

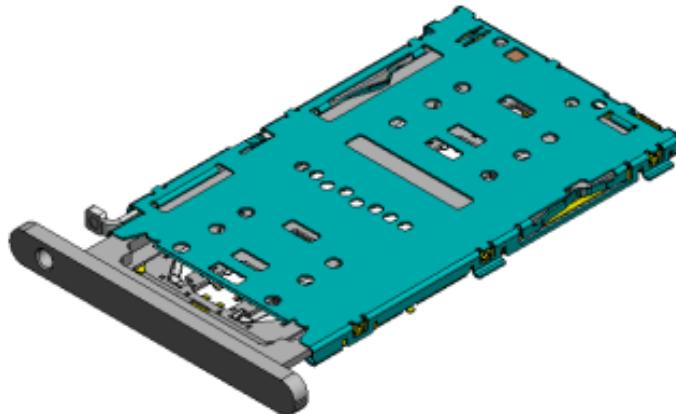


3-in-2 Type Card Connector  
(For nano SIM + nano SIM / microSD<sup>TM</sup> Cards)

# ST19 Series

CONNECTOR  
MB-0321-1  
July 2017

**RoHS Compliant**



## Outline

For devices with communication functions such as smartphones, feature phones, and tablets, there is a growing demand to use multiple SIM cards on one device.

Furthermore, due to the downsizing of the devices, SIM cards are shifting from the conventional micro SIM (3FF) cards to smaller size nano SIM (4FF) cards.

The ST19 Series is a compact and light weight 3-in-2 type combo push-eject tray connector that is compatible with two types of combination card usage patterns. 2 nano SIM cards, or 1 nano SIM card and 1 microSD card.

(SIM: Subscriber Ientity Module)

## Features

- Compact and slim design --- 1.3 mm height, 17.49 mm width, 28.15 mm depth
- Compatible with two patterns
  - Combination 1) nano SIM card x 1 pcs. + microSD<sup>TM</sup> card x 1 pcs.
  - Combination 2) nano SIM card x 2 pcs.
- With tray detection switch (normally-closed type)
- Contact buckling prevention structure to avoid deformation of the contacts even if an empty card adapter is inserted.
- Tray mis-insertion countermeasure to prevent insertion of tray upside down.
- Compatible with thickness of nano SIM Cards that are manually cut to size by user.

\* microSD<sup>TM</sup> is a trademark of SD Card Association

## General Specifications

■ No. of Contacts: 20pos.	■ Rated Current: 0.5A
■ Contact Resistance: 100m $\Omega$ max. (initial)	■ Rated Voltage: 10V
■ Dielectric Withstanding Voltage: AC 500 Vr.m.s. for 1 minute	■ Durability: 2,500 times
■ Operating Temperature: -40 Deg. C to +85 Deg. C	

## Materials and Finishes

Components	Material	Finish
Signal Contact	Copper alloy	Au plating over Ni (Contact area) Au plating over Ni (Board mounting area)
Housing	Synthetic Resin	
Cover	Stainless steel	Au plating over Ni (Board mounting area)
Detection Switch	Copper alloy	Au plating over Ni (Contact area) Au plating over Ni (Board mounting area)
Eject Bar	Stainless steel	
Eject Lever	Stainless steel	

## Ordering Information

**ST19 S 020 V C A R1400**

Series

Connector Type  
S: Non-ZIF structure

No. of Contacts

Reeled Part Number (Note)

Modification Code

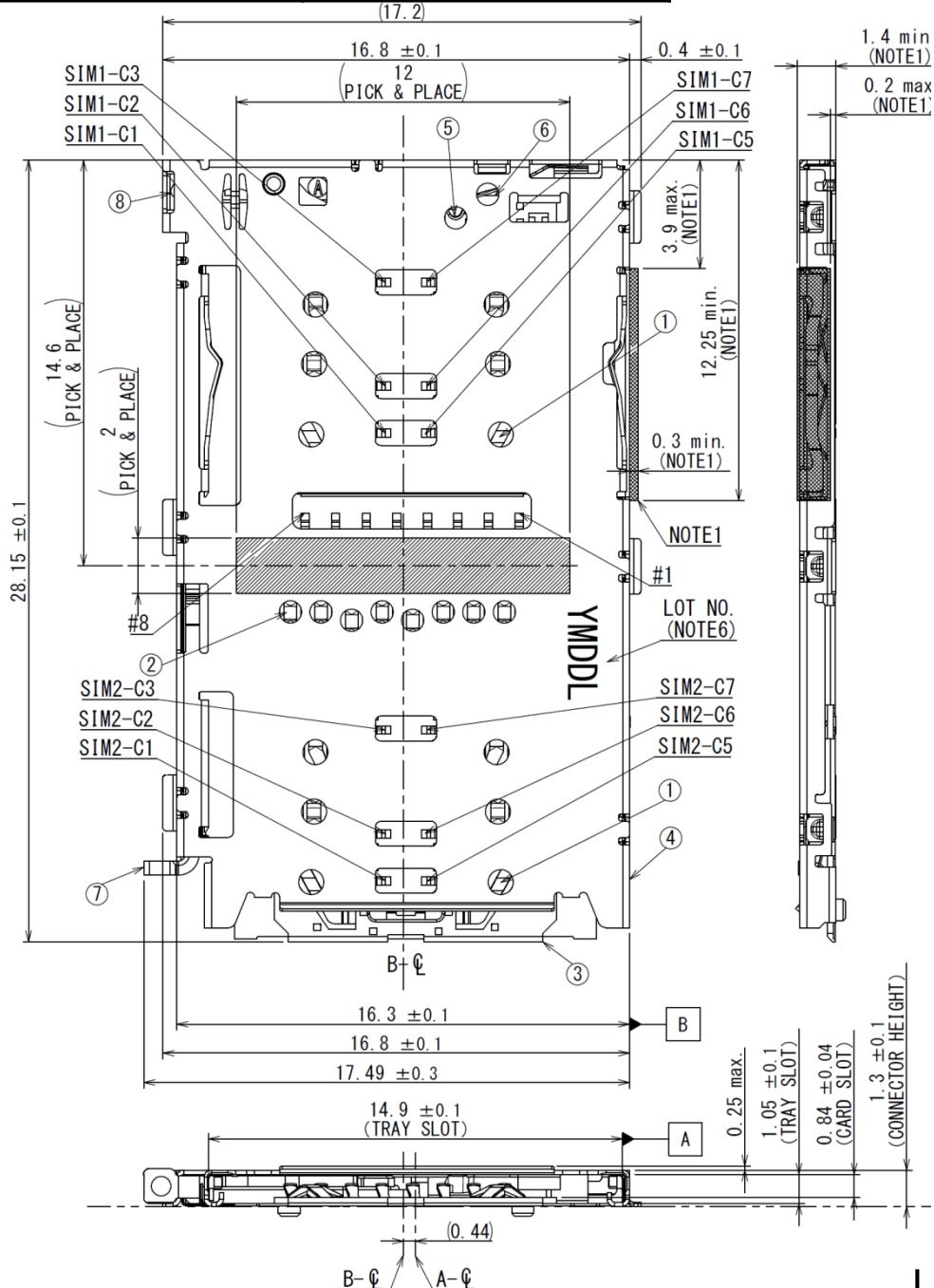
Plating Specification  
C: Au / Au flash plating

Connection Type  
V: SMT mounting with hold-downs

Note) An embossed tape reel contains 1,400 pcs.

Please contact us for details on embossed tape specifications.

Part Number	SJ Drawing
ST19S020VCA	SJ117667



Unit: mm

NOTE1. OTHER COMPONENTS CANNOT TOUCH OR REST ON THIS AREA.

NOTE6. LOT INFORMATION IS SHOWN AS BELOW.

i.e. 6 X 2 5 1

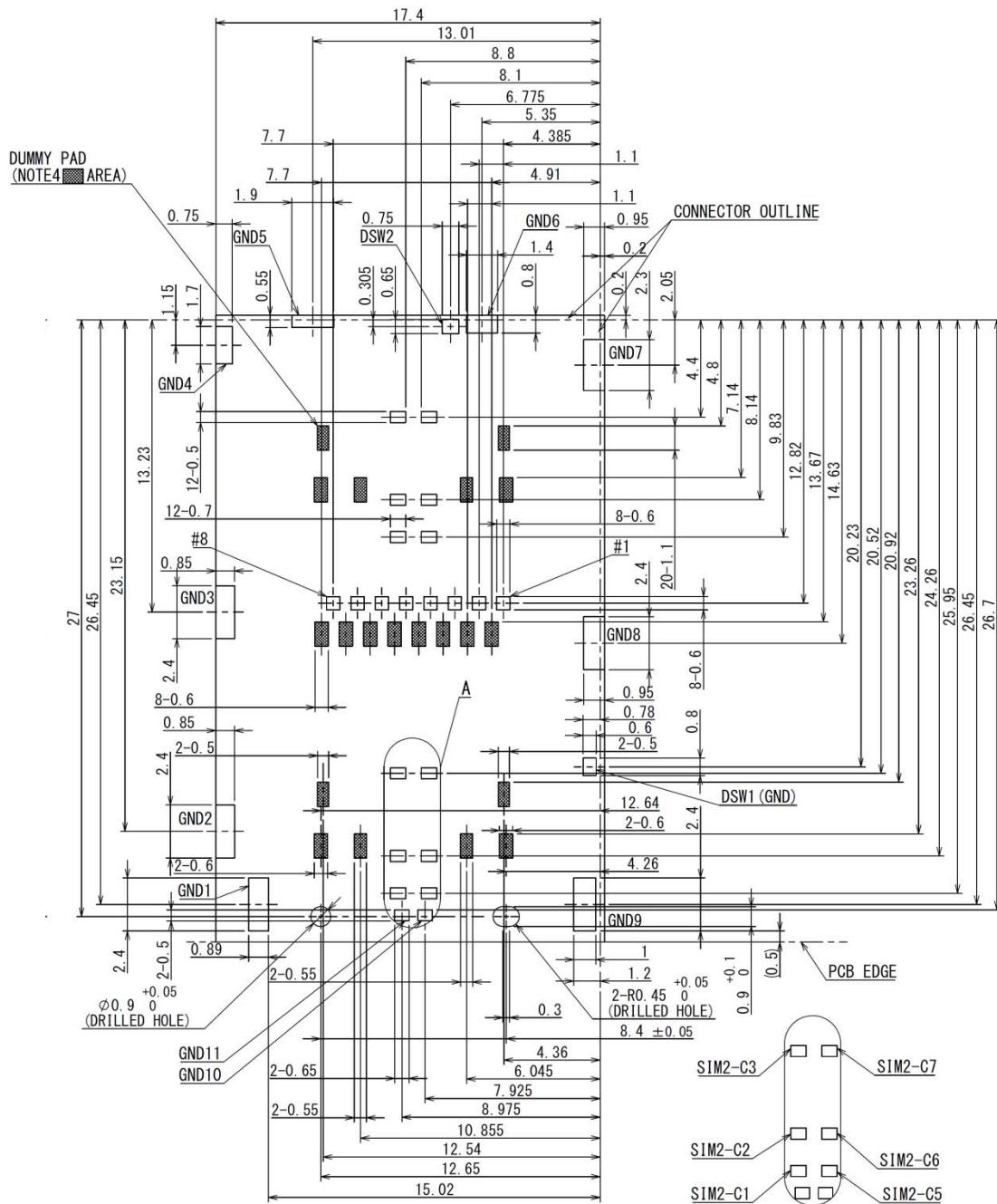
PRODUCT LINE No.  
PRODUCTION DATE (YMDD)

6 : YEAR (2016)  
0 : MONTH (1, 2, 3, ..., 9, 0, X, Y)  
28 : DAY  
1 : PRODUCT LINE No. (1, 2, 3...)

符号 NO.	名 称 DESCRIPTION	個 数 QTY	材 料 MATERIAL	仕 上 FINISH	備 考 REMARKS
8	EJECT LEVER	1	STAINLESS STEEL	—	
7	EJECT BAR	1	STAINLESS STEEL	—	
6	DETECTION SWITCH2 (DSW2)	1	COPPER ALLOY	Au over Ni	
5	DETECTION SWITCH1 (DSW1, GND)	1	COPPER ALLOY	Au over Ni	
4	COVER	1	STAINLESS STEEL	Au over Ni	
3	HUOSING	1	LCP	—	
2	CONTACT2 (μ SD)	8	COPPER ALLOY	Au over Ni	
1	CONTACT1 (4FF SIM)	12	COPPER ALLOY	Au over Ni	

Note) The drawing above is for reference only.

Please refer to our latest product drawing when using this product.



NOTE4. DUMMY PAD SHOULD BE ELECTRICALLY ISOLATED.  
(No connection to GND on something else)  
No solder on this PAD

## Applicable PWB Dimension

Unit: mm

TABLE. 1 SWITCH CIRCUIT

	WITHOUT TRAY	TRAY MATED
DETECTION SWITCH		

Note) The drawing above is for reference only.

Please refer to our latest product drawing when using this product.

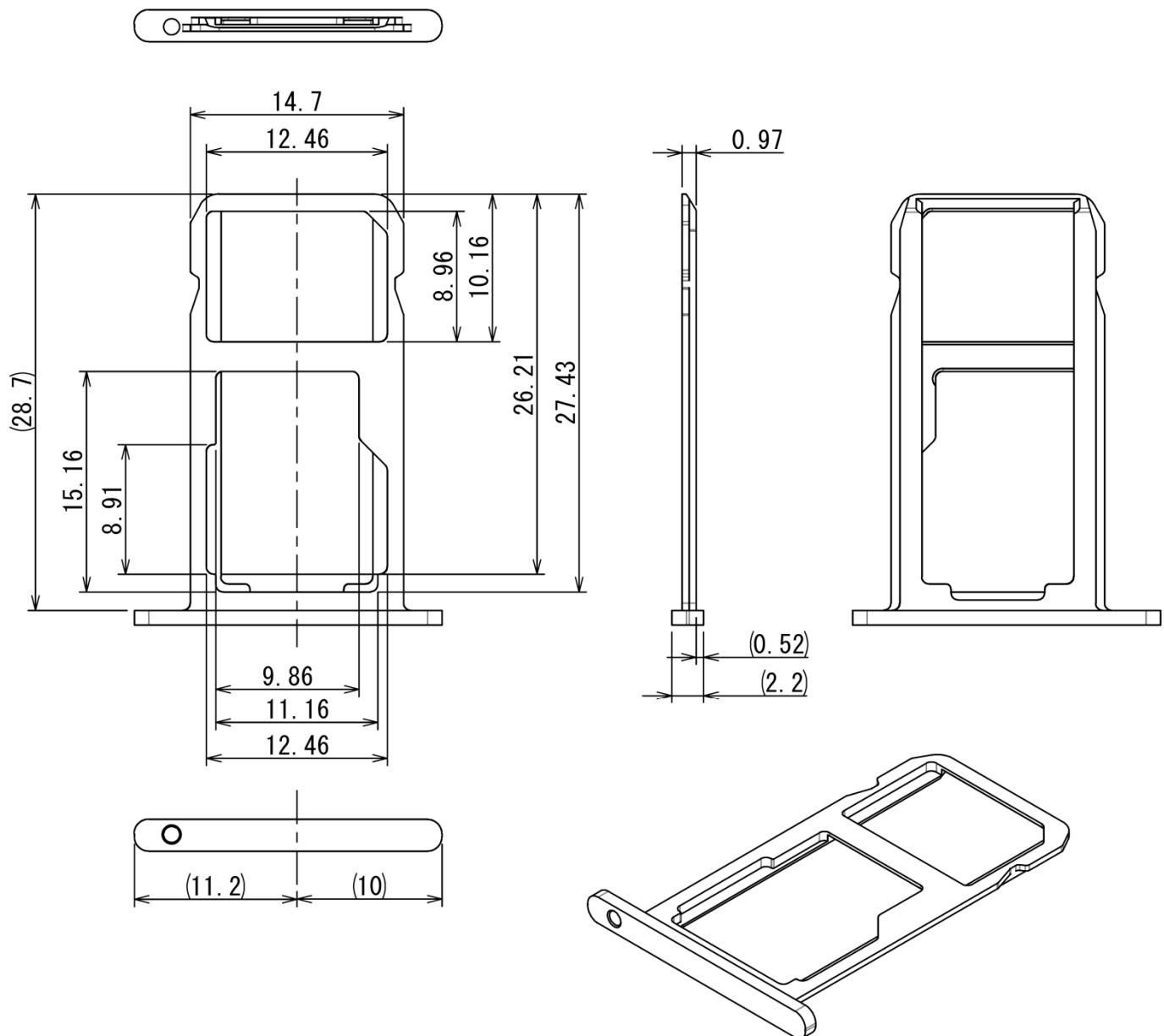
TABLE. 3 4FF SIM PIN ASSIGNMENT

C1	Vcc
C2	RST
C3	CLK
C5	GND
C6	Vpp
C7	I/O

TABLE. 4 microSD PIN ASSIGNMENT

#1	DAT2
#2	DAT3
#3	CMD
#4	VDD
#5	CLK
#6	Vss
#7	DAT0
#8	DAT1

## Recommended Tray



Unit: mm

**Note 1: Above are recommended dimensions for tray which should be designed and manufactured by customers.**

**Note 2: The drawing above is for reference only.  
Please refer to our latest product drawing when using this product.**

## Technical Documents

Part Number	ST19S020VCA
Drawing No.	Individual Product: SJ117667 Reeled Product: SJ117668
Specifications	JACS-11162
Handling Instructions	JAHL-11162

**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 :  
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  - (2) Recommended applications include:  
Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

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

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