

# Electroformed Probe Pins

## XP3A

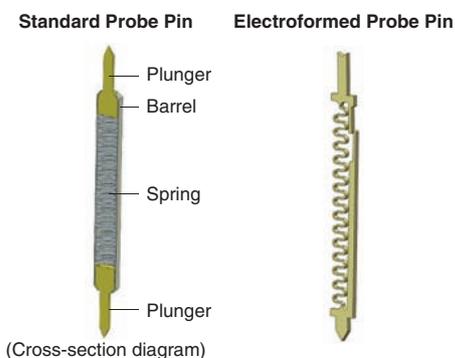
### Electroplated Probe Pins for High Reliability

- The Probe Pin that is made of only one part.
- The flat structure helps you reduce the pin pitch in comparison with standard probe pins.
- Separating the spring and relay achieves a stable resistance and greater durability.

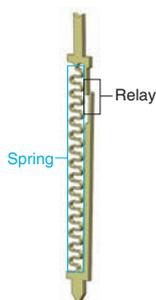


#### Feature

- Achieve the functions of four parts with one part.

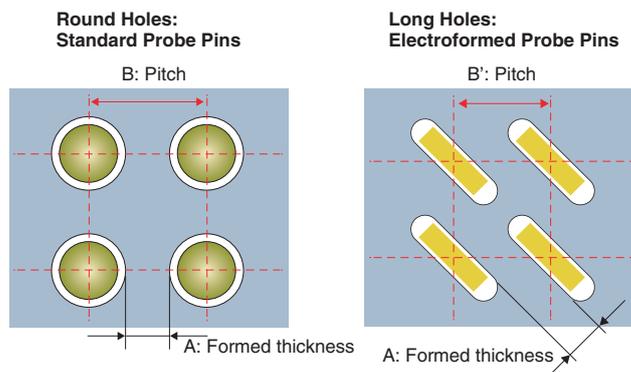


- Separating the spring and relay achieves a stable resistance and greater durability.



- The electroformed Probe Pins use a flat structure. This allows you to position the pins at any angle.

In comparison with round pins, these flat Probe Pins help you reduce the pin pitch.



Round hole pitch B > Long hole pitch B'  
Round hole formed thickness A = Long hole formed thickness A

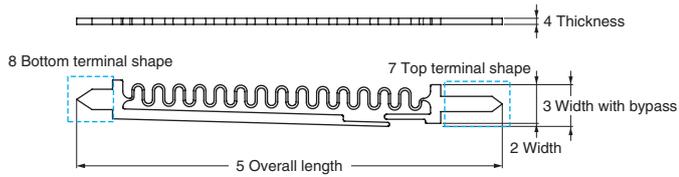
#### List

- Socket

Model	XP3A-□□□□-□□□□D-R/S	XP3A-□□□□-□□□□D-S/S	XP3A-□□□□-□□□□D-D/S	XP3A-□□□□-□□□□D-T/S
Appearance				
Page	3	4	5	6

# XP3A

## Model Number List



**XP3A-**□□□□-□□□□ □-□/□

1 2 3 4 5 6 7 8

1	2		3		4		5		6		7		8				
Series	Width		Width with bypass		Thickness		Overall length		Movability		Top terminal shape		Bottom terminal shape				
XP3A	38	0.38 mm	46	0.455 mm	06	0.06 mm	42	4.15 mm	D	Both ends are movable.	R		S				
							50	4.95 mm									
							60	5.95 mm									
							70	6.95 mm									
	46	0.46 mm	54	0.535 mm	07	0.07 mm	30	2.95 mm									
							42	4.25 mm									
							50	5.15 mm									
							60	6.15 mm									
	58	0.58 mm	66	0.655 mm	07	0.07 mm	25	2.45 mm									
				30			3.05 mm										
				42			4.35 mm										
				50			5.15 mm										
	75	0.75 mm	83	0.826 mm	08	0.08 mm	25	2.45 mm									
				0.828 mm			30	2.95 mm									
				0.827 mm			42	4.35 mm									
				0.826 mm			50	5.15 mm									
	90	0.9 mm	98	0.976 mm	08	0.08 mm	25	2.45 mm									
				0.975 mm			30	2.95 mm									
				42			4.35 mm										
				50			5.15 mm										
							60	6.15 mm									
							70	7.15 mm									

## Ratings and Specifications

Rated current	0.25 A *
Contact resistance	100 mΩ max. *
Contact force	15 g min.
Ambient operating temperature	-25 to 85°C

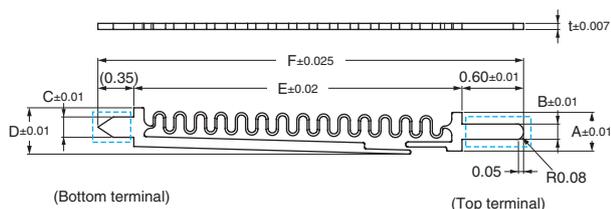
\* The performance values are doubled for two pins.

## Materials and Finish

Contacts	Nickel alloy/gold plating
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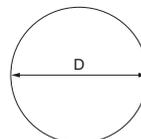
# XP3A Top Terminal R Shape

## ■Dimensions

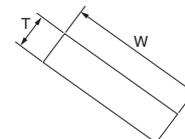


## ■Mounting Hole Dimensions

### ●Round Holes



### ●Slits



## ■Standard Models

(Consult your OMRON representative for delivery times.)

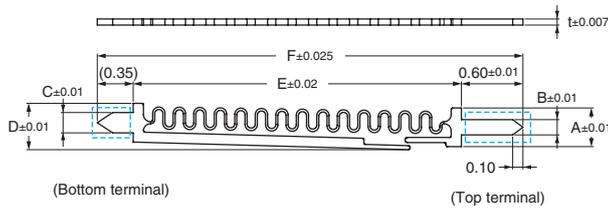
(Unit: mm)

Probe Pins											Recommended mounting hole dimensions		Model						
Pitch		Load	Recomm ended stroke	Overall length	Spring length	Width	Width with bypass	Thickness	Lower Contact	Upper Contact	Round holes (tolerance: ±0.01)	Slits T × W (tolerance: ±0.01)							
Round Holes	Slits			F	E	A	D	t	C	B									
0.5	0.4	15 g min.	0.3	4.15	3.2	0.38	0.455	0.06	0.2	0.15	0.4 dia.	0.1 × 0.4	XP3A-3846-0642D-R/S						
			0.4	4.95	4.0								XP3A-3846-0650D-R/S						
			0.5	5.95	5.0								XP3A-3846-0660D-R/S						
			0.5	6.95	6.0								XP3A-3846-0670D-R/S						
0.65	0.5		0.3	2.95	2.0	0.46	0.535				0.07	0.2	0.15	0.48 dia.	0.1 × 0.48	XP3A-4654-0730D-R/S			
			0.4	4.25	3.2											XP3A-4654-0742D-R/S			
			0.5	5.15	4.0											XP3A-4654-0750D-R/S			
			0.5	6.15	5.0											XP3A-4654-0760D-R/S			
			0.5	7.15	6.0											XP3A-4654-0770D-R/S			
0.8	0.7		0.3	2.45	1.5	0.58	0.655							0.08	0.2	0.15	0.6 dia.	0.1 × 0.6	XP3A-5866-0725D-R/S
			0.4	3.05	2.0														XP3A-5866-0730D-R/S
			0.5	4.35	3.2														XP3A-5866-0742D-R/S
		0.5	5.15	4.0	XP3A-5866-0750D-R/S														
		0.5	6.15	5.0	XP3A-5866-0760D-R/S														
		0.5	7.15	6.0	XP3A-5866-0770D-R/S														
1.0	0.8	0.3	2.45	1.5	0.75	0.826	0.08	0.2	0.15	0.77 dia.							0.1 × 0.77	XP3A-7583-0825D-R/S	
		0.4	2.95	2.0		0.828					XP3A-7583-0830D-R/S								
		0.5	4.35	3.2		0.827					XP3A-7583-0842D-R/S								
		0.5	5.15	4.0		0.826					XP3A-7583-0850D-R/S								
		0.5	6.15	5.0		0.826					XP3A-7583-0860D-R/S								
		0.5	7.15	6.0		0.825					XP3A-7583-0870D-R/S								
1.2	1.0	0.3	2.45	1.5	0.9	0.976				0.08	0.2	0.15	0.92 dia.	0.1 × 0.92	XP3A-9098-0825D-R/S				
		0.4	2.95	2.0		0.976									XP3A-9098-0830D-R/S				
		0.5	4.35	3.2		0.975									XP3A-9098-0842D-R/S				
		0.5	5.15	4.0		0.975									XP3A-9098-0850D-R/S				
		0.5	6.15	5.0		0.975									XP3A-9098-0860D-R/S				
		0.5	7.15	6.0		0.975									XP3A-9098-0870D-R/S				

# XP3A Top Terminal S Shape

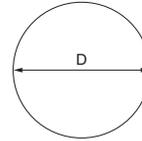


## ■Dimensions

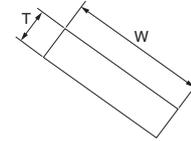


## ■Mounting Hole Dimensions

### ●Round Holes



### ●Slits



## ■Standard Models

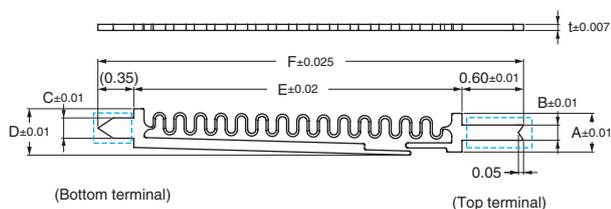
(Consult your OMRON representative for delivery times.)

(Unit: mm)

Probe Pins											Recommended mounting hole dimensions		Model
Pitch		Load	Recomm ended stroke	Overall length	Spring length	Width	Width with bypass	Thickness	Lower Contact	Upper Contact	Round holes (tolerance: ±0.01)	Slits T × W (tolerance: ±0.01)	
Round Holes	Slits			F	E	A	D	t	C	B			
0.5	0.4	15 g min.	0.3	4.15	3.2	0.38	0.455	0.06	0.2	0.15	0.4 dia.	0.1 × 0.4	XP3A-3846-0642D-S/S
			0.4	4.95	4.0								XP3A-3846-0650D-S/S
			0.5	5.95	5.0								XP3A-3846-0660D-S/S
			0.5	6.95	6.0								XP3A-3846-0670D-S/S
0.65	0.5		0.3	2.95	2.0	0.46	0.535	0.07			0.48 dia.	0.1 × 0.48	XP3A-4654-0730D-S/S
			0.4	4.25	3.2								XP3A-4654-0742D-S/S
			0.5	5.15	4.0								XP3A-4654-0750D-S/S
			0.5	6.15	5.0								XP3A-4654-0760D-S/S
0.8	0.7		0.5	7.15	6.0	0.58	0.655			0.665	0.6 dia.	0.1 × 0.6	XP3A-4654-0770D-S/S
			0.3	2.45	1.5								XP3A-5866-0725D-S/S
			0.4	3.05	2.0								XP3A-5866-0730D-S/S
			0.5	4.35	3.2								XP3A-5866-0742D-S/S
1.0	0.8	0.5	5.15	4.0	0.75	0.826	0.825		0.77 dia.	0.1 × 0.77	XP3A-5866-0750D-S/S		
		0.5	6.15	5.0							XP3A-5866-0760D-S/S		
		0.5	7.15	6.0							XP3A-5866-0770D-S/S		
		0.3	2.45	1.5							0.826	XP3A-7583-0825D-S/S	
		0.4	2.95	2.0				0.828			XP3A-7583-0830D-S/S		
		0.5	4.35	3.2				0.827			XP3A-7583-0842D-S/S		
1.2	1.0	0.5	5.15	4.0	0.9	0.826	0.975	0.92 dia.	0.1 × 0.92	XP3A-7583-0850D-S/S			
		0.5	6.15	5.0						XP3A-7583-0860D-S/S			
		0.5	7.15	6.0						XP3A-7583-0870D-S/S			
		0.3	2.45	1.5						0.976	XP3A-9098-0825D-S/S		
		0.4	2.95	2.0						0.976	XP3A-9098-0830D-S/S		
		0.5	4.35	3.2						0.976	XP3A-9098-0842D-S/S		
0.5	5.15	4.0	0.975	XP3A-9098-0850D-S/S									
0.5	6.15	5.0	0.975	XP3A-9098-0860D-S/S									
0.5	7.15	6.0	0.975	XP3A-9098-0870D-S/S									

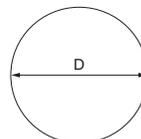
# XP3A Top Terminal D Shape

## ■Dimensions

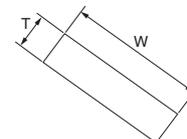


## ■Mounting Hole Dimensions

### ●Round Holes



### ●Slits



## ■Standard Models

(Consult your OMRON representative for delivery times.)

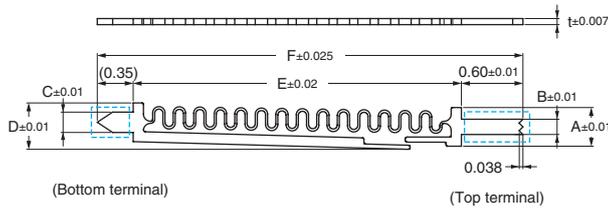
(Unit: mm)

Probe Pins											Recommended mounting hole dimensions		Model	
Pitch		Load	Recomm ended stroke	Overall length	Spring length	Width	Width with bypass	Thickness	Lower Contact	Upper Contact	Round holes (tolerance: ±0.01)	Slits T × W (tolerance: ±0.01)		
Round Holes	Slits			F	E	A	D	t	C	B				
0.5	0.4	15 g min.	0.3	4.15	3.2	0.38	0.455	0.06	0.2	0.15	0.4 dia.	0.1 × 0.4	XP3A-3846-0642D-D/S	
			0.4	4.95	4.0								XP3A-3846-0650D-D/S	
			0.5	5.95	5.0								XP3A-3846-0660D-D/S	
			0.5	6.95	6.0								XP3A-3846-0670D-D/S	
0.65	0.5		0.3	2.95	2.0	0.46	0.535	0.07			0.6 dia.	0.1 × 0.48	XP3A-4654-0730D-D/S	
			0.4	4.25	3.2								XP3A-4654-0742D-D/S	
			0.5	5.15	4.0								XP3A-4654-0750D-D/S	
			0.5	6.15	5.0								XP3A-4654-0760D-D/S	
0.8	0.7		0.3	2.45	1.5	0.58	0.655				0.07	0.6 dia.	0.1 × 0.6	XP3A-4654-0770D-D/S
			0.4	3.05	2.0									XP3A-5866-0725D-D/S
			0.5	4.35	3.2									XP3A-5866-0730D-D/S
			0.5	5.15	4.0									XP3A-5866-0742D-D/S
1.0	0.8	0.5	6.15	5.0	0.75	0.665	0.08		0.77 dia.	0.1 × 0.77	XP3A-5866-0750D-D/S			
		0.5	7.15	6.0							XP3A-5866-0760D-D/S			
		0.3	2.45	1.5							0.826	XP3A-7583-0825D-D/S		
		0.4	2.95	2.0							0.828	XP3A-7583-0830D-D/S		
1.2	1.0	0.5	4.35	3.2	0.9	0.827	0.08	0.92 dia.	0.1 × 0.92	XP3A-7583-0842D-D/S				
		0.5	5.15	4.0						0.826	XP3A-7583-0850D-D/S			
		0.5	6.15	5.0						0.825	XP3A-7583-0860D-D/S			
		0.5	7.15	6.0						0.825	XP3A-7583-0870D-D/S			
1.2	1.0	0.3	2.45	1.5	0.9	0.976	0.08	0.92 dia.	0.1 × 0.92	XP3A-9098-0825D-D/S				
		0.4	2.95	2.0						0.976	XP3A-9098-0830D-D/S			
		0.5	4.35	3.2						0.975	XP3A-9098-0842D-D/S			
		0.5	5.15	4.0							XP3A-9098-0850D-D/S			
1.2	1.0	0.5	6.15	5.0	0.9	0.975	0.08	0.92 dia.	0.1 × 0.92	XP3A-9098-0860D-D/S				
		0.5	7.15	6.0						XP3A-9098-0870D-D/S				

# XP3A Top Terminal T Shape

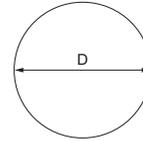


## ■Dimensions

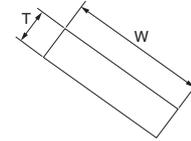


## ■Mounting Hole Dimensions

### ●Round Holes



### ●Slits



## ■Standard Models

(Consult your OMRON representative for delivery times.)

(Unit: mm)

Probe Pins											Recommended mounting hole dimensions		Model
Pitch		Load	Recomm ended stroke	Overall length	Spring length	Width	Width with bypass	Thickness	Lower Contact	Upper Contact	Round holes (tolerance: ±0.01)	Slits T × W (tolerance: ±0.01)	
Round Holes	Slits			F	E	A	D	t	C	B			
0.5	0.4	15 g min.	0.3	4.15	3.2	0.38	0.455	0.06	0.2	0.15	0.4 dia.	0.1 × 0.4	XP3A-3846-0642D-T/S
			0.4	4.95	4.0								XP3A-3846-0650D-T/S
			0.5	5.95	5.0								XP3A-3846-0660D-T/S
			0.5	6.95	6.0								XP3A-3846-0670D-T/S
0.65	0.5		0.3	2.95	2.0	0.46	0.535	0.07			0.48 dia.	0.1 × 0.48	XP3A-4654-0730D-T/S
			0.4	4.25	3.2								XP3A-4654-0742D-T/S
			0.5	5.15	4.0								XP3A-4654-0750D-T/S
			0.5	6.15	5.0								XP3A-4654-0760D-T/S
0.8	0.7		0.5	7.15	6.0	0.58	0.665			0.6 dia.	0.1 × 0.6	XP3A-4654-0770D-T/S	
			0.3	2.45	1.5							XP3A-5866-0725D-T/S	
			0.4	3.05	2.0							XP3A-5866-0730D-T/S	
			0.5	4.35	3.2							XP3A-5866-0742D-T/S	
1.0	0.8	0.5	5.15	4.0	0.75	0.826	0.77 dia.		0.1 × 0.77	XP3A-5866-0750D-T/S			
		0.5	6.15	5.0						XP3A-5866-0760D-T/S			
		0.5	7.15	6.0						XP3A-5866-0770D-T/S			
		0.3	2.45	1.5						0.826	XP3A-7583-0825D-T/S		
		0.4	2.95	2.0				0.828		XP3A-7583-0830D-T/S			
		0.5	4.35	3.2				0.827		XP3A-7583-0842D-T/S			
1.2	1.0	0.5	5.15	4.0	0.9	0.826	0.92 dia.	0.1 × 0.92	XP3A-7583-0850D-T/S				
		0.5	6.15	5.0					XP3A-7583-0860D-T/S				
		0.5	7.15	6.0					0.825	XP3A-7583-0870D-T/S			
		0.3	2.45	1.5					0.976	XP3A-9098-0825D-T/S			
		0.4	2.95	2.0					0.975	XP3A-9098-0830D-T/S			
		0.5	4.35	3.2						XP3A-9098-0842D-T/S			
0.5	5.15	4.0	XP3A-9098-0850D-T/S										
0.5	6.15	5.0	XP3A-9098-0860D-T/S										
0.5	7.15	6.0	XP3A-9098-0870D-T/S										

## ■ Safety Precautions

### Precautions for Correct Use

#### ● General Environmental Conditions

- (1) Use the Probe Pins at an ambient operating temperature of  $-25$  to  $85^{\circ}\text{C}$  and a humidity of 30%.
- (2) Use the Probe Pins in an ambient atmosphere that does not contain dust, dirt, corrosive gas, or oil so that the Probe Pins do not become contaminated.

#### ● Stroke Conditions

- (1) Apply a load to the Probe Pins only in the axial direction. Never apply a lateral load.
- (2) The life of the Probe Pins will be drastically reduced if the recommended stroke is exceeded.

#### ● Current Application Conditions

- (1) Apply a current when the Probe Pins are stationary after they have come into contact with the target at the recommended stroke position.
- (2) If a current is applied during the stroke, at a position other than the recommended stroke, or when the Probe Pins are not in contact with the target, the life of the Probe Pins will be drastically reduced.
- (3) The catalog value of the carrying capacity may not be met due to Probe Pin deterioration or other factors. Allow sufficient leeway when you design the actual application.

#### ● Voltage Application Conditions

- (1) Apply a voltage when the Probe Pins are stationary after they have come into contact with the target at the recommended stroke position.
- (2) Do not apply a voltage when the Probe Pins are not in contact with the target. The Probe Pins will be damaged due to discharge immediately before they come into contact.
- (3) When a high voltage is applied to the contact probe, strictly observe the current and voltage application conditions. Also, take measures to prevent discharge or other large instantaneous currents.

#### ● Carrying Capacity

- (1) The rated current that is given in the catalog is the maximum continuous current for 1 minute under the above conditions (general environment, stroke, current application, and voltage application).

#### ● Resistance

- (1) If a large current is applied, the resistance may increase due to deterioration of the contacts and internal components.
- (2) As the number of strokes increases, the resistance may increase due to deterioration of the contacts and internal components.

#### ● Durability

- (1) The durability specification that is given in the catalog is a guideline for the number of times that the Probe Pins can be used without problems at 10 mA under the above conditions (general environment, stroke, current application, and voltage application).
- (2) Depending on the operating environment and conditions, the Probe Pins may need to be replaced sooner than given in the specifications due to increased resistance, reduced contact force, or other factors. Replace the Probe Pins as required by the actual application.

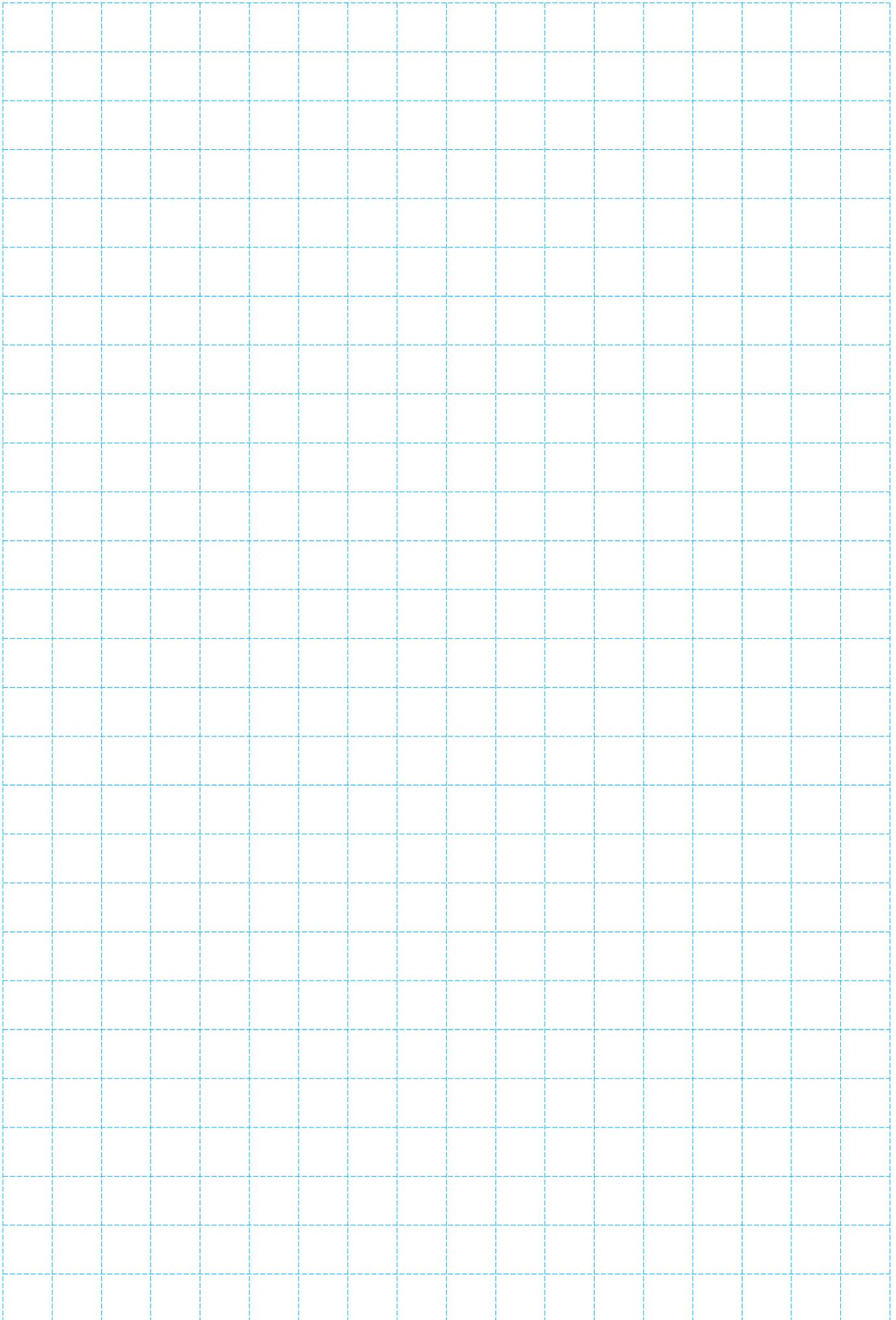
#### ● Contact Force

- (1) The contact force of the Probe Pins will be reduced at a temperature of  $85^{\circ}\text{C}$  or higher.
- (2) If the current is increased, heat generated by the Probe Pins will reduce the contact force.

#### ● Recommended Mounting Hold Dimensions

- (1) The dimensions are reference values. Actual values will depend on the material and thickness of the resin plate.

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# Terms and Conditions Agreement

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