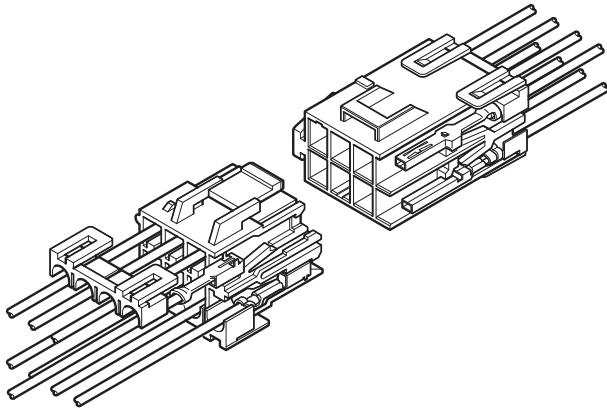


VL CONNECTOR

6.2 mm pitch/Wire-to-Wire connectors/Crimp style and Mating style



This is a 6.2 mm pitch wire-to-wire connector with a maximum current rating of 20 A. It comes with a large housing lock to ensure a safe connection for high-current circuits. Additionally, using a retainer prevents incomplete insertion and contact backout, further enhancing connection reliability.

• High current capability

Both 1 and 2 circuits versions can carry a maximum current of 20 A per circuit when used with AWG #12.

• Housing lance mechanism

The housing features an integrated lance mechanism that is not affected by external forces, providing a clear contact insertion feel and stable contact retention force.

• Retainer compatible

Retainers are available. The retainer prevents incomplete insertion and secures the contact in the housing while improving the mechanical reliability of the connection.

• Panel lock compatible

The receptacle housing features a compact and innovative panel lock design that prevents wire entanglement, making it easy and secure for panel mounting.

Note: We also offer receptacle housings without panel locks, specifically designed for free-hanging applications.

• Board-to-Wire connectors are also available.

We offer a lineup of connectors for Board-to-Wire connections that share the same socket contacts and plug housings, allowing for standardization of connectors used in internal power circuits on electrical equipment.

■ Specifications

- Current rating: 20 A AC/DC
(1 and 2 circuits/ AWG #12)

Note: The current rating differs depending on the number of circuits and the wire size used in each connector as shown in the table below.

Unit: A

No. of circuits	Wire size (AWG)					
	#12	#14	#16	#18	#20	#22
1	20	15	10	8	6	4
2	20	15	10	8	6	4
3	19	14	9	8	6	4
4	18	13	9	7	6	4
6	16	12	8	7	5	3
8	16	11	7	6	5	3
12	15	10	7	6	4	3

Note: Do not branch in parallel current which exceeds the rated current. If branched in parallel, current imbalance or other problems may occur. If it is absolutely necessary to branch such a large current in parallel, design the circuits without causing any imbalance and provide extra margin for each circuit.

- Voltage rating: 600 V AC/DC

Note: This product complies with the Electrical Appliance and Material Safety Law in Japan.

The rated voltage under the Electrical Appliance and Material Safety Law is 300 V.

- Temperature range: -25°C to +90°C

(including temperature rise in applying electrical current)

- Contact resistance:

Initial value/ 7 mΩ max.

After environmental tests/ 10 mΩ max.

- Insulation resistance: 1,000 MΩ min.

- Withstanding voltage:

There shall be no breakdown or flashover while applying 2,000 VAC for one minute.

- Applicable wire range:

Conductor size/ AWG #22 to AWG #12

Insulation O.D./ ϕ 1.7 mm to ϕ 4.1 mm

Note: For information on crimping the 2 circuits version, please see the Contact section on page 3.

- Applicable PC board thickness: 0.5 mm to 2.0 mm

- * Please refer to the "Handling Precautions for Terminals and Connectors" on our website (listed in the "Technical Documents" column on the Product Information page) before use.

- * RoHS2 compliance


- * Dimensional unit: mm

- * Contact JST for details.

■ Standards

 :Recognized E 60389

 :Certified LR 20812

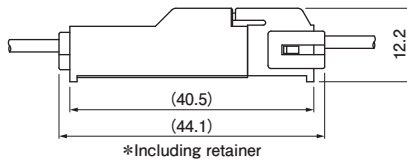
 :R9351103

Assembly layout and Panel layout

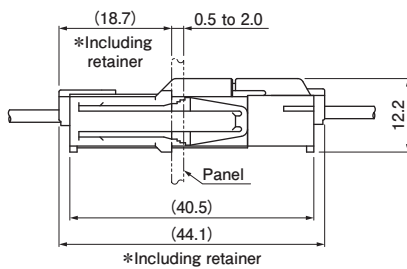
Inner lock type

• Single-row type

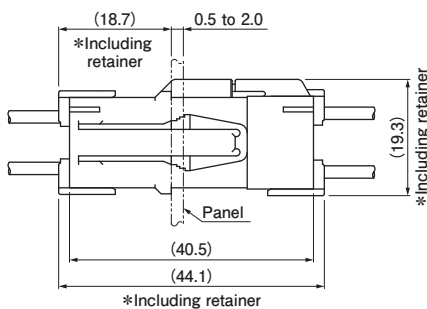
<1 circuit>



<2 circuits or more>

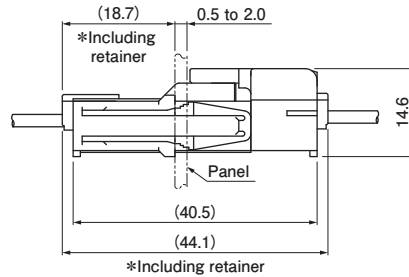


• Double-row type

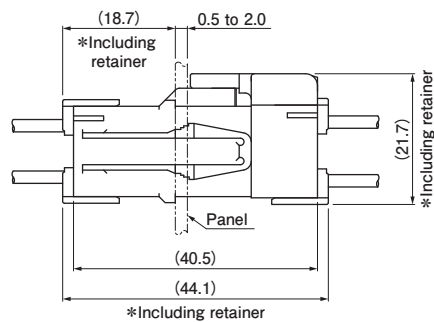


Outer lock type

• Single-row type

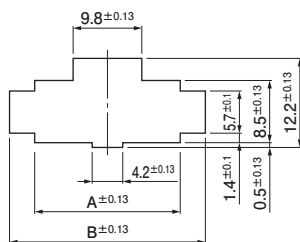


• Double-row type

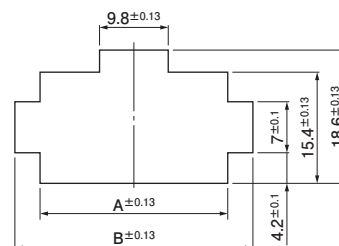


Note: The above figure shows the assembly layout of products with panel locks, except for the 1 circuit inner-lock version, single-row type. Products without panel locks have the same maximum dimensions in mating direction and thickness as products with panel locks.

Single-row type



Double-row type

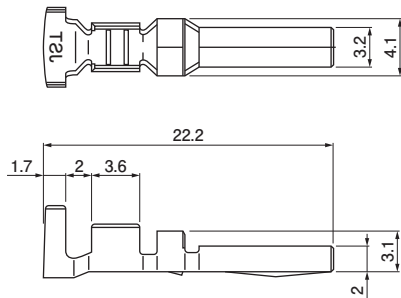


Type	No. of circuits	Receptacle housing	Panel hole dimensions (mm)		Applicable panel thickness (mm)
			A	B	
Single-row type	2	VLR-02V	13.8	20.6	0.5 to 2.0
	3	VLR-03V	20.0	26.8	
	4	VLR-04VN	26.2	33.0	
Double-row type	4	VLR-04V	13.8	20.6	
	6	VLR-06V	20.0	26.8	
	8	VLR-08V	26.2	33.0	
	12	VLR-12V	38.9	45.4	

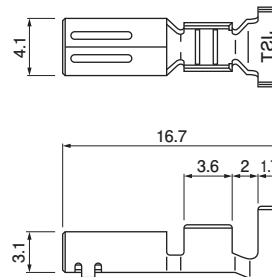
Note: 1. Drill holes in the panel according to the sketch and table shown above. Burrs must be removed.
 2. The strength of the panel must be considered when punching two or more holes.
 3. The drilled hole must be at the same angle as the direction in which the connector is inserted.

Contact

Pin contact



Socket contact



Pin contact

Model No.	Applicable wire range		Q'ty/ reel
	Conductor size AWG (mm ²)	Insulation O.D. (mm)	
SVM-42T-P2.0	#22 to #16 (0.3 to 1.25)	1.7 to 3.2	2,000
	#22+#22 to #20+#18 (0.3+0.3 to 0.5+0.75)	1.7+1.7 to 2.5+2.7	
SVM-61T-P2.0	#20 to #14 (0.5 to 2.0)	1.9 to 3.4	
	#20+#20 to #18+#16 (0.5+0.5 to 0.75+1.25)	1.9+1.9 to 2.1+2.7	
SVM-81T-P2.0	#12 (3.5)	4.1	

Material and Surface finish, etc.

Copper alloy, tin-plated

- Note: 1. Contact JST for special products.
 2. Please take caution that even for 2 crimped wires in the 2 circuits version, the retainer cannot be used with 81 style barrel contacts. Please contact JST for details.

Crimping machine

Contact	Crimping machine	Applicator	Crimp applicator with dies
SVM-42T-P2.0	AP-K2N	MKS-L	APLMK SVF/M42-20
SVM-61T-P2.0			APLMK SVF/M61-20
SVM-81T-P2.0			APLMK SVF/M81-20

Note: Contact JST for fully automatic crimping applicator.

Socket contact

Model No.	Applicable wire range		Q'ty/ reel
	Conductor size AWG (mm ²)	Insulation O.D. (mm)	
SVF-42T-P2.0	#22 to #16 (0.3 to 1.25)	1.7 to 3.2	2,000
	#22+#22 to #20+#18 (0.3+0.3 to 0.5+0.75)	1.7+1.7 to 2.5+2.7	
SVF-61T-P2.0	#20 to #14 (0.5 to 2.0)	1.9 to 3.4	
	#20+#20 to #18+#16 (0.5+0.5 to 0.75+1.25)	1.9+1.9 to 2.1+2.7	
SVF-81T-P2.0	#12 (3.5)	4.1	

Material and Surface finish, etc.

Copper alloy, tin-plated

- Note: 1. Contact JST for special products.
 2. Please take caution that even for 2 crimped wires in the 2 circuits version, the retainer cannot be used with 81 style barrel contacts. Please contact JST for details.

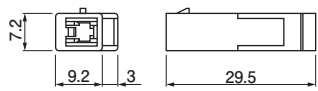
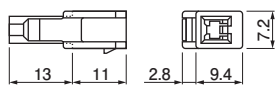
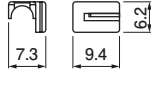
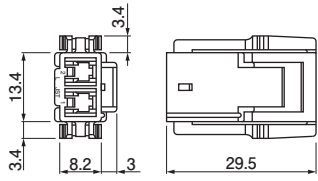
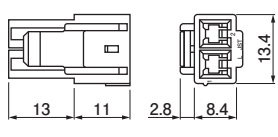
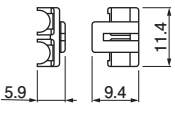
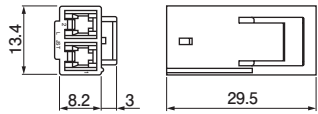
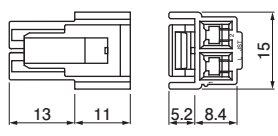
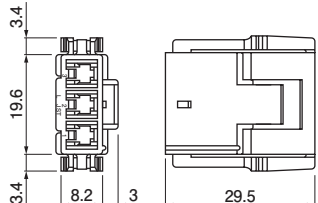
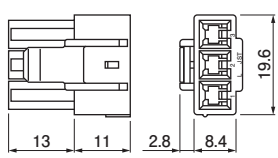
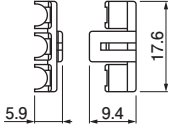
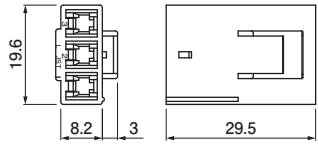
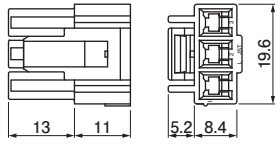
Crimping machine

Contact	Crimping machine	Applicator	Crimp applicator with dies
SVF-42T-P2.0	AP-K2N	MKS-L	APLMK SVF/M42-20
SVF-61T-P2.0			APLMK SVF/M61-20
SVF-81T-P2.0			APLMK SVF/M81-20

Note: Contact JST for fully automatic crimping applicator.

VL CONNECTOR

Housing

No. of circuits	Receptacle housing (For pin contact)	Q'ty/ bag	Plug housing (For socket housing)	Q'ty/ bag	Retainer	Q'ty/ bag
1	VLR-01VF * Without panel lock type 	500	VLP-01V * Inner lock type 	500	VLS-01V 	1,000
2	VLR-02V * With panel lock type 	500	VLP-02V * Inner lock type 	500	VLS-02V * Commonly used for 2 circuits housing and 4 circuits housing (Double-row type). 	1,000
	VLR-02VF * Without panel lock type 		VLP-02V-1 * Outer lock type 			
3	VLR-03V * With panel lock type 	500	VLP-03V * Inner lock type 	500	VLS-03V * Commonly used for 3 circuits housing and 6 circuits housing. 	1,000
	VLR-03VF <small>Note1)</small> * Without panel lock type 		VLP-03V-1 * Outer lock type 			

Material and Surface finish, etc.

Receptacle housing: PA 66, UL94V-0, natural (white)

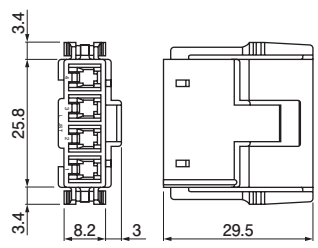
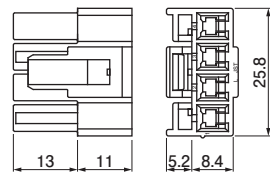
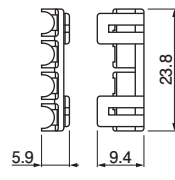
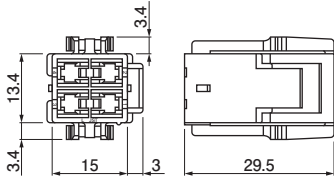
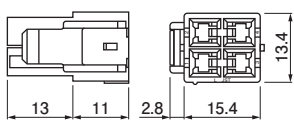
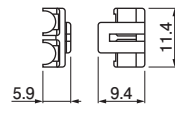
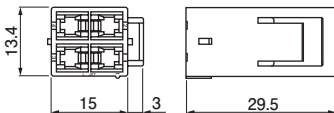
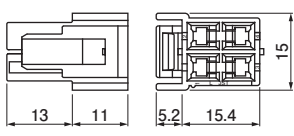
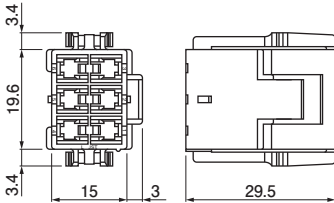
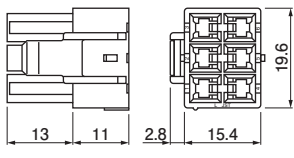
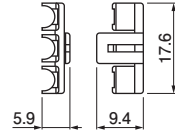
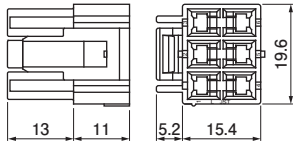
Plug housing: PA 66, UL94V-0, natural (white)

Retainer: PA 66 (Glass-filled), UL94V-0, ivory

Note: 1. VLR-03VF is unlisted in UL/CSA Standards.
 2. Contact JST for special specifications product.

VL CONNECTOR

Housing

No. of circuits	Receptacle housing (For pin contact)	Q'ty/ bag	Plug housing (For socket housing)	Q'ty/ bag	Retainer	Q'ty/ bag
4	VLR-04VN * With panel lock type 	500	VLP-04VN-1 * Outer lock type 	500	VLS-08V * Commonly used for 4 circuits housing (Single-row type) and 8 circuits housing. 	1,000
	VLR-04V * With panel lock type 		VLP-04V * Inner lock type 		VLS-02V * Commonly used for 2 circuits housing and 4 circuits housing (Double-row type). 	
	VLR-04VF * Without panel lock type 	500	VLP-04V-1 * Outer lock type 	500		1,000
6	VLR-06V * With panel lock type 	500	VLP-06V * Inner lock type 	500	VLS-03V * Commonly used for 3 circuits housing and 6 circuits housing. 	1,000
	VLP-06V-1 * Outer lock type 					

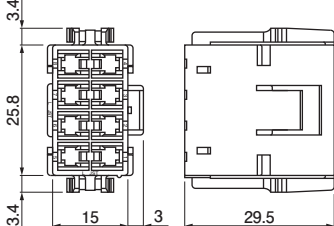
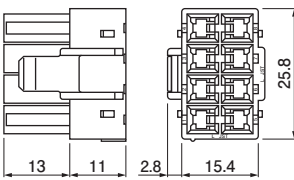
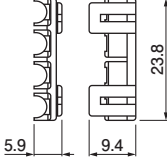
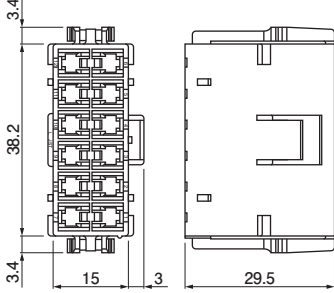
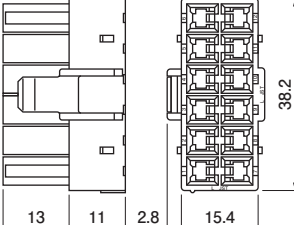
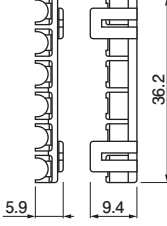
Material and Surface finish, etc.

Receptacle housing: PA 66, UL94V-0, natural (white)
 Plug housing: PA 66, UL94V-0, natural (white)
 Retainer: PA 66 (Glass-filled), UL94V-0, ivory

Note: Contact JST for special specifications product.

VL CONNECTOR

Housing

No. of circuits	Receptacle housing (For pin contact)		Plug housing (For socket housing)		Retainer	
8	VLR-08V * With panel lock type 	Q'ty/ bag	VLP-08V * Inner lock type 	Q'ty/ bag	VLS-08V * Commonly used for 4 circuits housing (Single-row type) and 8 circuits housing. 	1,000
			100			
12	VLR-12V * With panel lock type 	Q'ty/ bag	VLP-12V * Inner lock type 	Q'ty/ bag	VLS-12V 	1,000
			100			

Material and Surface finish, etc.

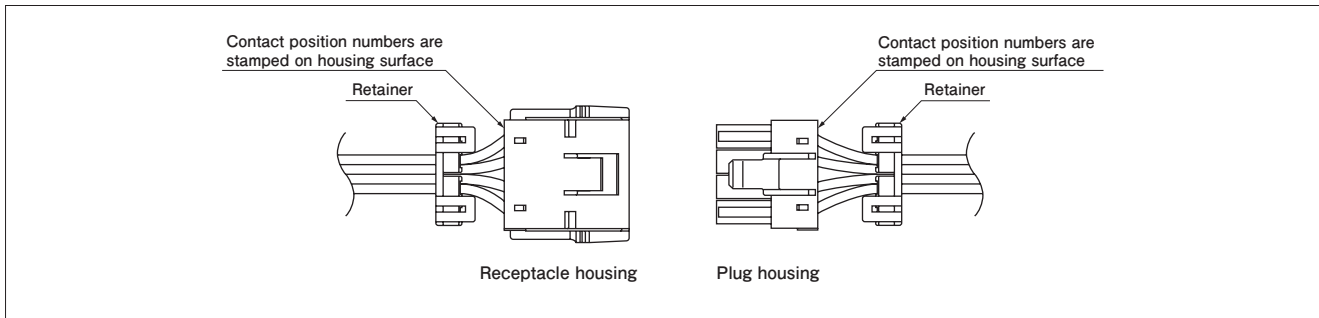
Receptacle housing: PA 66, UL94V-0, natural (white)

Plug housing: PA 66, UL94V-0, natural (white)

Retainer: PA 66 (Glass-filled), UL94V-0, ivory

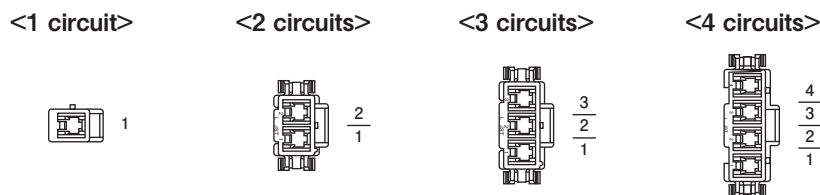
Note: Contact JST for special specifications product.

Housing position location numbers

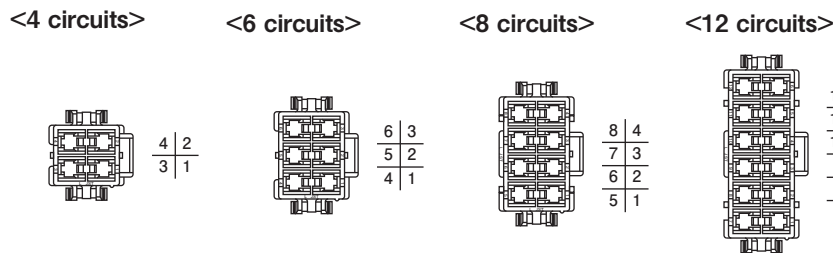


Receptacle housing

Single-row type



Double-row type

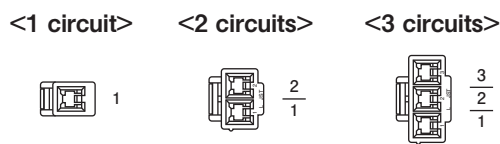


Note: The above figure shows the contact insertion side of the housing with panel lock, except for the 1 circuit single row type. Housings without panel lock have the same contact position numbers as those with panel lock.

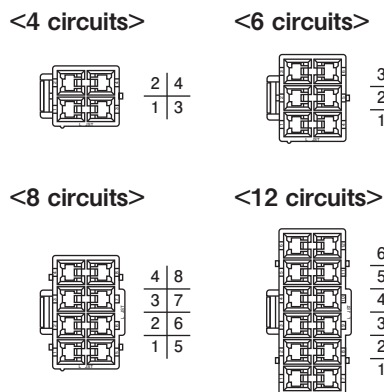
Plug housing

Inner lock type

• Single-row type

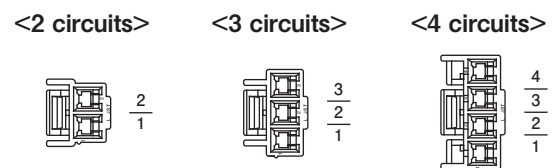


• Double-row type



Outer lock type

• Single-row type



• Double-row type

