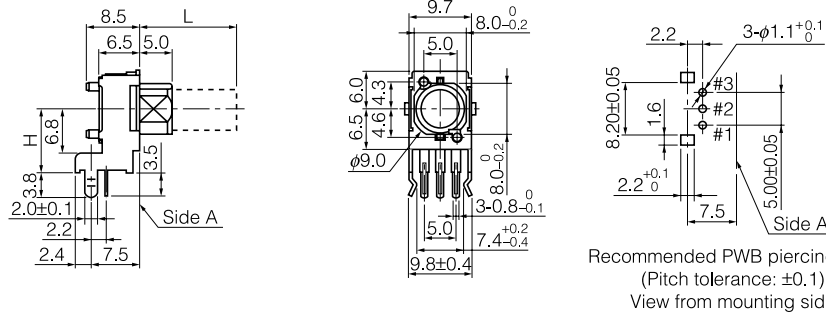
without midpoint detent: EVUF2M
with midpoint detent: EVUF3M

<p>No. 5</p> <p>Japan</p> 	 <p>Technical drawing showing dimensions: 3.7, 8.5, 5.0, L, 7.0, 6.3, 2.0±0.1, 3.7, Mounting surface, 9.7, 8.0⁰_{-0.2}, 5.0, 6.5, 6.0, 4.6, 4.3, M9, P=0.75, #1 #2 #3, 10.60±0.05, 1.6, 7.00±0.05, 2.2^{+0.1}₀, #1 #2 #3, 5.00±0.05, 3-φ1.1^{+0.1}₀. Recommended PWB piercing plan (Pitch tolerance: ±0.1) View from mounting side</p>
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● Single Type with Sleeve

Horizontal, Snap-in, Mounting Height H=10.0 mm


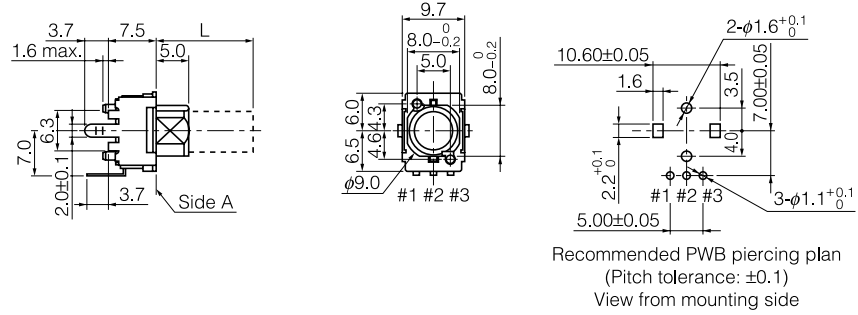
without midpoint detent: EVUE2K
with midpoint detent: EVUE3K

<p>No. 6</p> <p>Japan</p> 	 <p>Technical drawing showing dimensions: 8.5, L, 6.5, 5.0, H, 6.8, 3.8, 2.0±0.1, 2.2, 2.4, 7.5, Side A, 9.7, 8.0⁰_{-0.2}, 5.0, 6.5, 6.0, 4.6, 4.3, 9.0, 3-0.8⁰_{-0.1}, 8.0⁰_{-0.2}, 5.0, 7.4^{+0.2}_{-0.4}, 9.8±0.4, 2.2, 3-φ1.1^{+0.1}₀, 8.20±0.05, 1.6, #1 #2 #3, 5.00±0.05, 7.5, Side A. Recommended PWB piercing plan (Pitch tolerance: ±0.1) View from mounting side</p>
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● Single Type with Sleeve


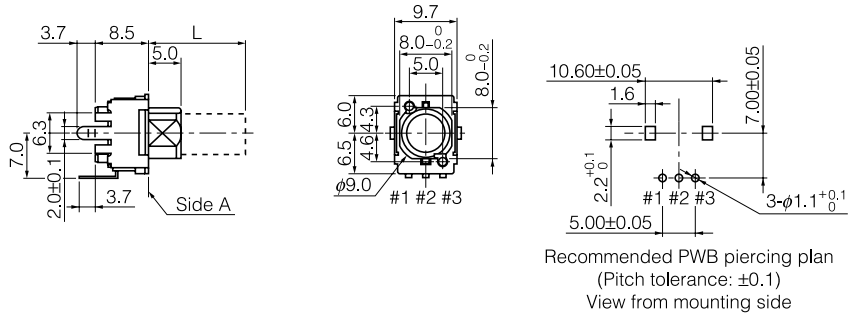
Vertical, Snap-in

without midpoint detent: EVUF2K
with midpoint detent: EVUF3K

<p>No. 7</p> <p>Japan</p> 	 <p>Technical drawing showing dimensions: 3.7, 7.5, L, 1.6 max., 5.0, 7.0, 6.3, 2.0±0.1, 3.7, Side A, 9.7, 8.0⁰_{-0.2}, 5.0, 6.5, 6.0, 4.6, 4.3, 9.0, #1 #2 #3, 10.60±0.05, 1.6, 2-φ1.6^{+0.1}₀, 7.00±0.05, 2.2^{+0.1}₀, #1 #2 #3, 5.00±0.05, 3-φ1.1^{+0.1}₀. Recommended PWB piercing plan (Pitch tolerance: ±0.1) View from mounting side</p>
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Vertical, Snap-in

without midpoint detent: EVUF2L
with midpoint detent: EVUF3L

<p>No. 8</p> <p>Japan</p> 	 <p>Technical drawing showing dimensions: 3.7, 8.5, L, 5.0, 7.0, 6.3, 2.0±0.1, 3.7, Side A, 9.7, 8.0⁰_{-0.2}, 5.0, 6.5, 6.0, 4.6, 4.3, 9.0, #1 #2 #3, 10.60±0.05, 1.6, 7.00±0.05, 2.2^{+0.1}₀, #1 #2 #3, 5.00±0.05, 3-φ1.1^{+0.1}₀. Recommended PWB piercing plan (Pitch tolerance: ±0.1) View from mounting side</p>
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● Shaft Trims and Dimensions in mm for Type without Bushing (Drawings are at full CCW position.)

Type F (Flat)

L	15.0	20.0	25.0	30.0	
ℓ	6.0	7.0	12.0	12.0	

Type E (40 teeth serrations)

L	15.0	(17.0)	20.0	25.0	30.0	35.0	
ℓ	6.0	7.0	7.0	7.0	7.0	7.0	

Type M (24 teeth serrations)

L	20.0	25.0	30.0	35.0	
ℓ	7.0	7.0	7.0	7.0	

Type S (with screw slot)

L	9.5	
ℓ	-	

Type H (with screw slot)

L	15.0	20.0	25.0	
ℓ	6.0	7.0	7.0	

● Shaft Trims and Dimensions in mm for Types with Bushing or Sleeve (Drawings are at full CCW position.)

Type F (Flat)

L	12.5	15.0	17.5	20.0	21.5	22.5	
ℓ	7.0	7.0	12.0	12.0	12.0	12.0	

Note: When you have special requirements other than the above, consult our salesmen.

Major Specifications

1. Mechanical Specifications

Item \ Type	Type without bushing	Type with bushing	Type with sleeve												
Rotation Angle	300 °±5 °	300 °±5 °	300 °±5 °												
Rotation Torque	1 mN·m to 8 mN·m (after rotation started)	1 mN·m to 20 mN·m (after rotation started)	1 mN·m to 20 mN·m (after rotation started)												
Shaft Stopper Strength	300 mN·m	300 mN·m	300 mN·m												
Shaft wobble	<p>●Shaft bend and shaft wobble shall be $0.8 \times \frac{L}{20}$ (mm) max. (for one side)</p> <p>(When moment of 25 mN·m is applied.)</p> <p>●L=Distance between mounting surface and measuring point</p>	<p>●Shaft bend and shaft wobble shall be $0.5 \times \frac{L}{30}$ (mm) max. (for one side)</p> <p>(When moment of 50 mN·m is applied.)</p> <p>●L=Distance between mounting surface and measuring point</p>	<p>●Shaft bend and shaft wobble shall be $0.7 \times \frac{L}{30}$ (mm) max. (for one side)</p> <p>(When moment of 50 mN·m is applied.)</p> <p>●L=Distance between mounting surface and measuring point</p>												
Shaft Pull/Push Strength	<table border="1"> <tr> <td>Push strength</td> <td>Pull strength</td> </tr> <tr> <td>100 N min.</td> <td>100 N min.</td> </tr> </table>	Push strength	Pull strength	100 N min.	100 N min.	<table border="1"> <tr> <td>Push strength</td> <td>Pull strength</td> </tr> <tr> <td>100 N min.</td> <td>100 N min.</td> </tr> </table>	Push strength	Pull strength	100 N min.	100 N min.	<table border="1"> <tr> <td>Push strength</td> <td>Pull strength</td> </tr> <tr> <td>100 N min.</td> <td>100 N min.</td> </tr> </table>	Push strength	Pull strength	100 N min.	100 N min.
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Nut Tightening Torque	1 N·m max.														

2. Electrical Specifications

Nominal Total Resistance	1 kΩ to 1 MΩ, 300 Ω to 2 MΩ for taper B (Tolerance ±20 %)																																													
Power Rating	<p>0.05 W (0 °C to 50 °C)</p> <p>For potentiometers operated in ambient temperature above 50 °C, Rating should be derated in accordance with the figure at right.</p>																																													
	<p style="text-align: right;">Power Derating Curve</p> <table border="1"> <caption>Power Derating Curve Data</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>Rated Load (%)</th> </tr> </thead> <tbody> <tr><td>0</td><td>100</td></tr> <tr><td>20</td><td>100</td></tr> <tr><td>40</td><td>100</td></tr> <tr><td>50</td><td>100</td></tr> <tr><td>60</td><td>66.7</td></tr> <tr><td>70</td><td>33.3</td></tr> </tbody> </table>				Ambient Temperature (°C)	Rated Load (%)	0	100	20	100	40	100	50	100	60	66.7	70	33.3																												
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Voltage Rating	<p>$E = \sqrt{P \cdot R}$ but $E \leq 50$ (20 V max. for dc)</p> <p>E=Voltage Rating (V)</p> <p>P=Power Rating (W)</p> <p>R=Nominal Total Resistance (Ω)</p>																																													
Taper	A, B, C, D, G																																													
Residual Resistance	<table border="1"> <thead> <tr> <th rowspan="2">Standard</th> <th colspan="2">R ≤ 50 kΩ</th> <th colspan="2">50 Ω max.</th> </tr> </thead> <tbody> <tr> <td></td> <td>50 kΩ < R ≤ 1MΩ</td> <td colspan="2">100 Ω max.</td> </tr> <tr> <td></td> <td>1 MΩ < R ≤ 2 MΩ</td> <td colspan="2">200 Ω max.</td> </tr> <tr> <th rowspan="2">Semi-standard</th> <th>A, B, D, G</th> <th>B, C, G</th> <th>A, D</th> <th>C</th> </tr> <tr> <th>T1 & T2</th> <th>T2 & T3</th> <th>T2 & T3</th> <th>T1 & T2</th> </tr> <tr> <td></td> <td>R ≤ 2 kΩ</td> <td>2 Ω max.</td> <td colspan="2">20 Ω max.</td> </tr> <tr> <td></td> <td>2 kΩ < R ≤ 50 kΩ</td> <td>2 Ω max.</td> <td colspan="2">25 Ω max.</td> </tr> <tr> <td></td> <td>50 kΩ < R ≤ 250 kΩ</td> <td>25 Ω max.</td> <td colspan="2">50 Ω max.</td> </tr> <tr> <td></td> <td>R > 250 kΩ</td> <td>100 Ω max.</td> <td colspan="2">100 Ω max.</td> </tr> </tbody> </table>				Standard	R ≤ 50 kΩ		50 Ω max.			50 kΩ < R ≤ 1MΩ	100 Ω max.			1 MΩ < R ≤ 2 MΩ	200 Ω max.		Semi-standard	A, B, D, G	B, C, G	A, D	C	T1 & T2	T2 & T3	T2 & T3	T1 & T2		R ≤ 2 kΩ	2 Ω max.	20 Ω max.			2 kΩ < R ≤ 50 kΩ	2 Ω max.	25 Ω max.			50 kΩ < R ≤ 250 kΩ	25 Ω max.	50 Ω max.			R > 250 kΩ	100 Ω max.	100 Ω max.	
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Insulation Resistance	50 MΩ min. at 250 Vdc																																													
Dielectric Withstand Voltage	250 Vac for 1 minute																																													
Noise Level	<p>100 mV max.</p> <p>Apply 20 Vdc (When Voltage Rating < 20 V, use the rated voltage.)</p> <p>Rotate shaft at 30 r/min.</p>																																													