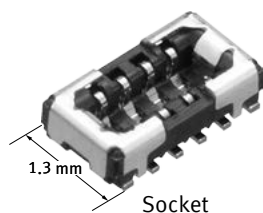
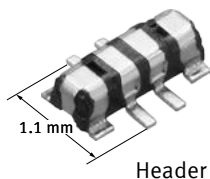


R35K (0.35 mm pitch)

The ultra-small (width 1.3 mm), robust yet high mating force connector that can energize 3A.



Socket



Header

FEATURES

- Slim: width 1.3 mm
- Low profile construction: mated height 0.6 mm
- Supports 3A power terminals
- “TOUGH CONTACT” construction withstands tough environments despite being slim and low profile.
- Double contact with a simple lock structure made this connector realize low profile, make a good clicking feel and high removal force.

TYPICAL APPLICATIONS

- Wearable devices, hearable devices
(Battery, Side Switches, various sensor module connection)

DETAILS FEATURES

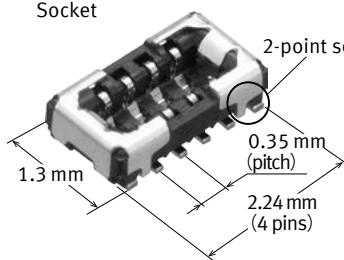
■ Width 1.3 mm slim and two-piece type connector

- Mated height 0.6 mm
Smaller compared to S35; Width: approx. 37% down

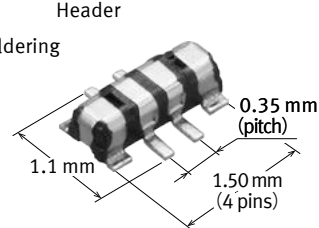
■ Proprietary “TOUGH CONTACT” construction for both high contact reliability and good workability while being slim and low profile

- Mated height 0.6 mm

Socket

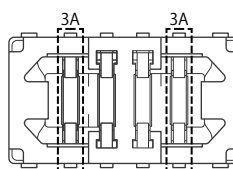


Header

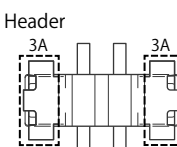


■ Supports 3A power terminals

Socket

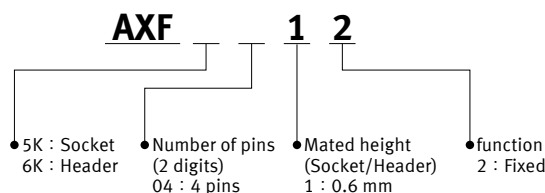


Header



ORDERING INFORMATION (PART NO.)

■ Mated height: 0.6 mm



Narrow pitch connectors R35K (0.35 mm pitch)

TYPES

Mated height	Number of pins	Part No.		Packing	
		Socket	Header	Inner carton (1-reel)	Outer carton
0.6 mm	4	AXF5K0412	AXF6K0412	15,000 pcs.	30,000 pcs.

Note : Order unit: For volume production: 1-inner carton (1-reel) units. For samples, please contact our sales office.

SPECIFICATIONS

■ Characteristics

	Item	Specifications	Conditions																		
Electrical characteristics	Rated current	3.0 A / pin contact (Power terminal) 0.3 A / pin contact (Signal terminal)																			
	Rated voltage	30 V AC / DC																			
	Dielectric strength	150 V AC for 1 min.	No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for 1 min.																		
	Insulation resistance	Min. 1,000 MΩ (Initial)	Using 250 V DC megger (applied for 1 min.)																		
	Contact resistance	Max. 30 mΩ (Power terminal) Max .90 mΩ (Signal terminal)	According to the contact resistance measurement method of JIS C 5402																		
Mechanical characteristics	Composite insertion force	Max. 25 N (Initial)																			
	Composite removal force	Min. 3.0 N (Initial)																			
Environmental characteristics	Ambient temperature	−55 to + 85°C	No icing. No condensation.																		
	Soldering heat resistance	The initial specification must be satisfied electrically and mechanically.	Reflow soldering:Peak temperature: 260°C or less (on the surface of the PC board around the connector terminals) Soldering iron: 300°C within 5 sec. 350°C within 3 sec.																		
	Storage temperature	−55 to +85°C (Products only) −40 to +50°C (Emboss packing)	No icing. No condensation.																		
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to MIL-STD-202F, method 107G <table><tr><th>Order</th><th>Temperature (°C)</th><th>Time (minutes)</th></tr><tr><td>1</td><td>−55._{−3}⁰</td><td>30</td></tr><tr><td>2</td><td>∅</td><td>Max. 5</td></tr><tr><td>3</td><td>85.₀⁺³</td><td>30</td></tr><tr><td>4</td><td>∅</td><td>Max. 5</td></tr><tr><td></td><td>−55._{−3}⁰</td><td></td></tr></table>	Order	Temperature (°C)	Time (minutes)	1	−55. _{−3} ⁰	30	2	∅	Max. 5	3	85. ₀ ⁺³	30	4	∅	Max. 5		−55. _{−3} ⁰	
	Order	Temperature (°C)	Time (minutes)																		
	1	−55. _{−3} ⁰	30																		
	2	∅	Max. 5																		
	3	85. ₀ ⁺³	30																		
4	∅	Max. 5																			
	−55. _{−3} ⁰																				
Humidity resistance (header and socket mated)	120 hours, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to IEC 60068-2-78 Temperature 40 ± 2°C, Humidity 90 to 95% RH																			
Saltwater spray resistance (header and socket mated)	24 hours, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to IEC 60068-2-11 Temperature 35 ± 2°C, Salt water concentration 5 ± 1%																			
H ₂ S resistance (header and socket mated)	48 hours, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Temperature 40 ± 2°C, Gas concentration 3 ± 1 ppm, Humidity 75 to 80% RH																			
Lifetime characteristics	Insertion and removal life	10 times Repeated insertion and removal cycles of Max. 200 times/hour																			
Unit weight		4 pins Socket: 0.004 g, Header: 0.001 g																			

■ Material and surface treatment

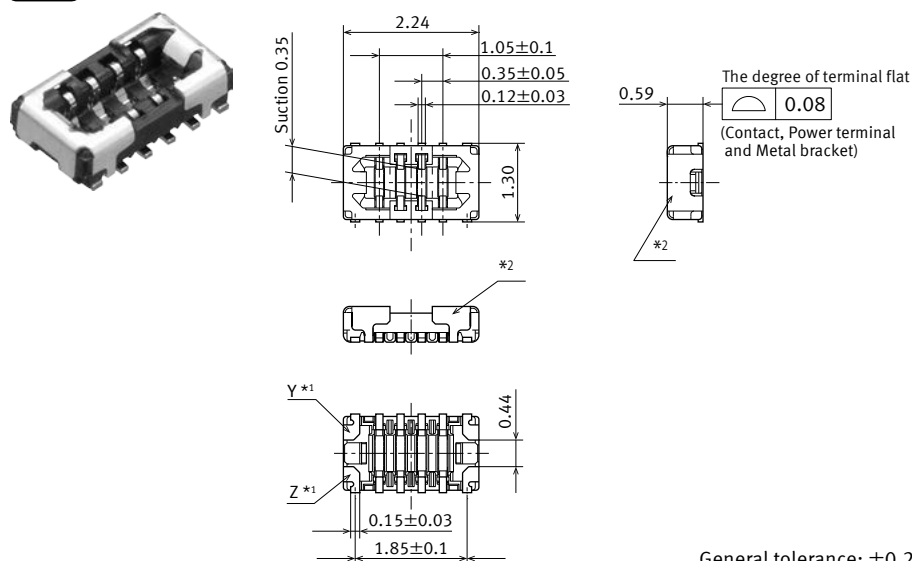
Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
Contact and Post	Copper alloy	Contact portion: Base: Ni plating, Surface: Au plating Terminal portion: Base: Ni plating, Surface: Au plating (except the terminal tips) The socket terminals close to the portion to be soldered have nickel barriers (exposed nickel portions).
Soldering terminals	Copper alloy	Sockets: Base: Ni plating, Surface: Pd + Au flash plating (except the terminal tips)

DIMENSIONS**CAD** The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Unit: mm

Socket (Mated height: 0.6 mm)**CAD**

External dimensions

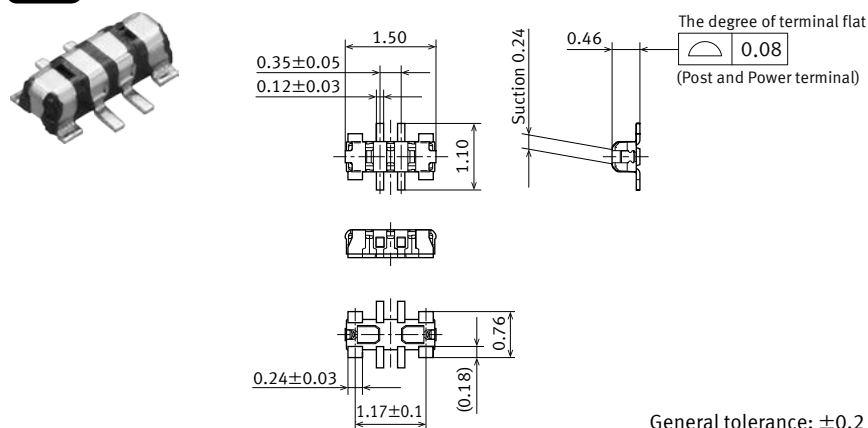


General tolerance: ±0.2

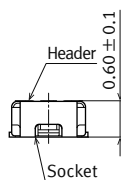
*1: Because the metal bracket Y and Z are the unified structure, they are connected electrically.
 *2: There might be differences in the exposure state of the metal brackets except terminal portion.
 Please don't use these portions for inspection.

Header (Mated height: 0.6 mm)**CAD**

External dimensions



General tolerance: ±0.2

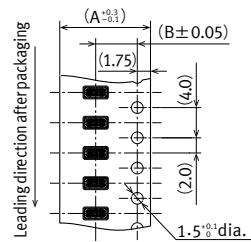
Socket and Header are mated

EMBOSSED TAPE DIMENSIONS

Unit: mm

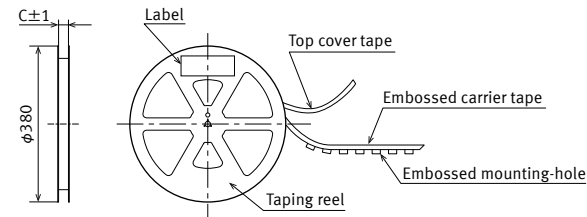
■ Specifications for taping

In accordance with JIS C 0806-3:1999. However, not applied to the mounting-hole pitch of some connectors.



■ Specifications for the plastic reel

In accordance with EIAJ ET-7200B.



■ Dimension table

Type / Mated height	Number of pins	Type of taping	A	B	C	Quantity per reel
Socket / Heder 0.6 mm	4	Tape I	12.0	5.5	13.4	15,000

■ Connector orientation with respect to embossed tape feeding direction

There is no indication on this product regarding top-bottom or left-right orientation.

Direction of tape progress	Type	Common for R35K	
		Socket	Header

NOTES

■ Design of PC board patterns

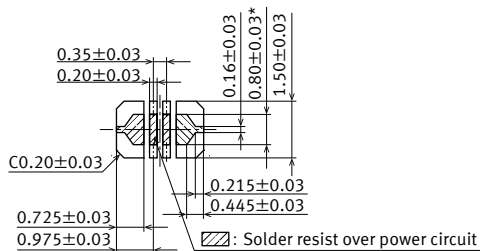
Conduct the recommended foot pattern design, in order to preserve the mechanical strength of terminal solder areas.

■ Recommended PC board and metal mask patterns

Connectors are mounted with high pitch density, intervals of 0.35 mm, 0.4 mm or 0.5 mm. In order to reduce solder and flux rise, solder bridges and other issues make sure the proper levels of solder is used.

The figures are recommended patterns. Please use them as a reference.

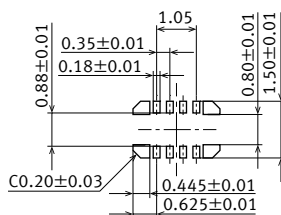
■ Socket (Mated height: 0.6 mm)

● Recommended PC board pattern
(TOP VIEW)

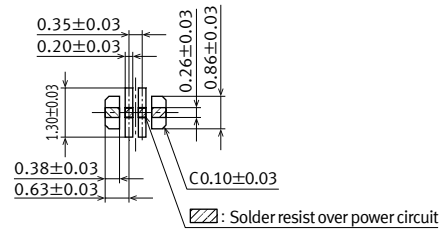
* Please don't reduce the inside pattern size less this size because there is a possibility of solder creeping to the contact part.

● Recommended metal mask pattern

Metal mask thickness: When 80 μm
(Terminal opening ratio: 70%)
(Metal-part opening ratio: 56%)

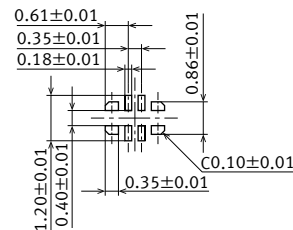


■ Header (Mated height: 0.6 mm)

● Recommended PC board pattern
(TOP VIEW)

● Recommended metal mask pattern

Metal mask thickness: When 80 μm
(Terminal opening ratio: 50%)



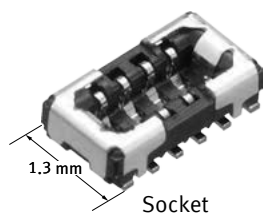
Please refer to "the latest product specifications" when designing your product.

•Requests to customers:

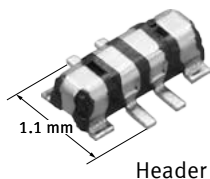
<https://industrial.panasonic.com/ac/e/salespolicies/>

R35K (0.35 mm pitch)

The ultra-small (width 1.3 mm), robust yet high mating force connector that can energize 3A.



Socket



Header

FEATURES

- Slim: width 1.3 mm
- Low profile construction: mated height 0.6 mm
- Supports 3A power terminals
- “TOUGH CONTACT” construction withstands tough environments despite being slim and low profile.
- Double contact with a simple lock structure made this connector realize low profile, make a good clicking feel and high removal force.

TYPICAL APPLICATIONS

- Wearable devices, hearable devices
(Battery, Side Switches, various sensor module connection)

DETAILS FEATURES

■ Width 1.3 mm slim and two-piece type connector

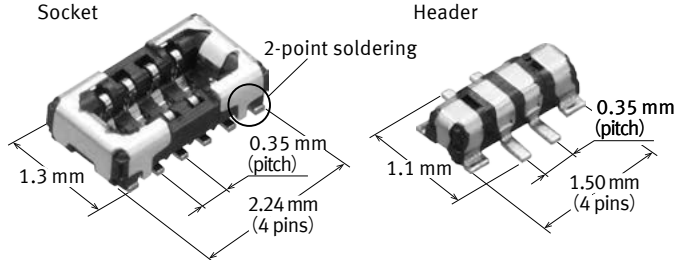
- Mated height 0.6 mm
Smaller compared to S35; Width: approx. 37% down

■ Proprietary “TOUGH CONTACT” construction for both high contact reliability and good workability while being slim and low profile

- Mated height 0.6 mm

Socket

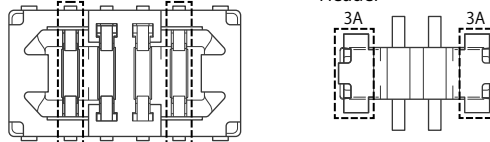
Header



■ Supports 3A power terminals

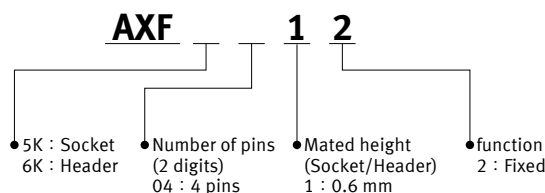
Socket

Header



ORDERING INFORMATION (PART NO.)

■ Mated height: 0.6 mm



Narrow pitch connectors R35K (0.35 mm pitch)

TYPES

Mated height	Number of pins	Part No.		Packing	
		Socket	Header	Inner carton (1-reel)	Outer carton
0.6 mm	4	AXF5K0412	AXF6K0412	15,000 pcs.	30,000 pcs.

Note : Order unit: For volume production: 1-inner carton (1-reel) units. For samples, please contact our sales office.

SPECIFICATIONS

■ Characteristics

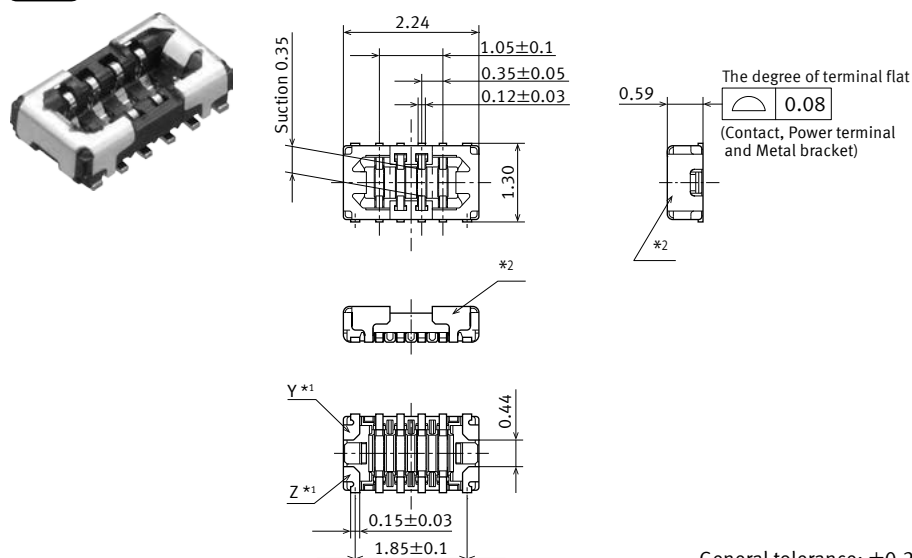
	Item	Specifications	Conditions																		
Electrical characteristics	Rated current	3.0 A / pin contact (Power terminal) 0.3 A / pin contact (Signal terminal)																			
	Rated voltage	30 V AC / DC																			
	Dielectric strength	150 V AC for 1 min.	No short-circuiting or damage at a detection current of 1 mA when the specified voltage is applied for 1 min.																		
	Insulation resistance	Min. 1,000 MΩ (Initial)	Using 250 V DC megger (applied for 1 min.)																		
	Contact resistance	Max. 30 mΩ (Power terminal) Max .90 mΩ (Signal terminal)	According to the contact resistance measurement method of JIS C 5402																		
Mechanical characteristics	Composite insertion force	Max. 25 N (Initial)																			
	Composite removal force	Min. 3.0 N (Initial)																			
Environmental characteristics	Ambient temperature	−55 to + 85°C	No icing. No condensation.																		
	Soldering heat resistance	The initial specification must be satisfied electrically and mechanically.	Reflow soldering:Peak temperature: 260°C or less (on the surface of the PC board around the connector terminals) Soldering iron: 300°C within 5 sec. 350°C within 3 sec.																		
	Storage temperature	−55 to +85°C (Products only) −40 to +50°C (Emboss packing)	No icing. No condensation.																		
	Thermal shock resistance (header and socket mated)	5 cycles, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to MIL-STD-202F, method 107G <table><tr><th>Order</th><th>Temperature (°C)</th><th>Time (minutes)</th></tr><tr><td>1</td><td>−55._{−3}⁰</td><td>30</td></tr><tr><td>2</td><td>∅</td><td>Max. 5</td></tr><tr><td>3</td><td>85.₀⁺³</td><td>30</td></tr><tr><td>4</td><td>∅</td><td>Max. 5</td></tr><tr><td></td><td>−55._{−3}⁰</td><td></td></tr></table>	Order	Temperature (°C)	Time (minutes)	1	−55. _{−3} ⁰	30	2	∅	Max. 5	3	85. ₀ ⁺³	30	4	∅	Max. 5		−55. _{−3} ⁰	
	Order	Temperature (°C)	Time (minutes)																		
	1	−55. _{−3} ⁰	30																		
	2	∅	Max. 5																		
	3	85. ₀ ⁺³	30																		
4	∅	Max. 5																			
	−55. _{−3} ⁰																				
Humidity resistance (header and socket mated)	120 hours, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to IEC 60068-2-78 Temperature 40 ± 2°C, Humidity 90 to 95% RH																			
Saltwater spray resistance (header and socket mated)	24 hours, insulation resistance: Min. 100 MΩ, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Conformed to IEC 60068-2-11 Temperature 35 ± 2°C, Salt water concentration 5 ± 1%																			
H ₂ S resistance (header and socket mated)	48 hours, contact resistance: Max. 30 mΩ (Power terminal) contact resistance: Max. 90 mΩ (Signal terminal)	Temperature 40 ± 2°C, Gas concentration 3 ± 1 ppm, Humidity 75 to 80% RH																			
Lifetime characteristics	Insertion and removal life	10 times	Repeated insertion and removal cycles of Max. 200 times/hour																		
Unit weight		4 pins Socket: 0.004 g, Header: 0.001 g																			

■ Material and surface treatment

Part name	Material	Surface treatment
Molded portion	LCP resin (UL94V-0)	—
Contact and Post	Copper alloy	Contact portion: Base: Ni plating, Surface: Au plating Terminal portion: Base: Ni plating, Surface: Au plating (except the terminal tips) The socket terminals close to the portion to be soldered have nickel barriers (exposed nickel portions).
Soldering terminals	Copper alloy	Sockets: Base: Ni plating, Surface: Pd + Au flash plating (except the terminal tips)

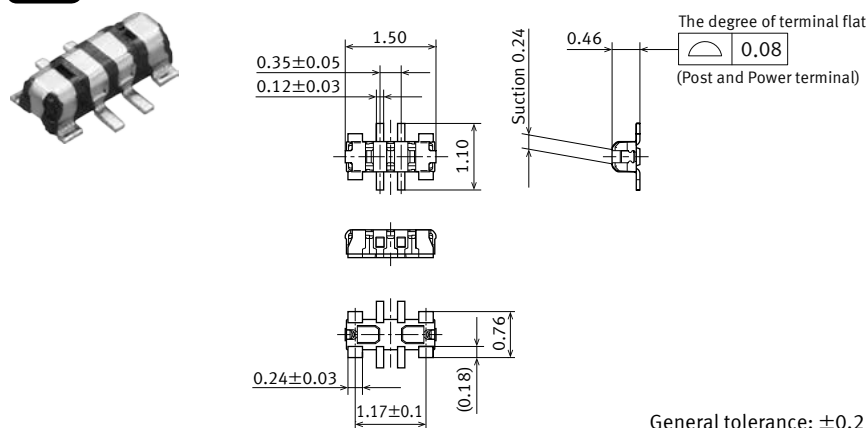
DIMENSIONS**CAD** The CAD data of the products with a "CAD" mark can be downloaded from our Website.

Unit: mm

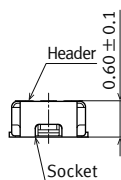
■ Socket (Mated height: 0.6 mm)**CAD****External dimensions**

General tolerance: ±0.2

*1: Because the metal bracket Y and Z are the unified structure, they are connected electrically.
 *2: There might be differences in the exposure state of the metal brackets except terminal portion.
 Please don't use these portions for inspection.

■ Header (Mated height: 0.6 mm)**CAD****External dimensions**

General tolerance: ±0.2

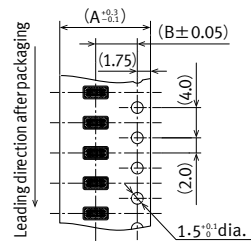
■ Socket and Header are mated

EMBOSED TAPE DIMENSIONS

Unit: mm

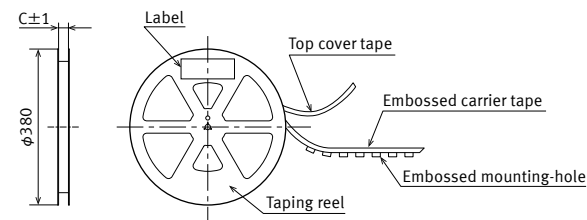
■ Specifications for taping

In accordance with JIS C 0806-3:1999. However, not applied to the mounting-hole pitch of some connectors.



■ Specifications for the plastic reel

In accordance with EIAJ ET-7200B.



■ Dimension table

Type / Mated height	Number of pins	Type of taping	A	B	C	Quantity per reel
Socket / Heder 0.6 mm	4	Tape I	12.0	5.5	13.4	15,000

■ Connector orientation with respect to embossed tape feeding direction

There is no indication on this product regarding top-bottom or left-right orientation.

Direction of tape progress	Type	Common for R35K	
		Socket	Header

NOTES

■ Design of PC board patterns

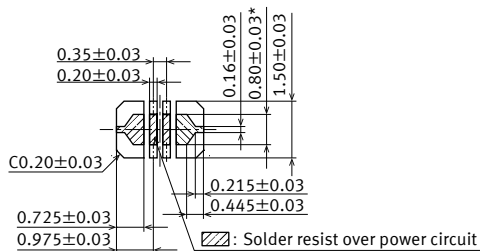
Conduct the recommended foot pattern design, in order to preserve the mechanical strength of terminal solder areas.

■ Recommended PC board and metal mask patterns

Connectors are mounted with high pitch density, intervals of 0.35 mm, 0.4 mm or 0.5 mm. In order to reduce solder and flux rise, solder bridges and other issues make sure the proper levels of solder is used.

The figures are recommended patterns. Please use them as a reference.

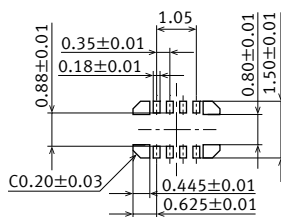
■ Socket (Mated height: 0.6 mm)

● Recommended PC board pattern
(TOP VIEW)

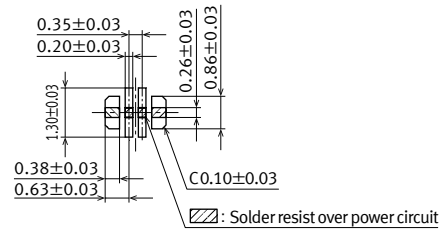
* Please don't reduce the inside pattern size less this size because there is a possibility of solder creeping to the contact part.

● Recommended metal mask pattern

Metal mask thickness: When 80 μm
(Terminal opening ratio: 70%)
(Metal-part opening ratio: 56%)

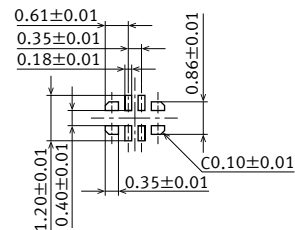


■ Header (Mated height: 0.6 mm)

● Recommended PC board pattern
(TOP VIEW)

● Recommended metal mask pattern

Metal mask thickness: When 80 μm
(Terminal opening ratio: 50%)



Please refer to "the latest product specifications" when designing your product.

•Requests to customers:

<https://industrial.panasonic.com/ac/e/salespolicies/>

Please contact

Panasonic Corporation

Electromechanical Control Business Division

■1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8506, Japan
industrial.panasonic.com/ac/e/

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