

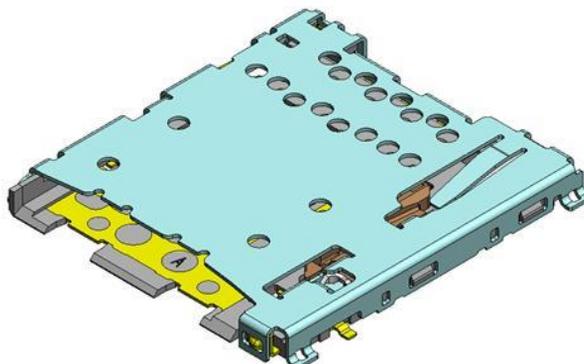
microSD™ Memory Card Connector

CONNECTOR

ST12 Series

MB-0290-4

Jun.2025

RoHS Compliant

microSD™(*1) cards are widely used by users as external media for data storage and expansion in compact ICT (Information and Communication Technology) devices such as smartphones and tablet PCs, and are expected to be used as storage media in a variety of devices in the future.

In addition, due to the progress of electrification (EV) and higher functionality of automobiles, the layout of automobile interiors is becoming more modular like that of PCs and other consumer devices, and demand for memory cards is also increasing. To meet this demand, we have evaluated the ST12 Series of microSD card-compatible push-push type connectors for automotive specifications, including high-temperature environments of 105°C.

Application

Smartphones, tablet PCs, drone, action cameras, gaming terminals, laptop PC, AR/VR headsets, other small portable devices

*Not compatible with IATF

Features

- Push-push type connector for microSD card compliant with UHS-I.
- 1.4mm height, 14.6mm width, and 15.3mm depth (depth including card: 16.7mm).
- Good operability with 0.7mm push stroke and 3.8mm card eject length.
- Card insertion detection switch (normally open).
- Robust mounting with multiple hold-downs. (*2)
- Strong mechanical lock structure: Resistant to vibration and shock.
- Soldering area of terminals are located on the outside of connector body for easy inspection and repair.

*1: microSD™ is a trademark of **SD Association**

*2: Metal fittings to reinforce the board retention

General Specifications

| | |
|---------------------------------|--|
| Number of Contacts | 10 pos. |
| Contact Resistance | Signal Terminal: 100mΩ max. (initial) |
| Dielectric Withstanding Voltage | AC 500Vr.m.s. (per minute) |
| Insulation Resistance | 1,000MΩ min. (initial) |
| Durability | 10,000 mating cycles |
| Operating Temperature Range | -25 deg. C to +85 deg. C (General Item) -40 deg. C to +105 deg. C (Automotive spec tested product) |
| Rated Current | 0.5A Max. |
| Rated Voltage | 10V Max. |

Materials and Finishes

| Components | Materials | Finishes |
|--------------------------------|-----------------|---|
| Signal Contact D-SW Contact | Copper alloy | Contact: Au plating over Ni Terminal: Au plating over Ni |
| Housing | Synthetic resin | - |
| Cover | Stainless steel | Terminal area: Au plating over Ni |
| Eject Lever | Synthetic resin | - |
| Lock | Stainless steel | - |
| Spring | Stainless steel | - |
| Cam Follower | Stainless steel | - |

Ordering Information

ST12 S 010 V B A R1800

Series: ST12

Connector Type
S: Non-ZIF structure

No. of Contacts: 10pos.

Reel Part Number (Note1)
(R1800)

Modification Code

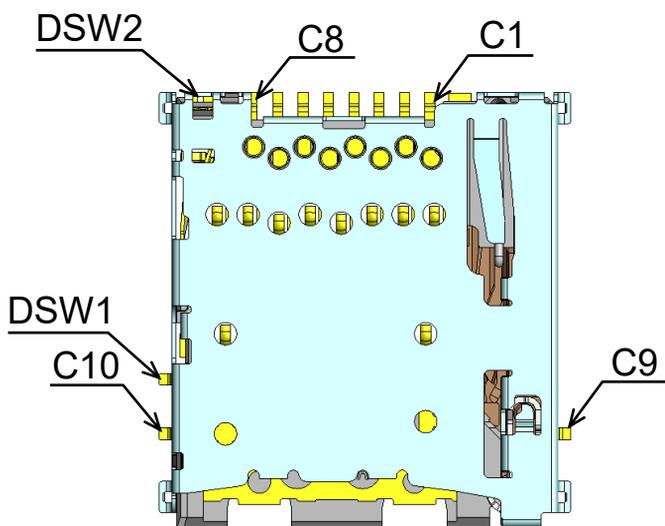
Plating Specification
B: Au / Au flash plating

Connection Type
V: SMT mounting with hold-downs

Note1) An embossed tape reel contains 1,800 pcs.

Please contact us for details on embossed tape specifications.

Pin Assignment

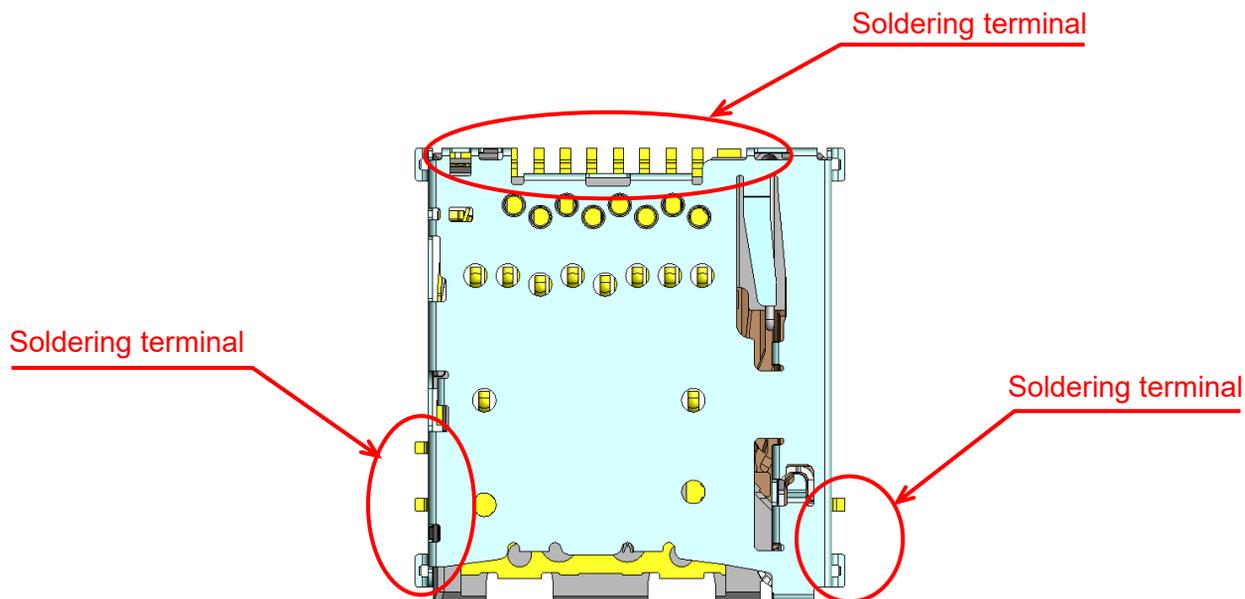


| Number | Signal name |
|--------|-------------|
| C1 | DAT2 |
| C2 | DAT3 |
| C3 | CMD |
| C4 | VDD |
| C5 | CLK |
| C6 | VSS |
| C7 | DAT0 |
| C8 | DAT1 |
| C9 | GND(ANT1) |
| C10 | GND(ANT2) |

Detection Switch Circuit

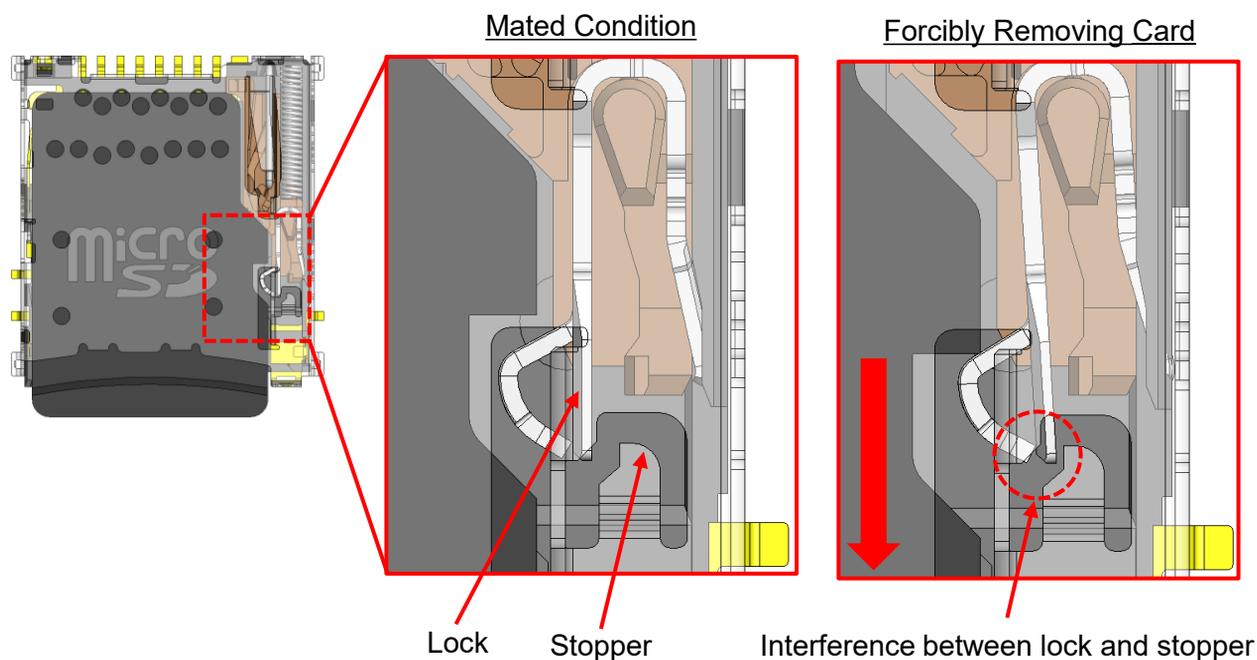
| Card Condition | Without Card | With Card |
|----------------|--|---|
| DSW | <p>DSW1 is connected to GND. DSW2 is connected to DSW1 through an open switch.</p> | <p>DSW1 is connected to GND. DSW2 is connected to DSW1 through a closed switch.</p> |

Easy to Inspect and Repair



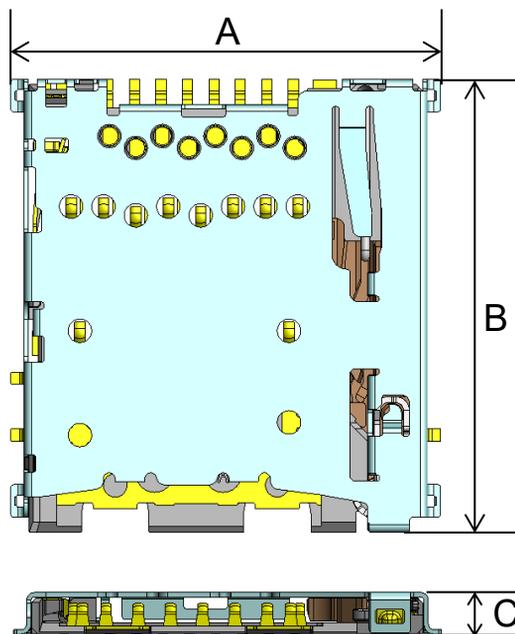
* Soldering terminals are on the outside for easy inspection and repair

Mechanical Lock Structure



* Mechanical lock structure helps to prevent card from coming out of connector from vibration and shock

Outer Dimensions



Unit : mm

| Part Number | A | B | C |
|-------------|------|------|-----|
| ST12S010VBA | 14.6 | 15.3 | 1.4 |

Part Numbers and Product Drawings

| Part Number | Drawing Number | Specifications | Handling Instructions |
|------------------|-------------------------------|--|-----------------------|
| ST12S010VBAR1800 | SJ114012 (Individual Product) | JACS-10993 (General Item) | JAHL-10993 |
| | SJ114013(Reeled Product) | JACS-11518 (Automotive spec tested product) | |

Notice:

1. The values specified in this brochure are only for reference. The products and their specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.

2. Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.

3. The products presented in this brochure are designed for the uses recommended below. We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.

(1) Applications that require consultation:

(i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:

Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.

(ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as :

Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc.

(2) Recommended applications include:

Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

Japan Aviation Electronics Industry, Limited

* The specifications in this brochure are subject to change without notice. Please contact JAE for information.