

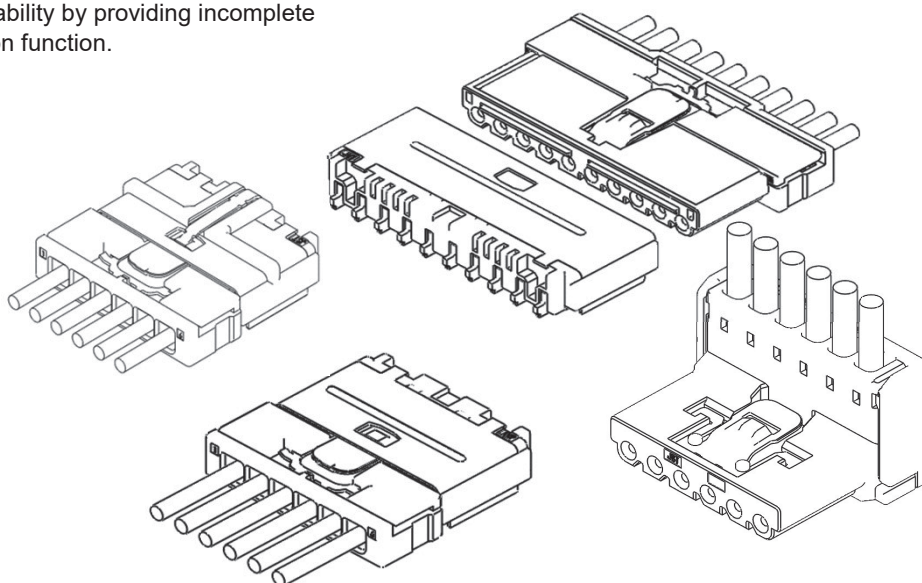


This SMT connector that achieves the world's smallest class connector height of 3.5 mm as a crimped specification while having performance that meets the in-vehicle standards USCAR-2 and LV214.

Electrical CPA type provides unprecedented connection reliability by providing incomplete mating detection function.

### ■ Features

- Conforming the Automotive Standards; USCAR-2 and LV214
- Low Height and Short Mating Length despite crimped specification
- Space-saving Design
- Right-angle type optimizes the wiring work
- Up to 4 key code settings
- Maintains electrical and mechanical properties at temperatures up to 125°C
- UL94 V-0, Halogen-free
- 100% detection of incomplete mating by electrical CPA circuit



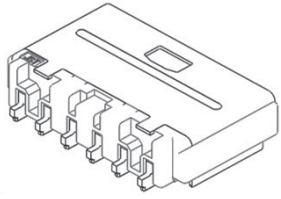
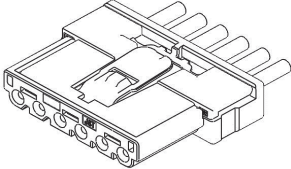
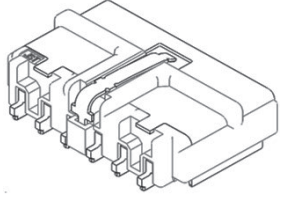
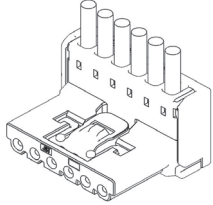
### ■ Specifications

Item	Standard	Condition
● Current rating	5A AC·DC	Wire for more than 125°C· Applying AWG#22, All circuits
● Operating voltage	100V AC·DC	IEC60664-1, Pollution degree2
● Temperature range	-40°C ~ +125°C	Including temperature rise in applying
● Applicable wire	AWG#22	Coating OD: Φ1.5mm max
● Frame resistance	V-0	UL94
● Contact resistance	Initial 10mΩ max	DC 1/10/100mA
● Insulation resistance	100MΩ min	DC 500V
● Withstand voltage	No dielectric breakdown	AC/ DC 1,000V ·1 min.
● Vibration resistance	After endurance 15mΩ max	LV214 PG17 Severity 2 USCAR-2 V2(10G)
● Heat resistance	After endurance 15mΩ max	Under 125°C, Abandoned for 3,000 hours
● Lock Strength	110N min	In case pulling to mating direct
● Halogen	Halogen-free	Meet the definition based on IEC61249-2-21

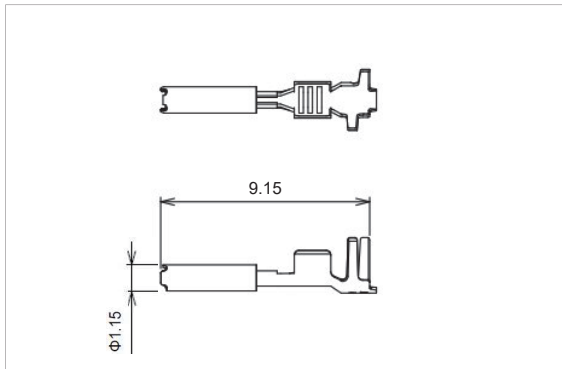
\*Compliant with ELV/RoHS2.

\*If you have any question, please contact JST.

**ULH Series Product Lineup**

Specification	Male Side	Specification	Female Side
Normal Type Side Entry		Straight	
Circuits	2, 4, 6, 8, 10	Circuits	2, 4, 6, 8, 10
Electrical CPA Type Side Entry		Right Angle Up	
Circuits	4, 6, 8, 10	Circuits	4, 6

## Female terminal / Straight



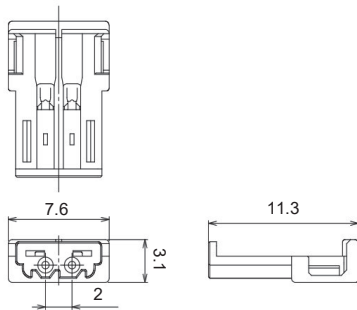
Size	Model No.	Applicable wire size		Q'ty/reel
		Conductor (mm <sup>2</sup> )	Insulation O.D. (mm)	
M	① SULH-A021GF-0.5	0.3 / 0.35	1.5 MAX	9,000
	② SULH-A021T-0.5			

### Material and Finish

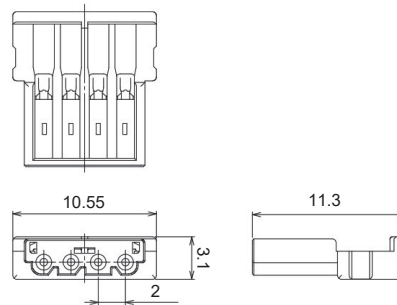
- ① Copper alloy, Nickel-undercoated, Contact area; Gold-plated  
Barrel area; Tin-plated (Reflow treatment)
- ② Copper alloy, Tin-plated (Reflow treatment)

## Female connector / Straight

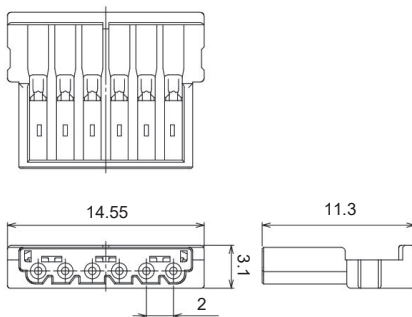
### ● 2 circuits



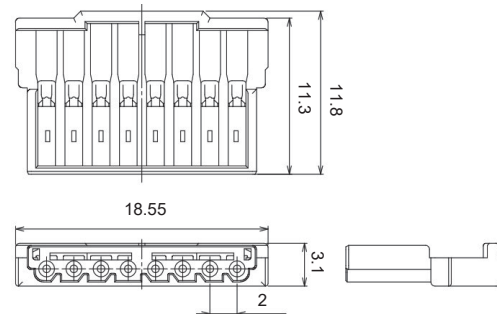
### ● 4 circuits



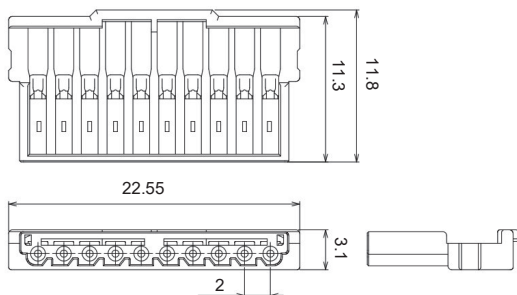
### ● 6 circuits



### ● 8 circuits



### ● 10 circuits



Circuits	Model No.	Q'ty/box
2	ULHRR-02V-1A1-K(HF)	1,000
4	ULHRR-04V-1A1-K(HF)	900
6	ULHRR-06V-1A1-K(HF)	800
8	ULHRR-08V-1A1-K(HF)	700
10	ULHRR-10V-1A1-K(HF)	600

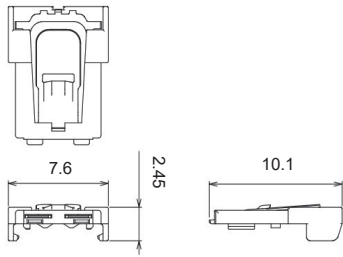
### Material and Finish

Housing: Poly-amide, UL94V-0, Halogen-free, Black

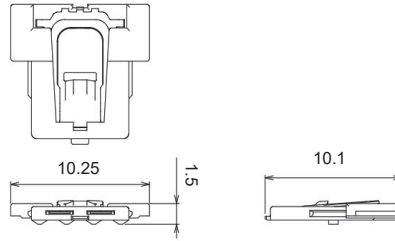
Note: Color/Key codes other than above-mentioned housing are also available.  
Contact JST for details.

Female cover / Straight

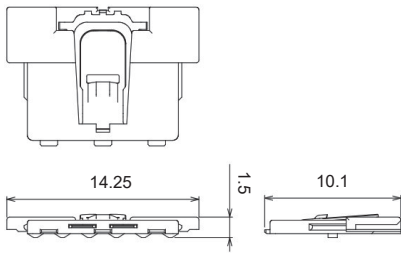
● 2 circuits



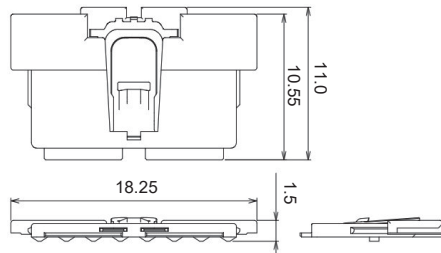
● 4 circuits



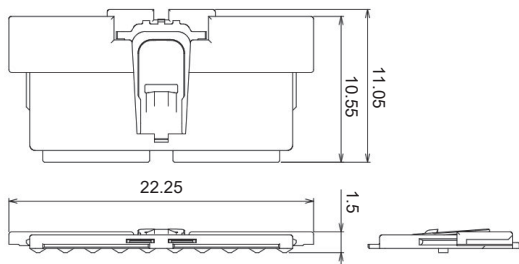
● 6 circuits



● 8 circuits



● 10 circuits

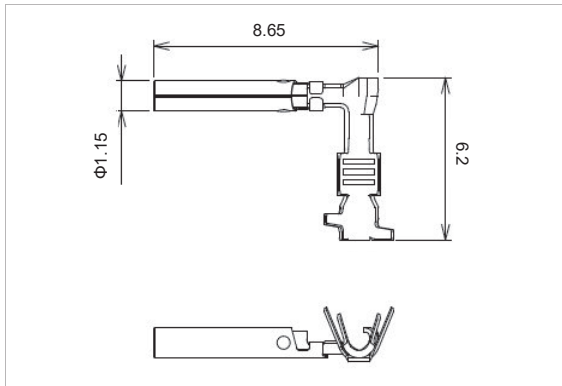


Circuits	Model No.	Q'ty/box
2	ULHCB-02V-A-K(HF)	3,712
4	ULHCB-04V-A-K(HF)	2,784
6	ULHCB-06V-A-K(HF)	2,784
8	ULHCB-08V-A-K(HF)	1,856
10	ULHCB-10V-A-K(HF)	1,856

Material and Finish

Housing: Poly-amide, UL94V-0, Halogen-free, Black  
Metal lock: Stainless

## Female terminal / Right angle



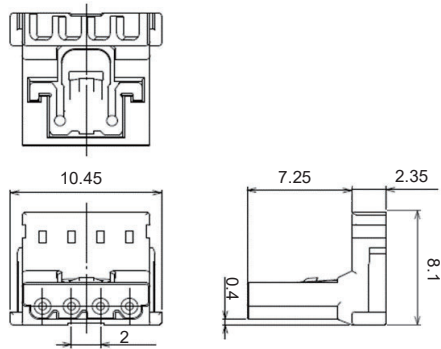
Size	Model No.	Applicable wire size		Q'ty/reel
		Conductor (mm <sup>2</sup> )	Insulation O.D. (mm)	
M	① SRULH-A021GF-0.5	0.3 / 0.35	1.5 MAX	8,000
	② SRULH-A021T-0.5			

### Material and Finish

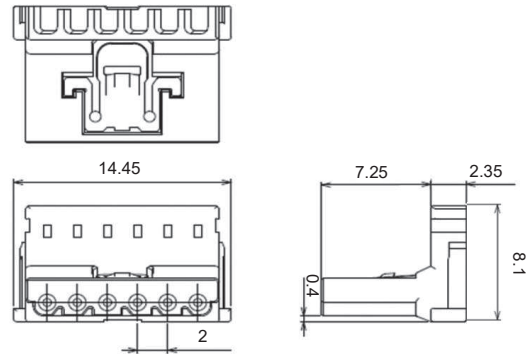
- ① Copper alloy, Nickel-undercoated, Contact area; Gold-plated  
Barrel area; Tin-plated (Reflow treatment)
- ② Copper alloy, Tin-plated (Reflow treatment)

## Female connector / Right angle

### ● 4 circuits



### ● 6 circuits



Circuits	Model No.	Q'ty/box
4	<b>ULHRB-04V-1C1-K(HF)</b>	5,000
6	<b>ULHRB-06V-1C1-K(HF)</b>	3,000

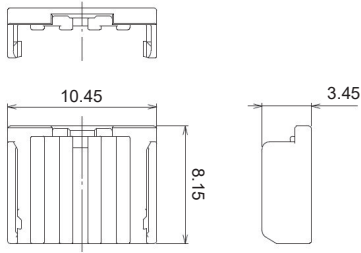
### Material and Finish

Housing: Poly-amide, UL94V-0, Halogen-free, Black  
Metal lock: Stainless

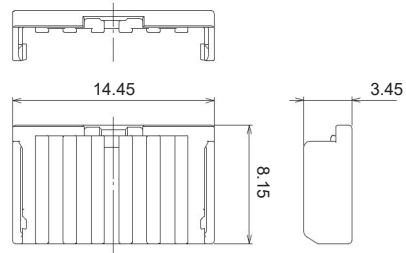
Note: Color/Key codes other than above-mentioned housing are also available.  
Contact JST for details.

**Female cover / Right angle**

● 4 circuits



● 6 circuits



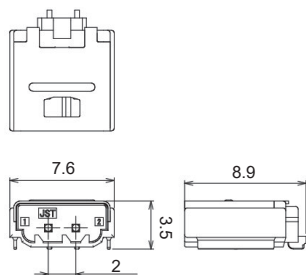
Circuits	Model No.	Q'ty/box
4	<b>ULHCR-04V-A-K(HF)</b>	30,000
6	<b>ULHCR-06V-A-K(HF)</b>	20,000

**Material and Finish**

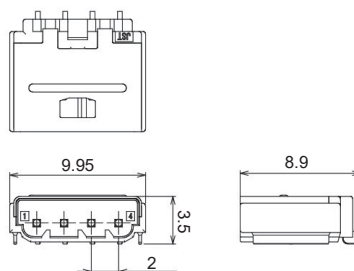
Housing: Poly-amide, UL94V-0, Halogen-free, Black

## Male connector

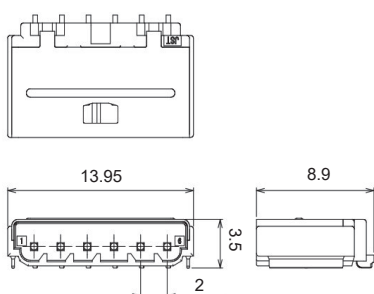
### ● 2 circuits



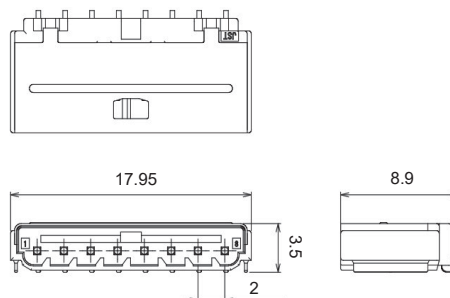
### ● 4 circuits



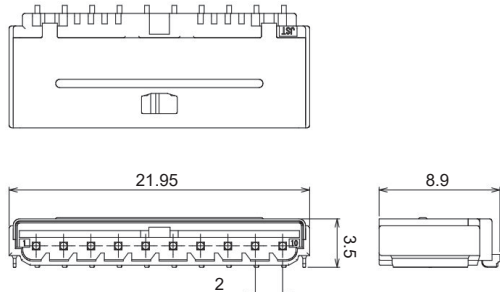
### ● 6 circuits



### ● 8 circuits



### ● 10 circuits



Plating	Circuits	Model No.	Q'ty/reel
Au	2	SM02B-ULHK-1GFA1-ETB(HF)	1,700
	4	SM04B-ULHK-1GFA1-ETB(HF)	1,700
	6	SM06B-ULHK-1GFA1-ETB(HF)	1,700
	8	SM08B-ULHK-1GFA1-ETB(HF)	1,700
	10	SM10B-ULHK-1GFA1-ETB(HF)	1,700
Sn	2	SM02B-ULHK-1TA1-ETB(HF)	1,700
	4	SM04B-ULHK-1TA1-ETB(HF)	1,700
	6	SM06B-ULHK-1TA1-ETB(HF)	1,700
	8	SM08B-ULHK-1TA1-ETB(HF)	1,700
	10	SM10B-ULHK-1TA1-ETB(HF)	1,700

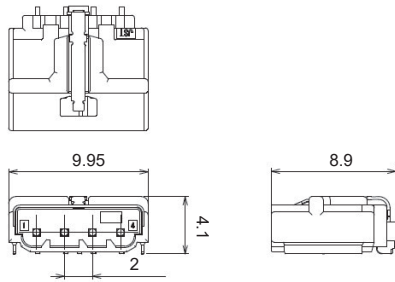
#### Material and Finish

Housing: Poly-amide, UL94V-0, Halogen-free, Black  
 Metal shell: Copper alloy  
 Male terminal: Copper alloy, Nickel-undercoated  
 Au - Contact area / Selective gold-plated  
 Mounting part / Tin-plated (Reflow treatment)  
 Sn / Tin-plated (Reflow treatment)

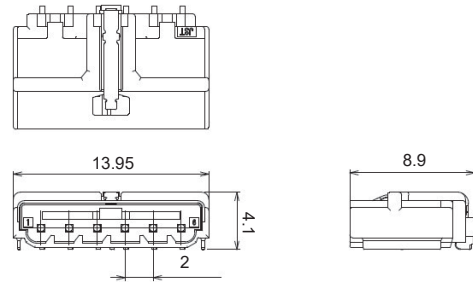
Note: Color/Key codes other than above-mentioned housing are also available.  
 Contact JST for details.

Male connector / Electrical CPA Type

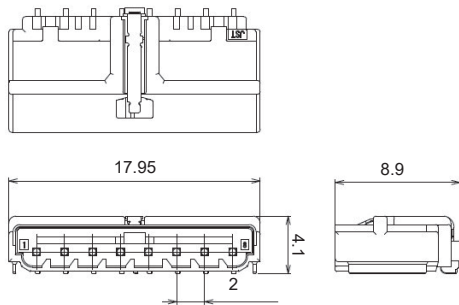
● 4 circuits



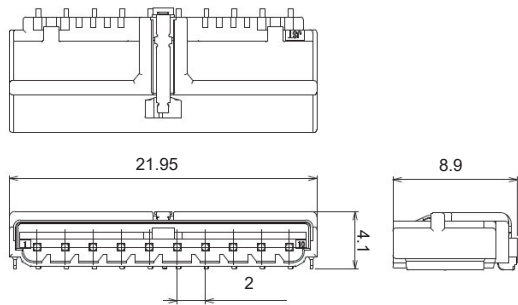
● 6 circuits



● 8 circuits



● 10 circuits



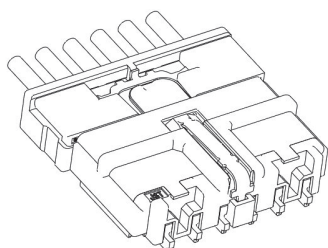
Plating	Circuits	Model No.	Q'ty/reel
Au	4	SM04B-ULHK-1GFD1-ETB(HF)	1,500
	6	SM06B-ULHK-1GFD1-ETB(HF)	1,500
	8	SM08B-ULHK-1GFD1-ETB(HF)	1,500
	10	SM10B-ULHK-1GFD1-ETB(HF)	1,500
Sn	4	SM04B-ULHK-1TD1-ETB(HF)	1,500
	6	SM06B-ULHK-1TD1-ETB(HF)	1,500
	8	SM08B-ULHK-1TD1-ETB(HF)	1,500
	10	SM10B-ULHK-1TD1-ETB(HF)	1,500

Material and Finish

Housing: Poly-amide, UL94V-0, Halogen-free, Black  
 Metal shell: Copper alloy  
 CPA terminal: Copper alloy, No plating  
 Male terminal: Brass, Nickel-undercoated  
 Au - Contact area / Selective gold-plated  
 Mounting part / Tin-plated (Reflow treatment)  
 Sn / Tin-plated (Reflow treatment)

Note: Color/Key codes other than above-mentioned housing are also available.  
 Contact JST for details.

What is electrical CPA?



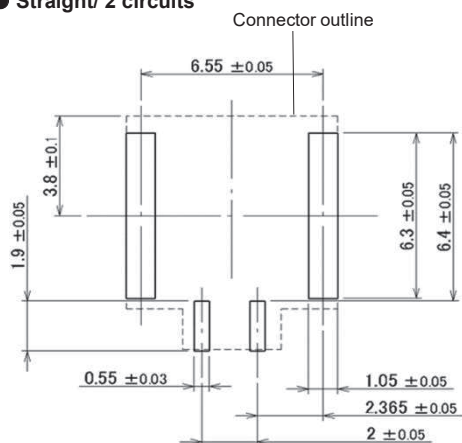
- The electrical CPA of ULH connectors is a mechanism in which the mating lock part and the CPA terminal are interlocked. This mechanism can detect 100% of incomplete mating, as opposed to indirect methods.

- The electrical CPA of ULH connectors is not a function to constantly monitor for complete mating, but is intended to prevent and detect incomplete mating in the assembly process.

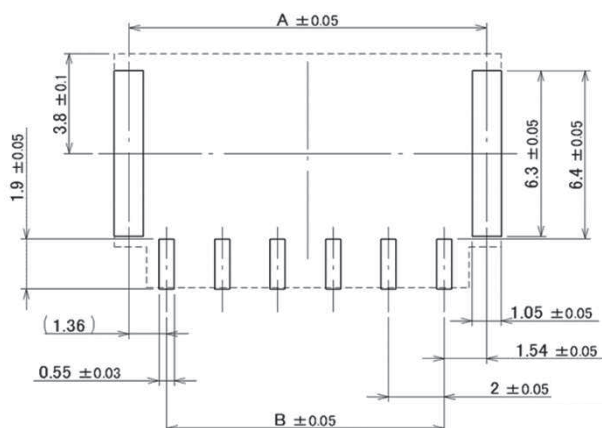


## PCB layout

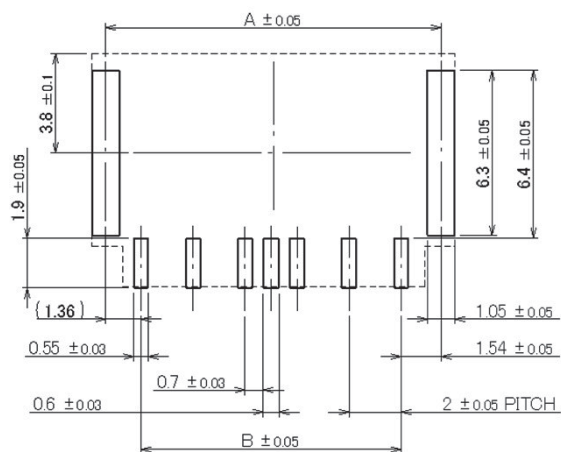
### ● Straight/ 2 circuits



### ● Straight, Right angle/ 4 ~ 10 circuits

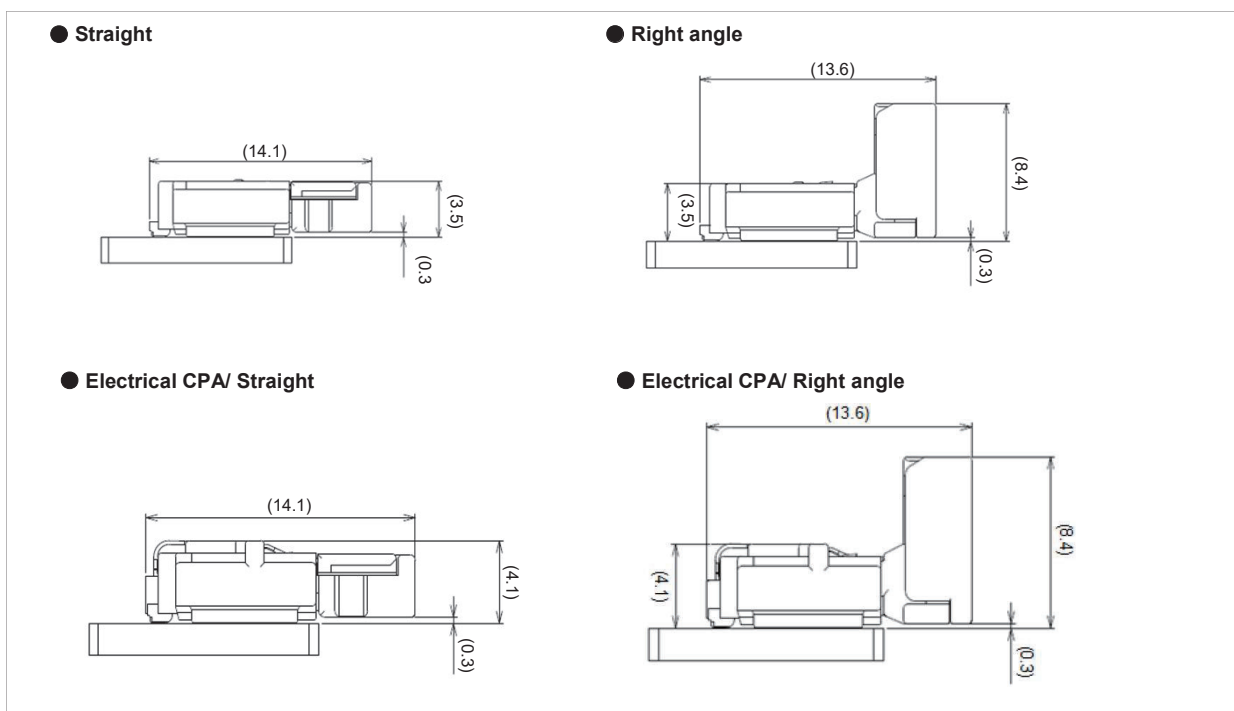


### ● Electrical CPA/ 4 ~ 10 circuits



Circuits	A	B
4	8.9	6
6	12.9	10
8	16.9	14
10	20.9	18

## Assembly layout



## Crimping machine, Applicator

Strip terminal	Crimping machine	Crimp applicator MKS-L	
		Dies	Crimp applicator with dies
<b>SULH-A021GF-0.5</b>	AP-K2N	MK / SULH-A021-05	APLMK SULH-A021-05
<b>SULH-A021T-0.5</b>			
<b>SRULH-A021GF-0.5</b>		MK / SRULH-A021-05	APLMK SRULH-A021-05
<b>SRULH-A021T-0.5</b>			

Note: 1. Contact JST for details.

2. When crimping operation is conducted using an applicator and die set other than the above, JST cannot guarantee the performance of the terminal.